Premier Reference Source

Cases on Performance Improvement Innovation

Darlene M. Van Tiem and Nancy Crain Burns

IGI Global
PUBLISHER of TIMELY KNOWLEDGE

Cases on Performance Improvement Innovation

Darlene M. Van Tiem
Capella University, USA & University of Michigan – Dearborn, USA

Nancy Crain Burns
Crain Burns Associates LLC, USA

A volume in the Advances in Business Strategy and Competitive Advantage (ABSCA) Book Series

Published in the United States of America by
IGI Global
Business Science Reference (an imprint of IGI Global)
701 E. Chocolate Avenue
Hershey PA, USA 17033
Tel: 717-533-8845
Fax: 717-533-8661
E-mail: cust@igi-global.com
Web site: http://www.igi-global.com

Library of Congress Cataloging-in-Publication Data

Names: Van Tiem, Darlene M., editor. | Burns, Nancy Crain, editor.
Title: Cases on performance improvement innovation / Darlene M. Van Tiem and Nancy Crain Burns, editors.
Description: Hershey : Business Science Reference, 2020. | Includes bibliographical references and index. | Summary: "This book illustrates many applications of performance improvement based on analysis, selection of strategy, monitoring, and evaluating results to accomplish organizational change through people, processes, and organizations"-- Provided by publisher.
Identifiers: LCCN 2019057837 (print) | LCCN 2019057838 (ebook) | ISBN 9781799836735 (hardcover) | ISBN 9781799836742 (paperback) | ISBN 9781799836759 (ebook)
Subjects: LCSH: Employees--Training of. | Performance technology. | Organizational change. | Organizational effectiveness.
Classification: LCC HF5549.5.T7 C29864 2020 (print) | LCC HF5549.5.T7 (ebook) | DDC 658.3/124--dc23
LC record available at https://lccn.loc.gov/2019057837
LC ebook record available at https://lccn.loc.gov/2019057838

This book is published in the IGI Global book series Advances in Business Strategy and Competitive Advantage (ABSCA) (ISSN: 2327-3429; eISSN: 2327-3437)

British Cataloguing in Publication Data
A Cataloguing in Publication record for this book is available from the British Library.

Advances in Business Strategy and Competitive Advantage (ABSCA) Book Series

Patricia Ordóñez de Pablos
Universidad de Oviedo, Spain

ISSN:2327-3429
EISSN:2327-3437

Mission

Business entities are constantly seeking new ways through which to gain advantage over their competitors and strengthen their position within the business environment. With competition at an all-time high due to technological advancements allowing for competition on a global scale, firms continue to seek new ways through which to improve and strengthen their business processes, procedures, and profitability.

The **Advances in Business Strategy and Competitive Advantage (ABSCA) Book Series** is a timely series responding to the high demand for state-of-the-art research on how business strategies are created, implemented and re-designed to meet the demands of globalized competitive markets. With a focus on local and global challenges, business opportunities and the needs of society, the **ABSCA** encourages scientific discourse on doing business and managing information technologies for the creation of sustainable competitive advantage.

Coverage

- Core Competencies
- Strategy Performance Management
- Foreign Investment Decision Process
- Innovation Strategy
- Entrepreneurship & Innovation
- Cost Leadership Strategy
- Globalization
- Economies of Scale
- Outsourcing
- Resource-Based Competition

IGI Global is currently accepting manuscripts for publication within this series. To submit a proposal for a volume in this series, please contact our Acquisition Editors at Acquisitions@igi-global.com or visit: http://www.igi-global.com/publish/.

The Advances in Business Strategy and Competitive Advantage (ABSCA) Book Series (ISSN 2327-3429) is published by IGI Global, 701 E. Chocolate Avenue, Hershey, PA 17033-1240, USA, www.igi-global.com. This series is composed of titles available for purchase individually; each title is edited to be contextually exclusive from any other title within the series. For pricing and ordering information please visit http://www.igi-global.com/book-series/advances-business-strategy-competitive-advantage/73672. Postmaster: Send all address changes to above address.

Titles in this Series

For a list of additional titles in this series, please visit:
https://www.igi-global.com/book-series/advances-business-strategy-competitive-advantage/73672

Handbook of Research on Transmedia Storytelling, Audience Engagement, and Business Strategies
Víctor Hernández-Santaolalla (University of Seville, Spain) and Mónica Barrientos-Bueno (University of Seville, Spain)
Business Science Reference • © 2020 • 457pp • H/C (ISBN: 9781799831198) • US $265.00

Developing Creative Economy Through Disruptive Leadership Emerging Research and Opportunities
Kristin Joyce Tardif (University of Arkansas – Fort Smith, USA)
Business Science Reference • © 2020 • 226pp • H/C (ISBN: 9781799834168) • US $185.00

Knowledge Management, Innovation, and Entrepreneurship in a Changing World
Murray Eugene Jennex (San Diego State University, USA)
Business Science Reference • © 2020 • 463pp • H/C (ISBN: 9781799823551) • US $215.00

Developing Entrepreneurial Competencies for Start-Ups and Small Business
Jarmila Šebestová (Silesian University in Opava, Czech Republic)
Business Science Reference • © 2020 • 316pp • H/C (ISBN: 9781799827146) • US $225.00

Leadership and Followership in an Organizational Change Context
Sajjad Nawaz Khan (University Malaysia Sarawak, Malaysia) and Abdul Halim Busari (University Malaysia Sarawak, Malaysia)
Business Science Reference • © 2020 • 300pp • H/C (ISBN: 9781799828075) • US $225.00

Digital Marketing Strategies and Models for Competitive Business
Filipe Mota Pinto (Polytechnic Institute of Leiria, Portugal) and Teresa Guarda (Universidad Peninsula de Santa Elena (UPSE), Ecuador)
Business Science Reference • © 2020 • 240pp • H/C (ISBN: 9781799829638) • US $225.00

Recent Advancements in Sustainable Entrepreneurship and Corporate Social Responsibility
Amulya Gurtu (Cofrin School of Business, University of Wisconsin-Green Bay, USA)
Business Science Reference • © 2020 • 219pp • H/C (ISBN: 9781799823476) • US $215.00

Challenges and Opportunities for SMEs in Industry 4.0
Noor Hazlina Ahmad (Universiti Sains Malaysia, Malaysia) Qaisar Iqbal (Universiti Sains Malaysia, Malaysia) and Hasliza Abdul Halim (Universiti Sains Malaysia, Malaysia)
Business Science Reference • © 2020 • 271pp • H/C (ISBN: 9781799825777) • US $215.00

701 East Chocolate Avenue, Hershey, PA 17033, USA
Tel: 717-533-8845 x100 • Fax: 717-533-8661
E-Mail: cust@igi-global.com • www.igi-global.com

This book literally makes the case for HPT – Human Performance Technology for the application of science for PI - Performance Improvement by sharing 17 case studies of HPT applications across the globe, in education, in business, and even in improving one's personal life. The applications address a wide variety of interventions, achieving sustained results, all following the ISPI 10 Standards for Human Performance Technology. This book will become a valued reference to guide many improvement journeys.

– Mr. Guy W. Wallace, President, EPPIC Inc., ISPI Honorary Life Member 2010

There has been a gap in professional guidance to fill the void between performance improvement concepts and tool and concrete performance accomplishments. Cases on Performance Improvement Innovations provides that guidance with actual performance applications.

– Dr. Roger Kaufman, Ph.D., CPT, ABPP, Professor Emeritus, Florida State University, Fellow, American Psychological Association, Fellow, American Educational Research Association

I have always found that the best way to learn a set of principles and procedures is to study and analyze a variety of real-world case studies. This international collection of divergent cases will help newcomers and old timers in the field of performance technology to increase and improve their mastery of their multidisciplinary approach.

– Dr. "Thiagi" Sivasailam Thiagarajan, NSPI President, 1979 and ISPI President, 2006.

Darlene and Nancy have created a resource for the PI practitioner and it is loaded with case studies. A good addition to your professional library.

– Dr. Roger M Addison, Performance Architect

This is an exemplar body of work with on point international case studies from renowned Performance Improvement Consultants, Certified Performance Technologists and Academics as well as government and private sector organisations. I have no doubt this will add tremendous value to students, performance professionals, managers and leaders of performance.

– Ms. Belia Nel, CPT, CEO Improvid Performance Improvers, Past ISPI Board Member, 2020 Distinguished Service Award winner

Phillip M. Van Tiem, James L. Moseley, and Joan C. Dessinger (Deceased).

Gerard V. Burns, Sr. and Alfred C. Crain, II

Darlene and Nancy also dedicate the book to International Society for Performance Improvement (ISPI) Presidents, International Board Members, Advocates, and ISPI members – past, present, and future.

Editorial Advisory Board

Table of Contents

Detailed Table of Contents

a joint effort from academia, industry, and the Navy. This juxtaposition of tools and practices provides a praxis that ranges from creativity, innovation, performance improvement, organization development, organizational improvement, and organizational transformation.

Barbara, Manager of Talent Development for a business-to-business sales operations outsourcing company, was badly underperforming. Her manager had received complaints about the quality of her customer service and collaboration with peers. Her manager endorsed coaching to improve critical skills and related performance. Barbara enthusiastically accepted the chance to be coached. Client and coach co-designed an individual development plan with goals. The client completed self-assessments and the coach structured 360 interviews and debriefed the data. Client and coach refined the development plan and goals. Coaching calls were held regularly, with learning assignments made and regular reviews done for progress, challenges, and lessons learned. Overall, the client progressed in several emotional intelligence skills, delivered better customer service, and collaborated better. When reassigned to an individual contributor role, she adapted well, led, and contributed to two critical projects.

As a member of multiple organizations, one may find that there are relationships and situations that span those organizations. When reviewing the intersection of those relationship/situations, it is a good idea to use innovative principles and practices of performance improvement to offer recommendations. This case study describes the approach to reach a positive recommendation for a non-profit, faith-based organization. By using concepts of appreciative inquiry, the ten principles of human performance improvement (ISPI), and positive psychology as described in Flow by (Csikszentmihalyi in 1990, the practitioner was able to “step back” and view the big picture. The situation required reviewing whether the church daycare could continue to sustain operations despite a challenging financial outlook. Some members of the church council were concerned about the financial reports while others thought that the daycare was a valuable ministry that should be continued. The council president appointed a task force to review viability of the daycare organization.

There are three kinds of solutions to business problems: symptom solution, pattern solution, and root solution. Symptom is simply visible phenomena; they are not problems; therefore, symptom solution is only temporary, such as adding cold water to a boiled water. Pattern solution looks alright, but it is not sustainable, costly, and sometimes risky; therefore, it also won’t help the business in the long run, such

as adding cold water through a thin pipe to the same boiled water. Root solution is powerfully simple, because it dives to the bottom of the issue, such as turning the stove off. Obviously, businesses need to seek root solutions. For years, Company Q has been trying to seek the "right" answers to manage the company, but facts have always left them disappointed, until they found out that the GPS-IE® Management Improvement System is truly systematic, logic- and result-driven, and sustainable.

Foreword

How to tell our story has long been a challenge to those of us who practice performance improvement. We assume that industry leaders, academics, and peer practitioners in the fields of workforce and organizational development understand the discipline of performance improvement. We also expect practitioners in related fields to comprehend what distinguishes our discipline from theirs. Unfortunately, this is not always the case.

Colleagues who practice organizational development, change management, and training and development follow a systematic process, just as we who practice performance improvement. But what distinguishes performance improvement are the principles: Focus on Results, Take a Systemic View, Add Value, and Partner with Stakeholders (RSVP). *Cases on Performance Improvement Innovation* brings to life what it means to practice performance improvement. The cases cited in this book illustrate how the principles of performance improvement are the underpinnings of our systematic process. It is a valuable resource for telling our story.

Why this book? The first reason for reading this book is the diversity of authors. The case contributors come from four continents – Africa, Asia, Eastern Europe, and North America. The breadth of their experience illustrates that performance improvement is not unique to the United States.

The second reason are the cases themselves. It is easy to assume that performance improvement is appropriate for complex projects undertaken by large corporations or institutions, especially those reliant on sophisticated technologies. However, the cases in this book demonstrate that the systematic process and principles of performance improvement are relevant to all organizations, large and small, public and private. The discipline can be applied to addressing social issues, such as promoting gender equity, improving cross-culture communications, helping a religious-affiliated child-care center become sustainable, closing the skills gap in the roofing industry, and improving school systems. The discipline is used to improve the efficacy of other processes, such as project management, and interventions, such as coaching, storytelling, and training. The discipline can also be used to improve the productivity of functions such as marketing and training.

This collection of cases brings to life what it means to embrace the practice of performance improvement. This book belongs in every university library. It is a must for every academic who teaches performance improvement. Certainly, professionals who practice the discipline can learn from the cases and will be better able to relate the value of performance improvement to current and future clients.

Respectfully,

Judith A. Hale
Hale Center, USA

Preface

Innovation in performance improvement happens all over the world. The concepts are universal and global application is apparent in the case studies provided. The Performance Improvement/HPT Model is a framework that can help organizations achieve desired results.

AUDIENCE

The book may be used as a trade book for people in the field of performance improvement and related fields. In addition, the book is expected to be used by university students, especially at the graduate level or upper level undergraduates. The book is scientific but easy to read; it articulating ways to apply each case study to the reader's situation.

ORGANIZATION OF THE BOOK

The book is organized into 17 chapters. The design of the book and executive summaries are presented.

BOOK CHAPTERS

This book is designed to illustrate situations applying performance improvement initiatives. Performance improvement applies to any situation and any workplace, including medical, religious, public service, manufacturing, education, retail, distribution, etc. Performance Improvement includes many fields: psychology, engineering, education, business, ergonomics, instructional design, and many more. This book is designed to spark your interest. Questions at the end of each chapter are intended to help you, the reader, visualize how to apply the case example to your own situation. The book contains international case study examples demonstrating the multitude of situations and various ways to apply performance improvement in a variety of cultural situations. Further information is available at the online website: www.pfeiffer.com/go/vantiem.

Performance Improvement//HPT Model

In Chapter One, Darlene Van Tiem, Ph.D., CPT and Nancy Crain Burns, Ph.D., CPT discuss the Performance Improvement/HPT Model.

The Human Performance Technology model represents the processes used by performance improvement practitioners while accomplishing their results. Performance Improvement efforts begin with a Performance Analysis or Need or Opportunity; Intervention Selection, Design, and Development; Intervention Implementation and Maintenance; and Evaluation. This description seems daunting and tedious, but it is flexible. It is a guide with adaptations. The process is not closed with feedback all along enabling corrections and changes based on findings and new information. The process is not lock-step and can have adjustments as appropriate.

Performance Driven Project Management in Cyprus

Chapter Two by Steven John Kelly and M. Mari Novak covers performance driven project management in Cyprus.

The authors led a nine-month capacity development program focused on *Performance Driven Project Management* for the Turkish Cypriot Community in Cyprus. The effort resulted in improved results by upgrading manager/consultant project management skills in the Turkish Cypriot Community. Both quality of design and implementation of projects radically improved: 80% of the projects' end results were completed within timeframe and budget. These included retail sales increases, higher certification scores, and cost savings. The level of understanding of organizational project dynamics was raised significantly, evaluated by ongoing observation and in the design of the second wave of projects. The effort was funded by the US Agency for International Development (USAID) through a Capacity Development program, as past performance on the implementation of project plans was not satisfactory. The community was faced with considerable challenges. Non-performance was an issue for all stakeholders.

Improving School Systems

As a researcher, school principal, superintendent of schools and consultant, Joseph Castilleja provides unique insight to Improving School Systems in Chapter Three.

Since the start of the United States' No Child Left Behind Act of 2002 (NCLB), and now Every Student Succeeds Act (ESSA), schools that underperform have been under significant pressure to improve academic achievement. The responsibility for such improvement is placed on school leadership, namely school principals. The endeavor of school improvement takes on many forms since the process varies from one US state to another; that school "turnaround" is becoming a specialization within the work that a principal is already expected to perform. Principals of underperforming schools must, therefore, familiarize themselves with the specialized roles and responsibilities of the "turnaround principal" to yield results in their own schools. This case study takes a Human Performance Technology (HPT) approach to understand how one school successfully improved on-time graduation rates (i.e. within four years) by bringing a turnaround principal on board, then later sustaining results by hiring a permanent sustainment principal.

Using the 10 Performance Improvement Standards to Guide Strategy Development and Implementation: A Marketing Performance Improvement Case

In this Chapter Four marketing performance improvement case, authors Frank Fu, Ph.D, CPT, Hong Yi, Yuan Zheng. Lidan Li, Xiangjiang Wang, and Xiumei Zhang present the implementation of a Chinese telecom project, using the Ten Standards of Performance Improvement.

This case demonstrates an award-winning performance improvement project conducted by a large state-owned enterprise in China, which satisfies the Ten Standards of Performance Improvement and adds value to the organization. Multiple tools developed by performance improvement professionals in China are used to develop and implement marketing strategies and achieve market-share improvement goals. These tools are based on the performance improvement literature, specifically designed for and empirically tested in the Chinese market. The case also shows benefits and challenges associated with integrating performance improvement and marketing management.

Use of On-Line Discussion Forums for Training

On-line discussion forums for corporate training is the topic Sue Czeropski, Ph.D., CPT covers in Chapter Five. She explores questions regarding evidence of effective use in various settings.

There is evidence that corporations are currently using e-learning for corporate training, and this statement, made 20 years ago, is still relevant today. "Many companies use new technology but often see limited return because they don't know the best way to use it or they do not know how to employ it" (Schreiber, 1998). Discussion forums in academia, particularly higher education, are known to be an effective learning strategy that is widely used across many universities. Adoption of discussion forums in corporate America has been slow. Collaboration and discussion are key for the learner's journey, yet not many training initiatives include the use of discussion forums. Why are companies not using this technique? What is the resistance to incorporating discussion forums into training? A study was conducted at Jones Company (pseudonym) to understand the resistance from three levels of employees: the executive, manager; and the employee.

Member Value? Evaluating Professional and Learning Networks

In Chapter Six, Elizabeth A. Carter, Ph.D., evaluates member value in professional and learning networks.

As a personal development performance improvement intervention, professional communities of practice (recognized as professional and learning networks) can add value to the individual community member and/or the organization that created the community. The literature provided evidence that organizations receive value from their communities of practice but had limited evidence of what individuals defined as value. Utilizing Gilbert's Behavior Engineering Model and the Performance Improvement/HPT Model Framework, a case study sought to answer the question: How do members of a professional community of practice describe their perceived value from participating? This chapter provides performance improvement practitioners guidance on a method to evaluate; 1) whether a group is functioning as a community of practice, 2) member expectations, benefits, and outcomes, and 3) contributors to perceived value. The author also provides common challenges communities of practices face and some solutions.

Advancing Gender Equity Through Mentoring and Leadership Development: A Human Performance Technology Case Study

Authors Cynthia M. Sims, Ph.D., Angela D. Carter, Ph.D., Arelis Moore De Peralta, Ph.D., Alena Hovrova and Stephen W. Brown, III evaluate the mentoring and leadership development program at a university.

At the University of the Southeast (pseudonym), a large higher education institution in the U.S., a new president and provost recognized the high rate of attrition among female and minority faculty. In response, the president implemented a faculty mentoring and leadership development program to improve gender equity. In total, 28 tenured faculty, 60% of whom were women, participated in this 9-month program. We designed this program to be an organizational change intervention. A human performance technology framework was used to design and evaluate this mentoring and leadership development program, along with a logic model, and Kirkpatrick's four levels of evaluation. This mixed method study included pre- and post-surveys (T1, n = 26; T2, n = 14) to determine participant satisfaction, knowledge gained, and assessed behavior change through participants' interviews (n=18). Outcomes determined that human performance technology, a logic model, and Kirkpatrick's evaluation approach were useful methods to design and assess this program. Quantitative and qualitative findings revealed that participants were satisfied with the mentoring instruction and experiences (level 1 evaluation), significantly improved their mentoring knowledge and skills (level 2 evaluation), able to apply what they had learned about mentoring (level 3 evaluation), and able to plan mentoring programs for the organization and subsequently performed as mentors (level 4 evaluation).

Storytelling: An African Leadership Journey of Performance Improvement Innovation

In Chapter Eight, Lucy Surhyel Newman, Ph.D., CPT takes the reader on a journey of performance improvement and leadership through a career experience that may inspire others.

This case study presents insight into an African leadership journey over a period of two decades, from 1997 to 2019, within a professional storytelling format, of a female executive of African descent and a working mother, and the impact of her application of Performance Improvement and Transformational Leadership concepts. It describes her leadership trajectory and emerging responses to her leadership contributions, with some reflective questions she found helpful, including application of the 10 Standards of Performance Improvement to her career and personal life. The purpose of the case study is to demonstrate that Performance Improvement Innovation principles are applicable to individual careers, just as they are to performance improvement projects in organizations and systems. Although the case study presents an African experience, practical application of the principles can be explored across cultural and environmental settings, because the subject had always had the mindset of a global leader with cross-cultural views.

The Use of Companion Applications to Support Instructor-Led Training

Stephanie R. Johnson, Ph.D. reviews ways in which mobile devices can enhance training in Chapter Nine.

This case study reflects on the use of a mobile training companion application to overcome limitations of supporting a level-three evaluation of the participants in face-to-face training courses within a traditional learning management system/web-based training strategy. Face-to-face training events are

difficult to replicate and standardize for geographically dispersed students in certain industries, and the reasons for this are discussed here. The solution, while considered a success, has ample opportunities for improvement, especially regarding product launch. It is important to increase the level of learner adoption by increasing involvement with various information technology (IT) functions, as the rapid adoption of smartphones enables the creation of solutions not previously considered viable in this industry.

Cultural Communications of Mainland United States-Based Organizations and Their Hawaiian Workforces: A Case Study of their Unique Nature

Authors Erik S. Wright and Rose Baker, Ph.D., PMP discuss recognition of cultural differences and the impact of managing change in Chapter Ten.

The Hawaiian Islands are a diverse melting pot of people, cultures, and languages that make doing business in the state a unique challenge for organizations based on the mainland United States. While Hawaii is indeed the 50th State in the Union, culturally they are more closely aligned with Asia and other Polynesian cultures than the United States as a whole. Doing business in Hawaii can often feel as though one is doing business in a foreign country, a place where one only partially speaks the language.

Understanding these cultural differences and shaping communication styles to align with the cultural values of the Hawaiian subculture is essential to success for any organization planning to start operations in Hawaii. Through a process of cultural analysis, organizations can more effectively manage change within their operations and engage their Hawaiian workforces with great success.

Resolving a Workforce Crisis in the U.S. Roofing Industry

In Chapter Eleven, John G. Schehl, CAE. RRC. CACP, NCRA illustrates the application of certification in the roofing industry. As Vice-president of certification of the National Roofing Contractors Association, Mr. Schehl offers a unique perspective to the process

The National Roofing Contractors Association (NRCA), a nonprofit construction trade association established in 1886, was challenged to find a solution to overcome a severe industry workforce shortage that emerged as the economy recovered from the Great Recession. The National Roofing Contractors Association leadership, staff, and other industry stakeholders focused on developing strategies to address the workforce crisis head-on and committed resources to develop a series of performance-based programs to overcome the crisis. The new initiatives relied on limited U.S. Department of Labor's Bureau of Labor Statistics (BLS) data to support development decisions. Aware that the available BLS data was insufficient, the National Roofing Contractors Association commissioned the Arizona State University (ASU) to conduct the roofing industry's first-ever comprehensive demographics research study. New data gleaned from the research changed not only National Roofing Contractors Association's approach to resolving the workforce crisis, it may potentially change how the entire roofing industry operates.

All the World's a Stage: Achieving Deliberate Practice and Performance Improvement Through Story-Based Learning

Brian S. Grant covers one of "humanity's oldest technologies-storytelling" in Chapter Twelve. He discusses how this methodology help reach effective solutions.

This chapter provides a case study where a systematic, organized method of storytelling, presented as the Story-based Learning model, is used to design a series of integrated and engaging activities for cybersecurity training (to protect computer systems and networks) that fosters deliberate practice and improves performance. To address the talent shortage in the global cybersecurity workforce, the client developed a blended curriculum designed to provide practical experience to prospective cybersecurity professionals. The Capstone exercises, activities focused on application of the content introduced in the courseware, were a key component of this curriculum. Essentially, this is a story of using stories, one of humanity's oldest technologies, to solve the problem of training and cultivating expertise in future cybersecurity personnel. Based on solid prior evidence supporting the use of stories to increase engagement and retention, this case study focuses on detailing the thought process used to reach this set of solutions, as captured by the Story-based Learning model.

Integrating Organizational Values With Workplace Performance

In Chapter Thirteen, Zachary Ryan Beaver, Rose Baker, Ph.D., PMP and Carl Binder, Ph.D., integrate organizational values with workplace performance. By using a "multi-level change methodology" the facilitators sought to build a culture that would sustain improved performance.

With an end goal to build and maintain a new workplace culture to support workplace performance, the central human resources shared services group for a large university initiated a pilot project to improve the performance of their processes, systems, and human resources. Through the guidance of a performance-improvement professional facilitator, the central group consulted various cultural models and change management methods to identify a pilot project. The implementation of a multilevel change methodology for performance improvement was applied to the work performed by the human resources information services (HRIS) group. Using their newly defined mission, vision, and values statements as a guide, the central human resources shared services group piloted one project with the subgroup then moved onto others. This case study focuses on the pilot project within the human resources information services (HRIS) group, the work of the performance improvement facilitator and the group's members, and the outcomes of their efforts.

The Flow System: Practitioner Tools for Navigating Complexity

Authors John R. Turner, Ph.D., Nigel Thurlow and Brian Rivera cover a system of tools for innovation initiatives in Chapter Fourteen.

This chapter provides an overview of techniques, tools, and methods for organizations to manage and operate in today's complex environments. The lack of such techniques and tools in current literature is especially troubling for practitioners who are trying to learn and apply new tools to support their customers in implementing new innovation initiatives. The techniques, tools, and methods provided in this chapter were derived from a joint effort from academia, industry, and the Navy. This juxtaposition of tools and practices provides a praxis that ranges from creativity, innovation, performance improvement, organization development, organizational improvement, and organizational transformation.

A Leadership Coaching Case Study: Shifting Mindsets, Building Practices, Improving Performance

In Chapter Fifteen, John B. Lazar provides insight for a case where leadership coaching influenced the results.

Barbara, Manager of Talent Acquisition and Engagement for an integrated sales-operations outsourcing company, was badly underperforming. Her manager, VP Global Talent, had received several complaints about the quality of her customer service and collaboration with peers. Her manager endorsed leadership coaching to improve critical interpersonal skills and related performance. Barbara enthusiastically accepted the chance to be coached for a year.

The client completed two self-assessments. The coach (author) then conducted structured 360° interviews, debriefed the data, and co-designed a development plan with the client. Coaching calls were held regularly, with learning assignments made at the end of each session. Regular reviews were conducted for progress, challenges, and lessons learned.

By the end of the year, the client had made significant progress in several targeted emotional intelligence skills, delivered better customer service, and collaborated better. Based on progress made, the client extended her coaching for a second year. Though reassigned to an individual contributor role, she adapted well, led, project-managed, and contributed to the success of two mission-critical projects.

Applying Appreciative Inquiry, Performance Improvement, and Positive Psychology Assessment of Non-Profit Sustainability

Nancy Crain Burns, Ph.D., CPT, PMP discusses the combination of using Appreciative Inquiry, Performance Improvement Standards and Positive Psychology concepts with working with an organization. In Chapter Sixteen, she illustrates how this combined methodology may lead to desired results.

As a member of multiple organizations, one may find that there are relationships and situations that span those organizations. When reviewing the intersection of those relationship/situations, it is a good idea to use innovative principles and practices of performance improvement to offer recommendations.

This case study describes the approach to reach a positive recommendation for a non-profit, faith-based organization. By using concepts of *Appreciative Inquiry*, the *Ten Principles of Human Performance Improvement*, and positive psychology as described in *Flow*, the practitioner was able to "step back" and view the big picture. The situation required reviewing whether the church daycare could continue to sustain operations despite a challenging financial outlook. Some members of the church council were concerned about the financial reports while others thought that the daycare was a valuable ministry that should be continued. The council president appointed a task force to review viability of the daycare organization.

Root Solution: Seeking the Right Answers in Management

In Chapter Seventeen, George Limin Gu, CPT and Hui Ding explore solutions to business problems and discovering the "root solutions" to achieve results.

There are three kinds of solutions to business problems: symptom solution, pattern solution, and root solution. Symptoms are simply visible phenomena, they are not problems; therefore, symptom solution is only temporary, like adding cold water to a boiled water. Pattern solutions look alright, but they are not sustainable. Pattern solutions can be costly and sometimes risky; therefore, they also will not help the

business in a long run, like adding cold water through a thin pipe to the same boiled water. Root solutions are powerfully simple, because they dive to the bottom of the issue, such as, turning off the stove where the pot is boiling over. Obviously, businesses need to seek root solutions. For years, Company Q had been trying to seek the "right" answers to manage the company, but facts always left them disappointed, until they found out that the GPS-IE® Management Improvement System is truly systematic, logical, result-driven, and sustainable.

Darlene M. Van Tiem
Capella University, USA & University of Michigan – Dearborn, USA

Nancy Crain Burns
Crain Burns Associates, LLC, USA

REFERENCES

Cooperrider, D., Whitney, D., & Stavros, J. (2003). *Appreciative Inquiry Handbook*. Bedford Heights, OH: Lakeshore Publishers.

Czikszentmihali, M. (1990). Flow: The Psychology of Spiritual Experience. New York, NY: Academic Press.

Schreiber, D. A. (1998). Best Practices of Distance Training. In D. A. Schreiber & Z. L. Berge (Eds.), *Distance training: How Innovative Organizations Are Using Technology to Maximize Learning and Meet Business Objectives* (pp. 393–409). San Francisco, CA: Jossey-Bass.

Van Tiem, D., Moseley, J., & Dessinger, J. (2012). *Fundamentals of Performance Improvement: Optimizing Results Through People, Processes and Organizations* (3rd ed.). San Francisco, CA: John Wiley and Sons.

Acknowledgment

The editors would like to express appreciation for the help of all the people involved in this project and, more specifically, to the authors and reviewers that took part in the review process. Without their support, this book would not have become a reality.

First, the editors would like to thank each one of the authors for their contributions. Our sincere gratitude goes to the chapter's authors who contributed their time and expertise to this book. Their diverse and interesting cases show application of the Performance Improvement/HPT model across the world.

Second, the editors wish to acknowledge the valuable contributions of the reviewers regarding the improvement of quality, coherence, and content presentation of chapters. Most of the authors also served as reviewers; we highly appreciate their double task. We appreciate our Editorial Advisory Board members: Dr. Roger Kaufman, Dr. Judith Hale, Dr. Patti Phillips and Dr. Teri Warner. We also thank our guest reviewers who contributed feedback: Al Crain, Deb Colbert, Shan Wang, Thomas McCaleb and Reem Almazyad. We thank Deb Barrett for editing some of our work and Chad Burns for graphic conversion.

Third, the editors express appreciation for the thought-leaders who have paved the way for performance improvement/technology and continue to support and expand the research and science in the field.

Darlene M. Van Tiem
Capella University, USA & University of Michigan – Dearborn, USA

Nancy Crain Burns
Crain Burns Associates, LLC, USA

Chapter 1
Performance Improvement: HPT Model

Darlene M Van Tiem
Capella University, USA & University of Michigan – Dearborn, USA

Nancy Crain Burns
Crain Burns Associates LLC, USA & International Society for Performance Improvement, USA

EXECUTIVE SUMMARY

The human performance technology model represents the processes used by performance improvement practitioners while accomplishing their results. Performance improvement efforts begin with a performance analysis or need or opportunity; intervention selection, design, and development; intervention implementation and maintenance; and evaluation. This description seems daunting and tedious, but it is flexible. It is a guide with adaptations. The process is not closed with feedback all along enabling corrections and changes based on findings and new information. The process is not lock-step and can have adjustments as appropriate. This case studies the HTP model.

INTRODUCTION

Performance Improvement is a field that can resolve problems and accomplish innovations. It is a field that combines ideas, strategies, and principles from a wide variety of fields and practices, such as finance, economics, leadership, organizational development, business practices, psychology, human resources, training, development, coaching, and many more, maximizing the most appropriate from all fields and practices. Case studies enable readers to visualize how to apply performance improvement principles and practices, and use the Performance Improvement/HPT Model (Van Tiem, Moseley, and Dessinger, 2012) and other models.

DOI: 10.4018/978-1-7998-3673-5.ch001

PERFORMANCE IMPROVEMENT

Organizations and individual workers are more efficient and effective when they are part of a Human Performance Technology (HPT) process focused on appreciating what works well and paying attention to conditions in the workplace that could be improved. Often, organizations and individuals develop a hunch and then desire to adopt an effort that is quick but may not address the actual problem. It can be like using a Band-Aid to stop bleeding; but without cleansing the wound, the cut (the problem) may not be effectively fixed but may become infected and worse. Performance Improvement as a process looks at many aspects of the problem and crafts an intervention (solution) that in a sense cleanses the wound and stops the adverse or undesirable situation.

Human Performance Technology HPT Model

This model represents the processes used by performance improvement practitioners while accomplishing their results. Performance Improvement efforts begin with a Performance Analysis or Need or Opportunity; Intervention Selection, Design, and Development; Intervention Implementation and Maintenance; and Evaluation (Van Tiem et al., 2012). This description seems daunting and tedious, but it is flexible. It is a guide with adaptations. The process is not closed but includes feedback all along, enabling corrections and changes based on findings and new information. The process is not lock-step and can have adjustments as appropriate. Figure 1 illustrates the Performance Improvement/HPT model.

Performance Improvement Need or Opportunity

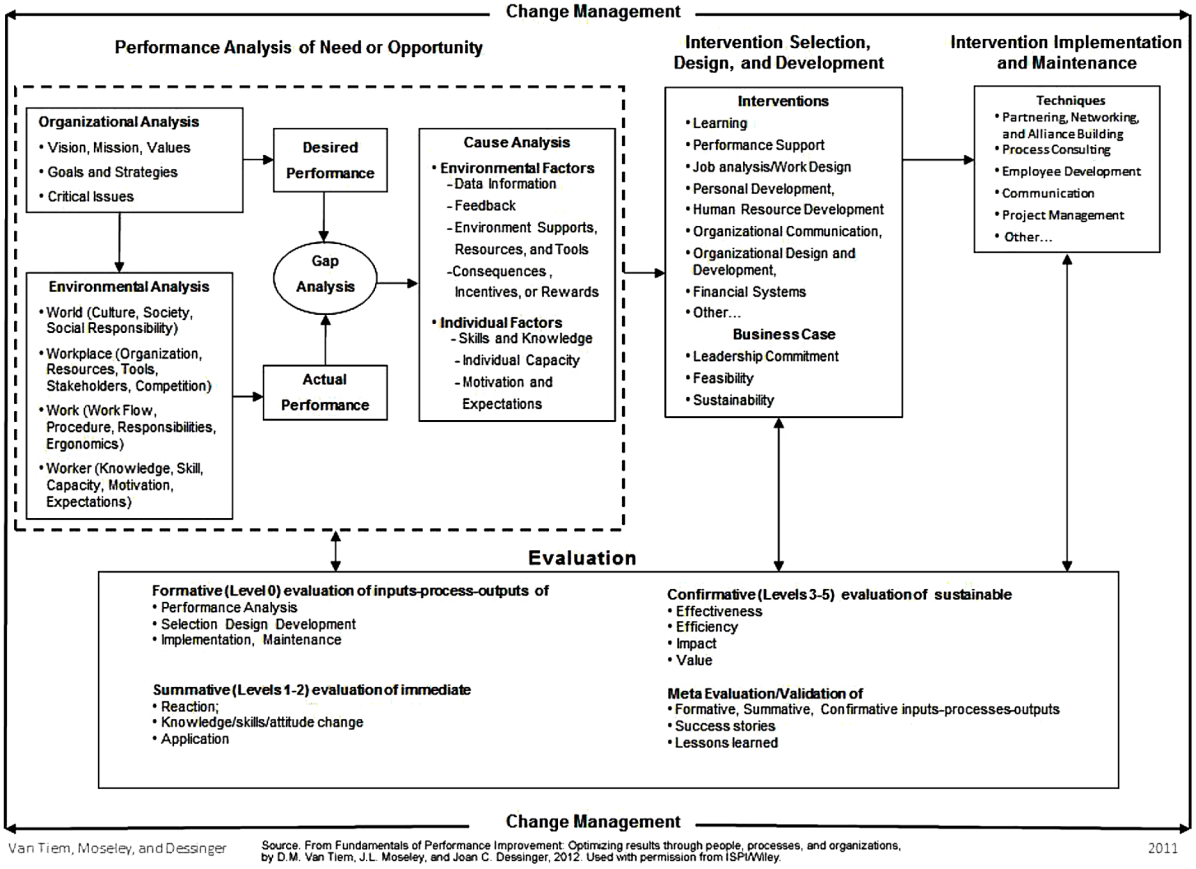
Human Performance Improvement practitioners are more successful if they first understand the problem or the opportunity that exists. Problems and opportunities are evident when there are gaps in an organization's efforts to make money, save money, avoid costs, or do some greater good. To understand how to close these gaps, it is essential to understand the people and jobs involved, the leadership of the organization, and the mission and vision of the organization. In other words, understand the who, what, when, where, and why necessary for the situation. There are many aspects to consider.

Performance Analysis

Organizational Analysis includes understanding the mission, vision, values, organizational strategies, and critical issues. These are essential because it is mandatory that the practitioner create interventions that are supported by the *organization's leadership*. It is wise to include words endorsed by leadership and include terminology appropriate to *critical issues*. Be sure to align your efforts to the organization's *goals and strategies* leading to supporting important initiatives. It is important that performance improvement initiatives are endorsed by the organization. This analysis leads to an understanding of *desired performance*.

Environmental Analysis includes understanding the world considerations that apply to the workplace, work, and worker. *World issues* pertaining to environmental analysis include the culture of this situation, the society within the organization, and the social responsibility associated with ethical framework, stakeholders, corporate citizenship, and sustainability. In other words, they benefit the society at large. *Workplace* considerations include the organization; resources such as raw materials or sub-assemblies,

Figure 1. Performance improvement/HPT model
(Van Tiem, Moseley and Dessinger, 2012)



etc.; tools like machinery, hand tools, etc.; stakeholders directly related to the effort; and very important, what the competition is doing and producing. *Work* includes the flow between workers and pre- and post- departments, procedures, quality expectations and responsibilities, and ergonomics. *Workers* involve their knowledge and skills; their capacity such as weight bearing, muscle readiness, and understanding of the significance of the work; motivation to do the work up to the standards required; and ergonomics, such as muscle strength, handedness (left or right) and handicap limitation, and expectations involving motivation and understanding of corporation desires. This analysis leads to an understanding of *actual performance*.

Gap Analysis is the understanding of the variation *between desired and actual performance*, leading to a realistic estimate of potential within the current situation.

Cause Analysis involves Environmental Factors and Individual Factors. Once there is a good understanding of organizational and environmental analysis and gap analysis, it is possible to understand the causes of the situation. Cause can be illustrated by thinking about the symptoms, such as a runny nose, or a cough, etc., which could be caused by a cold, flu, or other factors. It is important to do a thorough analysis to determine the exact cause. It is like guessing the cause without going to the doctor for a serious illness. The situation can be caused by *Environmental Factors,* such as data and information, feedback,

environmental supports, resources and tools, and consequences. Data and Information is associated with sufficient diagrams, job aids, or reference manuals. Feedback includes management and supervisory recommendations or concerns. Environmental Supports mean leadership alignment and preparing workers for future jobs as well as present jobs. Resources and Tools include computer training or job aids for computer updates and other updates plus sharp tools, line speed for manufacturing, appropriate tools for maximum success, and high-quality outputs. Consequences, Incentives, or Rewards are very important. Often consequences are avoided due to worries of negative feelings conveying disappointment to those who are high achievers. Incentives or Rewards, if group, should be based on the entire group working equally hard. Otherwise, in situations where some employees are clearly high achievers, incentives and rewards should recognize higher effort and accomplishment. *Individual Factors* include skills and knowledge, individual capacity, and motivation and expectations. The group and the individuals should have the skills or knowledge for the job. Each person should have individual capacity, including muscle strength and mental acuity.

Intervention Selection, Design, and Development

Each intervention should be selected, then designed, and then developed to minimize problems or adverse situations. Types of Interventions are described below. However, there are many other situations that can be appropriate for each category.

Learning

If the Performance Analysis indicates a lack of knowledge, capacity, or skills, learning may be appropriate. Learning can include reference materials, such as handouts, job aids, books, etc., covered by online or classroom or other formats.

Performance Support

Performance support refers to conditions that are built into the process to ensure that there will not be a mistake. For example, in cars and trucks, the wires for the front of some vehicles are bundled at the subassembly factory so that the assembly person cannot forget one wire needed for a head light, etc.

Job Analysis / Work Design

In many cases, there is a need to design the process because of a new machine or due to the expectation of a faster line speed. The entire situation would need to be redesigned to allow for faster production, such as replacing a slow machine with a faster machine.

Personal Development

At times, it is necessary to develop improved teamwork so that everyone is working together to the maximum extent.

Human Resources Development

At times, the right people for the work assignment are not within the work unit. Human Resources Development (training, reference materials, coaching) may need to intervene and work to determine the capacity of the current employees and the capacity necessary. It may be that there is a need to hire and train new employees and reassign some current employees to different situations.

Organizational Communications

Often employees feel left out of information, and new channels of information are necessary to make employees feel informed. For example, newsletters and bulletins are helpful. They help employees realize the necessity of changes.

Organizational Design and Development

Industrial psychologists and performance improvement experts examine the workplace as an entity and consider a broader scope of organizational configurations. For example, they may recommend better meeting space with white boards with printers, or higher walls for cubicles for more privacy, etc. There are many options for the design.

Financial Systems

It may be appropriate for work units to track their acceptable versus unacceptable output. It may be necessary for branches or work units to track success factors and error, or scraps, so that the financial impact of the work unit may be determined.

Other

There are likely to be other considerations not in this list of descriptions. It is essential to be open-minded to other considerations.

Business Case

This phase generally is presented as a written document, often containing diagrams, photographs, and financial illustrations. It is based on the analyst's performance analysis. The business case should contain at least leadership commitment, feasibility, and sustainability.

Leadership Commitment

It is essential that leadership beyond the work group management (i.e., managers for the work group manager) endorse and support an effort. If not, when there is resistance due to various circumstances, the financial and other support will be withdrawn and considerable hard work can be lost.

Feasibility

It is important to ensure the sensibility and worthwhileness of the proposed effort. Many workplace efforts are based on workplace dreams with checking to ensure that decision-makers believe the idea is feasible and worthwhile.

Sustainability

At times, start-up funds are provided to establish the idea. However, it is essential to ensure that the project will maintain itself in the future. This involves financial considerations for startup costs (if provided) and other issues for maintaining the effort.

Intervention Implementation and Maintenance

Interventions need to be implemented carefully, with continuous evaluation to minimize problems or adverse situations. Even carefully designed interventions can create unexpected changes, or problems that were not anticipated. Evaluation can point out these situations. Evaluation can be informal, such as conversations with employees or managers. It is best to jot down discussion feedback and look for trends. There are many choices that can be appropriate for each category.

TECHNIQUES

- **Partnering, Networking, and Alliance Building:** Performance Improvement practitioners are wise to network with employees in other departments, especially departments that are upstream or downstream of workflow. It is a good idea to build alliances with similar departments and with those departments that are essential for the future of the project or effort.
- **Employee Development:** This topic applies to different stages, including Performance Analysis of Need or Opportunity, Intervention Design and Development, Intervention Implementation, and Evaluation. Employee Development includes coaching, job aids or information brochures and guide sheets, training, and reference books, learning videos, and more.
- **Communication:** Throughout the organization related to the new or revised operations, processes, information, or procedures may include newsletters, supervisor meetings, corporate videos, president announcements, and other possibilities.
- **Project Management:** Is likely to be necessary to implement a new task, operation, process, or procedure. Good project management involves specific skills plus progress tracking and planning, often using software.
- **Other:** There are likely to be other considerations for this phase.

Evaluation

Evaluation and feedback are essential elements of any performance improvement intervention. Without the "feedback loop," the human performance technology professional cannot evaluate the success of a program.

Van Tiem et al. (2012) describe the purpose of evaluation, as well as different types/methods in *Fundamentals of Performance Improvement*. They state that it is important to "establish the purpose of the evaluation upfront" (p. 531). The purpose should include "clear, specific, detailed" information that is "true, undistorted," "aligned with the organization's mission and vision," and "determined in advance by all stakeholders" (p. 591). The authors show that the "flow of evaluation decisions must include what, when, and how to evaluate" (p. 591). Taking this approach will lead to the outcomes that the stakeholders expect to see. It is important for managers to see the tangible results of training and other interventions. According to Roger Chevalier, "Training is an expensive way to improve performance; you need to make sure there is a return on investment" (2007, p. 101). He also suggests that "Evaluation should focus on immediate goals (improving quality, customer service and cost reduction) as well as desired business outcomes (sales, profitability, market share) (p. 165); it should be used as part of the intervention and measure what was learned" (p. 165).

Formative (Level 0): Evaluation of Inputs, Processes, and Outputs

- **Performance Analysis:** "Identifies or clarifies a performance gap by focusing on three areas: desired performance state, actual performance state and gap between desired and actual performance" (Van Tiem et al., 2012, p. 633).
- **Selection Design and Development:** This stage includes selecting an intervention, and designing and developing a solution that will lead to a desired state.
- **Implementation and Maintenance:** Puts the "plan into action" (Van Tiem et al., 2012, p. 629) and requires follow-up and maintenance to ensure sustainable results.

Summative (Level 1 and 2): Evaluation of Intervention

- **Reaction.** Historically, measured using what was referred to as "smile sheets", evaluation and the reaction level has moved beyond just a measure of course happiness. Here, indicators of potential success are used to better inform changes. These measures are taken during and at the end of programs (Phillips and Phillips, 2016). Will Thalheimer (2016) encourages practitioners to create "performance-focused smile sheets" that seek to help gain better insight on results and improve training effectiveness.
- **Knowledge / Attitude Change:** Also referred to as Learning, change is demonstrated during an event by using a variety of techniques, including objective tests, simulations, and subjective measures. Learning measurement is not isolated to technical skills gap, but includes any knowledge, skill, information, or insight gap, that if closed will lead toward application, behavior changes, or process improvements (Phillips and Phillips, 2016).
- **Application**: Here, evaluation determines the extent to which newly acquired knowledge, skills, information, and insight are being applied. This application may reflect process or behavioral improvements. Measures are also taken to determine the extent to which the system itself is supporting the use of knowledge, skills, and information (Phillips and Phillips. 2016). For example, employees or supervisors describe implementation through changes in their workplace or based on surveys or oral description.

Confirmative (Level 3 - 5): Evaluation of Sustainability

Level 3, 4 and 5 – Levels of evaluation describe the extent to which a system does or will support the sustainability of a change. Confirmative evaluation depends on each situation; as a result, it is not described specifically here. However, each topic should be considered during evaluation.

- **Effectiveness** determines the degree to which an intervention is successful in producing changes in behaviors and processes, as well as the ultimate desired results. These measures also consider the success with which the organization has supported the transfer of new knowledge, skills, and insight to application (Phillips and Phillips, 2016).
- **Efficiency** determines the performance in ideal conditions as to whether the degree of success is accomplishing desired results. In other words, are the specifications realistic, useful, and helpful and whether an intervention does more good than harm.
- **Impact** represents whether an intervention has a strong effect on someone or something, and ultimate measures of success related to the problem or opportunity for which the investment in the intervention was originally made. This impact can be to the business, organization, or society. A significant or major effect on our society might be shown in an environmental **impact** study. An intervention may have a strong effect or influence on a situation or person. For example, these changes may have a damaging **impact,** such as on the army's reputation. Impact may refer to a physical force (like a collision), influence (a bad role model or a hero), or a strong effect (a foot of snow will have an **impact** on driving conditions) (Phillips and Phillips, 2016).
- **Value** has to do with how much something is worth, either in terms of cash or importance, how highly it is regarded. **Value** is defined as the worth, usefulness, or importance of someone or something. This person or thing is considered to be important or beneficial in some way. To most stakeholders investing in human performance improvement technology, value is defined as getting more from an investment than the investment itself. This cost-benefit comparison may be quantitative, using classic metrics like benefit-cost ratio and return on investment (ROI). Or the comparison may be qualitative, focused on the intangibles as compared to the investment (Phillips and Phillips, 2016).

Meta (Evaluation of Evaluation)

This stage is more comprehensive and impacts the entire organization, whether workgroup, company, or society. For example: Was the evaluation process helpful? Were the questions appropriate? Were the measures useful? Based on the Performance Improvement/HPT Model shown in this chapter (Van Tiem, et al., 2012), evaluation occurs at all stages, and all factors are considered.

- **Formative, Summative, Confirmative:** Were the effectiveness and efficiency of the three evaluation phases beneficial and useful to the organization or society? Will the impacted city or wider area benefit from the changes? For example, will the factory processes cause injuries to the workers, resulting in increased emergency visits? Will the nuclear power plant emissions cause the nearby water to be polluted?

- **Success Stories:** Do case studies, business case follow-up reports, or After-Action Reviews (such as those used by some U. S. government agencies) indicate positive or negative value and impact of the evaluation phases.?
- **Lessons Learned:** These lessons are uncovered in discussions and write-ups in consideration of aspects that could or should be done differently in future similar projects or initiatives.

Case Study Chapters

The case studies in this book explore many ways that the Human Performance Technology (HPT) model is used. Authors apply the technology in various settings across many geographic and cultural areas. Performance Improvement is a universal concept that current and emerging professionals can practice in diverse environments.

REFERENCES

Chevalier, R. (2007). *A manager's guide to improving workplace performance*. New York, NY: AMACOM.

Phillips, J. P., & Phillips, P. P. (2016). *Handbook of training evaluation and measurement methods* (4th ed.). Routledge. doi:10.4324/9781315757230

Phillips, P. P., & Phillips, J. J. (2010). *The green scorecard: Measuring the return on investment in sustainability projects*. Nicholas-Brealey.

Thalheimer, W. (2016). *Performance-focused smile sheets: A radical rethinking of a dangerous art form*. Work-learning Press.

Van Tiem, D., Moseley, J., & Dessinger, J. (2012). *Fundamentals of performance improvement: Optimizing results through people, processes and organizations* (3rd ed.). San Francisco, CA: John Wiley and Sons.

Chapter 2
Performance-Driven Project Management in Cyprus

Steven John Kelly
KNO Worldwide, Ireland

M. Mari Novak
KNO Worldwide, Ireland

EXECUTIVE SUMMARY

The training and consultation effort, performance-driven project management for the Turkish Cypriot community in Northern Cyprus, was funded because implementation of project plans was not satisfactory. The community was faced with considerable challenge. Non-performance was an issue for all stakeholders, directly affecting incomes, access, quality of life. Over nine months the result was upgraded manager/consultant project management skills. Both quality of project design and implementation of projects radically improved. Project results closed the fundamental performance gaps, with a remarkable 80% of the projects completed within timeframe and budget. These included retail sales increases, higher certification scores, new product/service launches, and cost savings. The level of understanding of organizational project dynamics was raised significantly, along with the skills needed to manage projects with a performance-driven approach. This sustained effort was evaluated in the design and early stages of implementation of the second wave of projects.

ORGANIZATIONAL BACKGROUND

Delivering technical assistance in developing countries has high stakes, and success can translate into significant improvements. When the outcome is of value to the local stakeholders, the end users are seriously invested. The funding or development agency and host authority are invested in objectives contributing to their agreed outcome. In a dynamic situation, projects are the usual approach to move step by step toward the agreed social and economic objectives (Kelly & Novak, 2007, 2010).

DOI: 10.4018/978-1-7998-3673-5.ch002

The authors' professional experience; along with academic and business research, acknowledges project management as a significant weakness – often, failure – in a significant percentage of applications (Discenza & Forman, 2007). We as managers and implementers have trouble moving from a plan, a stated objective, through implementation to a result. This limits potential value of the results to the end users. This troublesome experience and acknowledged concern, coupled with research findings, calls for a focused effort. This is one successful approach.

The Performance Driven Project Management (PDPM) program is designed in accordance with organizational theory, the clients' expectations, and *especially* to provide practical tools to get the agreed project outcomes done, to the standards or criteria required. Equally noteworthy is that project management is the critical process which metamorphoses interventions and initiatives into successful economic and social development.

Yet, few who manage projects in the developing world have any project management training -- let alone performance driven. Alas, projects are rarely approached from a performance standpoint. In this case, an international donor was funding a capacity development program for the Northern Cyprus small business and nonprofit community (Coughlin & Kelly, 2009). An initial assessment of these sectors identified weak project management skills as a cross-cutting issue to be addressed.

PDPM is applicable across sectors. A performance approach can be coupled with any topical technical assistance. It can avoid the most common mistakes, break down silo mentality, and eliminate putting project outputs at cross-purposes by enhancing project planning and communications. Benefits with a performance driven approach include assistance in decisions concerning resource allocation, setup and design of the project, monitoring and feedback procedures. Another important element focuses on iterative evaluation -- identifying the critical measures of effectiveness, sustainability, and ownership. The stakes are high.

It has been noted that the characteristics, tools, and benefits of PDPM exactly address the failures of traditional project management and/or the non-use of any organizational (systemic) project management protocol, as detailed in studies over several sectors and perspectives.

SETTING THE STAGE

The North Cyprus Situation

Cyprus (Figure 1) has remained politically divided since 1974. At that time after an attempt by Greece to annex the island, Turkey invaded with a resulting partition of the island. The northern portion is heavily dependent on Turkey and is not recognized by the international community. Few expect an easy reconciliation; however, recent developments have left many cautiously hopeful. All parties have something to gain from a unified Cyprus. Greek Cypriots will get access to the dynamic mainland Turkish economy and Cyprus will become a more attractive tourist destination. Turkish Cypriots will realize the full benefits of trade and cooperation with the European Union, including preferential market access. Other potential advantages of reunification include opportunities for improved productivity, environmental protection, and an enhanced business environment with the potential of attracting additional foreign direct investment.

Although prospects for unification are improving, significant barriers remain. Chief among these is the need to move closer to economic parity across the two communities and foster a culture of mutual understanding and respect. There are many factors inhibiting private sector development in the north.

Figure 1. Map Cyprus
Source: www.mapsopensource.com is licensed under a Creative Commons Attribution 3.0 Unported License

The Turkish Republic of North Cyprus, recognized only by Turkey, has effectively been isolated from the global community. In addition to lack of preferential access to European Union markets, they are not party to any trade agreements, aside from Turkey. This is compounded by the exclusion of North Cyprus from membership in international organizations. This relative isolation from global markets, combined with significant government subsidies, reduces incentives for firms to invest in upgrading technologies and product quality (Coughlin & Kelly, 2009.)

Businesses also suffer from limited access to information and opportunities to learn about new ideas and technologies. Basic infrastructure required for global integration -- telecommunications, broadband, and internet providers -- are underdeveloped in the north. Physical infrastructure requires ongoing investment, forcing many businesses to purchase generators and water systems, driving up the costs of their products and services.

For those firms that do undertake intra-island trade, the agreement and regulations surrounding the 1974 ceasefire bans the movement of a number of potentially important products and services. Although the EU considers the entire Cypriot island to be part of the EU, due to the political impasse, there are restrictions when crossing the ceasefire line for people and goods, as the north is considered outside the EU's customs territory.

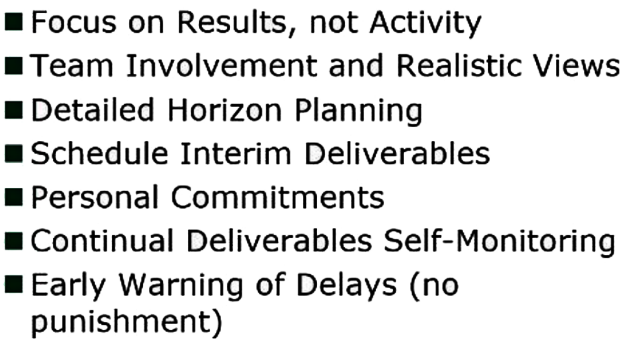
Despite these circumstances, Turkish Cyprus has realized significant economic and social accomplishments. For the most part, there is respect for rule of law and Northern Cyprus boasts a highly educated population. Income per capita is comparable to the most recent European Union member states, indicating a compatible level of development integrating with other countries. However, there is a large gap between what has been achieved and the potential of Turkish Cyprus.

What Is Performance Driven Project Management (PDPM)?

In the early 1990's, one of the world's most successful and profitable companies suddenly found themselves unable to deliver on their most important new product. The project had been monitored carefully and the team had been reporting that they were on track, using the tools and approaches available. But when the time came to deliver, it was discovered they would need much more time to finish the product. It took many months to figure out what had gone wrong. In the end, it was determined that extreme competitive pressure, combined with increasing uncertainty (it is not possible to know all you need to know to complete the project, when you start the project) had led to unproductive behaviors on the part of both managers and team members (Esque, 1999).

The pressure to say you were 'on schedule' was so great that nothing else mattered. People were no longer committed to producing a great product, on time. They were committed to *not* being blamed for the product being late. This experience caused the people involved to re-examine what project management was about.

Figure 2. PDPM characteristics



The analysis revealed a fundamental misunderstanding of the organizational dynamics of projects. A *project* is essentially a network -- a web -- of personal commitments between and among team members. No matter how brilliant a project *plan* is, if the individuals on the team cannot commit or do not deliver what the plan requires, the project will fail (Daniels & Esque, 2006). This conceptualization has been a revelation, and a tool to extricate organizations from checklists and guesses. The question then became, how do you create a project plan made up of personal commitments? The next consideration is a fundamental principle of performance management: once you have the plan, how do you monitor in a way that prompts people to anticipate and prevent problems, rather than hiding them to stay out of trouble?

Addressing these issues required a new perspective on managing projects. The performance perspective focuses on organizations as systems *and* the key factors that impact human performance. No matter how skilled and knowledgeable a team member/employee is, they will still fail if they do not have frequent and reliable feedback about whether their outputs are supporting the objectives of the project. Skill building on and integration of performance-driven project management into business processes must be taught, practiced, and monitored. Ineffective work practices need to be purged. Stopping any slip 'back into old habits' is a management responsibility.

Out of a synthesis of techniques proven and built on these principles, Performance Driven Project Management was born (Figure 2). And that successful and profitable company became even more successful (Esque, 1999). Slippage away from PDPM principles did occur, adding time and expense. Monitoring program and project managers adherence was vital.

The PDPM principles have now been proven to improve project speed, quality and cost across many project environments (Kelly, Esque, Novak, & Čermáková, 2012). What the participants in this capacity building program have learned are performance driven techniques for creating a project plan, monitoring performance to the plan and facilitating effective trade-off decisions throughout the project to keep it on track. *And* getting the project completed, implemented – while maintaining the criteria or specifications agreed.

Figure 3. PDPM: Key distinctions

MODERN	PDPM
■ Task and activity	■ Deliverables/results
■ Time estimates	■ Commit dates
■ Manager plans	■ Team involved
■ Plan from endpoint	■ Horizon plans
■ Track % complete	■ Done/not done
■ Last minute delays	■ Early warning
■ Concerns private	■ Explicit trade-offs

The tools for the performance driven project look different than conventional project management tools (Figure 3). PDPM replaces the task network diagrams and "Gantt charts" with a Deliverables "Map," a Deliverables Matrix and a Performance-Against-Commitment (PAC) chart (Figure 4). These simple and effective tools are designed to make sure that each project team member has the information they need to succeed: clear expectations, frequent self-monitored feedback, and control of resources. These elements are required to meet the specifications/criteria demanded of each step of the project process.

Figure 4. Performance against commitment chart

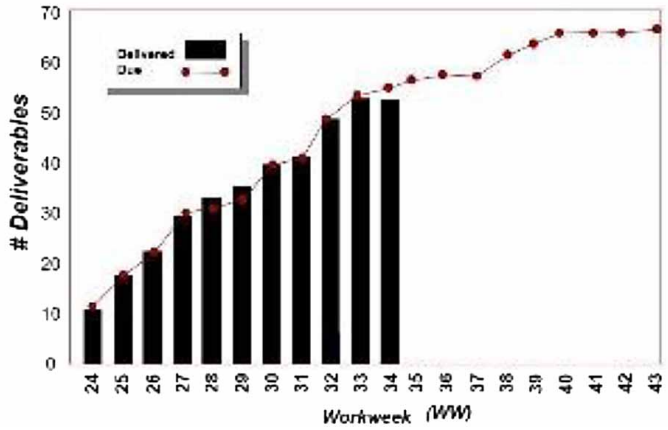


Figure 5. Map day
Source: Photo Steven Kelly

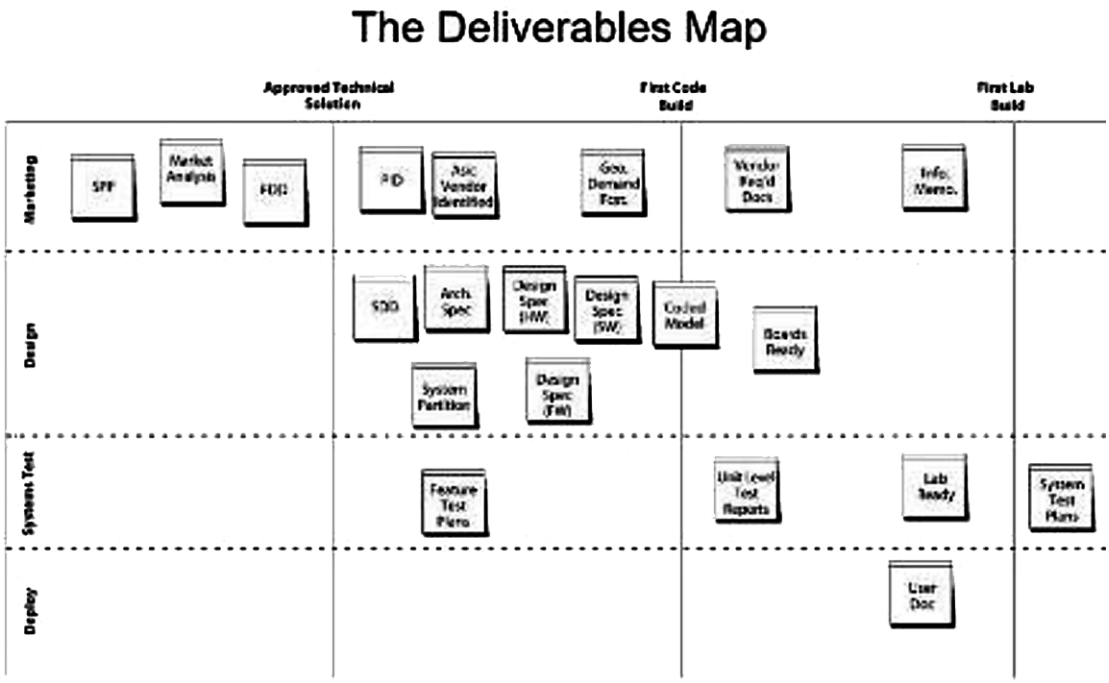
One of the most effective and consequential techniques is the "Map Day", a structured process for facilitating the entire project team to create the project plan in a way that leads to higher commitment, better teamwork (Figure 5), and clarity on project deliverables and outcome. All participants who completed this program led or participated in a Map Day meeting for their project in order to set themselves up to take the performance driven approach. The approach includes identification and agreement on deliverables, criteria, timelines, and establishes rules and procedures for communications and feedback (Figure 6).

Our example cases all tell an unique story in the effort undertaken by that particular project. Every project was monitored using actual data in the form of deliverables matrices and PAC charts. It was through the evaluation of these PDPM artifacts that the Program experts were able to ensure and certify that projects were being implemented using the performance driven project management – and succeeding.

CASE DESCRIPTION

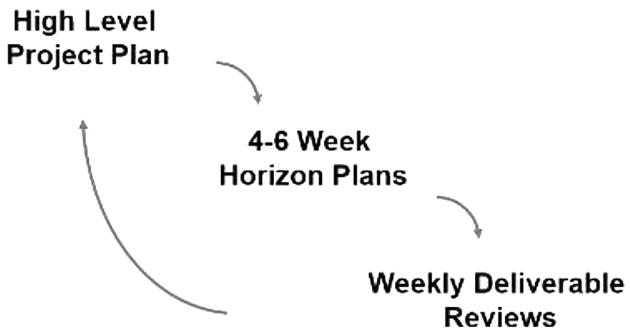
As is usual in a complex environment, one challenge of managing projects with the Turkish Cypriot Community is to coordinate across individuals and departments. This approach dealt with conflicting priorities while still completing projects on time, on budget – and with deliverables that met the required criteria. Speed and quality are complementary in that speed is the result of doing things right the first time. Success depends on timely decisions -- based on *accurate* information, not estimates -- so that issues are identified early and prevented or mitigated, rather than a response after the fact. Fixing errors takes time, costs money, and erodes trust in commitment.

Figure 6. High level project plan



Participants in this PDPM initiative included senior management, project leaders, and external consultants who included project management in their toolkit. The response of these participants as the effort unfolded over the weeks was overwhelmingly positive – and grateful. Jaded by a surfeit of repeated ineffective programs, 'never before' (in their words) had they been offered such an extended, practical, effective support. And tools they could keep on using.

Figure 7. PDPM planning and reviews



The practices that performance-driven project team managers need to enforce include effective group planning, short progress feedback loops, and consultative decision-making practices. Increasing schedule pressures and uncertainty have been proven difficult to address with historical project management models. PDPM avoids this with a toolkit of performance management tools and techniques; such as horizon planning, weekly-deliverables monitoring, and simple, crucial reporting rules to build trust (Figure 7). These allow for proper monitoring of progress, based on verifiable data compared to pre-set indicators. This also allows timely decision-making on unanticipated/new issues and unintended consequences, keeping projects on track.

Meanwhile, the PDPM toolkit is effective in avoiding *surprises* -- commonly known as *problems*! Again, projects are kept on track while creating a more respectful environment and more engaged project-teams. This bodes well for the next project, and increased likelihood of success.

All these aspects were identified as being decisive in the north Cyprus environment. Given the small population, and ongoing isolation, most enterprises in the community are small and medium enterprises. Likewise, there is a high degree of funding by international aid agencies in support of a wide variety of sectors in the form of short- and medium-term projects. Given this context the program was constructed to work with both private enterprises and donor funded projects.

Changing orthodox ways of operating in institutions by introducing and embedding new methods and techniques is the challenge. With the authors leading the training and implementation effort, there was intense collaboration between international experts, local consultants, and selected project managers in real time. Training and consultation; study and practice ensued to get the real work done. A series of short workshops explaining the theory, approach, and the tools were mandatory; then interspersed with the practical learning and workplace application. The element that added value, and increased successful transfer and application, came about through continual onsite and distance coaching during the 25 weeks of the engagement (Kelly, Esque, Novak & Čermáková, 2012).

The PDPM program focuses on the capacity building of the project managers. The objective is to increase the chances of sustaining the practices – and continue getting improved results. Therefore, it is necessary to move beyond the transfer of only the knowledge of new techniques. There is a need to ensure implementation of new skills and understanding of the underlying principles demands real world application. Practice. Skill building takes a bit of time and iterative practice.

The participating managers practiced and gained competency with these methods in their workplace over a period of some time, with the required amount of support and consultation individually provided. This is not easy stuff, performance. It does not happen with a single workshop. The objective of the PDPM training program was to build participating managers' abilities from basic awareness to a mid-level of competency. These projects were real and ongoing, sometimes with ramifications for the survival of a business or social service. An additional and oft-experienced challenge was to incorporate the new skills while managing stressful and intense demands. An analogy of "building the plane while flying" is apt. And all participants were reconceptualizing this common experience of trying to get something done with others, working through a project.

To provide feedback to participants and measure learning progress there is ongoing pre/post testing during the workshops. However, the key evidence of success was measured by the actual actions of the participants:

- Ongoing use of the deliverable tracking software and charting
- Conduct of mapping sessions with team members

- A series of project update briefings structured to demonstrate the applied knowledge
- Minimizing both delays and watering down specifications

Based on this evidence, great strides were made in building project skills among the program participants, the successful use results are described in the included examples in this case study.

An important component of the approach was the building of a core team of local consultants who would be able to sustain the progress after the conclusion of the formal program. Given the small size of the Turkish Cypriot professional population, this team was selected carefully and given intensive support by the team of experts with international experience. All local consultants were already experienced in several specific areas of management or technical consulting. The focus was building *performance driven* project management methods into their existing portfolio of knowledge and skills.

Each local consultant worked side-by-side with the international experts on a minimum of 3 projects during the program duration. This was supplemented with specialized/advanced performance management seminars and distance coaching throughout. Along with the face-to-face workshops and coaching sessions, continual interaction was maintained through use of interactive technology. This allowed for flexible on-demand support. Additionally, some attention was given to *program* managers, that is, the bosses. Project design must balance the 'project triangle': scope, cost, time. Unreasonable expectations or objectives or mismatch result in poor quality results, or failure.

The PDPM blog (http://tcc-pdpm.blogspot.com/) was effective in reinforcing the learning, provide recognition of manager successes, and build a learning support community. The website is still online today as an artifact of the project and consistently is visited several hundred times per month.

The international experts undertaking this project assisted in bringing projects from infancy to their end stages successfully via Performance Driven Project Management. The availability of the technical support was promoted in the media. Both non-profit institutions and smaller private businesses were encouraged to apply. Based on interest and a commitment to invest in the effort, a representative sample of clients was chosen. This support was provided directly with no northern Cypriot government involvement.

In some cases the project was mid-stream, allowing for strengthening the existing process. Several selections were long-term efforts that continued past the time of active support. Collectively, these served as a workplace "laboratory" for the managers and consultants to build their skill and craft in PDPM. The final measurement of the result of the capacity building lies in the upgraded skills of the Turkish Cypriot managers and consultants as documented in the success metrics of the individual projects.

Example #1: Food Safety - Improving Hygiene in the Turkish Community

There are close to 1600 restaurants and small eateries in North Cyprus. The larger operations have banded together as a professional association, which is growing due to the new legal requirement of obligatory membership.

Although competition exists, there is a common agreement that all eateries should give their best service to their customers and raise the food and hygiene standards overall in the catering industry. Even with these expectations, the association itself had not been in the position to take on improving standards as a formal effort. Levels of hygiene are left to individual businesses. While individual engineers often had knowledge of appropriate standards, incentives for owners to consistently apply these were needed.

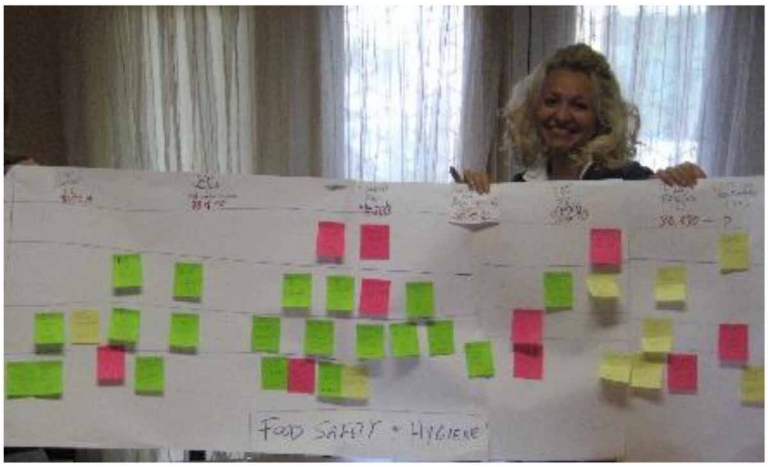
The broad goals for these standards are:

- Providing safe/healthy foods for an increasing number of people eating away from home
- Promoting tourism indirectly with certified safe food service establishments
- Increasing customer satisfaction by providing safe food through standard certified food service establishments
- Portraying a positive image of Northern Cyprus by having certified food establishments

To tackle these important objectives the capacity development program funders and managers determined to address this in a creative way. The food engineers employed throughout the Turkish Cypriot community had the formal technical education and experience in this area; therefore, it was decided to work with these individuals to achieve the goals of creating food safety and hygiene standards. Their local experience provided an opportunity for a select group to review international best practices and adapt these to the local environment. The major milestones for the project had been sketched out earlier; however, it was still unclear whether there was both time and resources to achieve them.

After the initial PDPM workshop (that occurred several weeks after the start of the initiative), the Project Manager and consultants sat down to do a detailed mapping of the sub-deliverables required to achieve the objectives (Figure 8). The initial milestones included a training design leading to international ServSafe® hygiene certification and audits for pilot eateries. These programs would be conducted by certified food engineers. However, during the mapping process it soon became clear that these targets were too ambitious – at least without the expenditure of additional funds and a 6-month extension of time.

Figure 8. Food safety mapping
Source: Photo S. Kelly



Given the remaining seven months of project time, it was decided to focus on two areas:

- Joint creation, in partnership with the food engineers, of a set of hygiene standards applicable to the Turkish Cypriot environment
- Training of food engineers to these standards, with a sub-set of individuals prepared as local trainers for future workforce development

As an added benefit to the food engineers, the international expert was also a certified trainer / examiner for the US National Restaurant Association ServSafe® credential.

From a target group of over 30 engineers, 18 were able to commit for participation and self-selected for inclusion in the program. While all the engineers had technical training and academic credentials, there was a high interest in obtaining an international certification recognized around the world. The revised major milestones were divided into 45 sub-deliverables that were to be executed. The large deliverable map was mounted on the office wall as a visual aid to keep focused.

Throughout the period, the PDPM consultants provided ongoing coaching onsite and by distance. At midpoint, a major re-look at the project map and sub-deliverables was completed with several minor scheduling changes. The progress in meeting the deliverable commitments had been steady.

In April the food engineers sat for the ServSafe® examination, which is an accreditation of the American National Standards Institute (ANSI)-Conference for Food Protection (CFP). Given their extensive dedication to preparation on their own time, plus the high-quality coaching by the expert, all of the participating engineers passed the exam and were awarded the ServSafe® credential. **The TCC engineers gained the highest average scores ever recorded for this examination.**

Meanwhile, the project continued to be implemented and on track. The food safety and hygiene standards were finalized; the training of local trainers occurred as scheduled. The knowledge and skills were in place for the next challenge during a second phase – the training of local restaurant and food processing plant staff on how to implement the standards within their facilities.

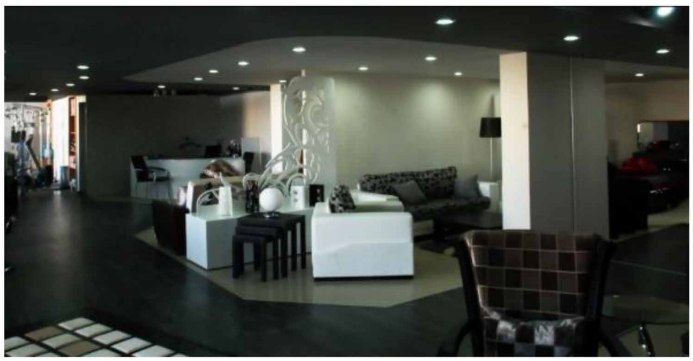
Example #2: Reinvigorating Sales in Retail

In north Cyprus the furniture market is very competitive. Fine Furniture Ltd. (name changed) was established as a furniture retailer in 1995, as a subsidiary to an existing business.

Re-Invigoration of the Business

During the first decade of operation, Fine Furniture expanded its retail presence and opened three showrooms in the major Turkish Cypriot population centers, Nicosia and Kyrenia (Figure 9). In the year prior to the participating in the program there was a fall-off in demand and sales. Fine Furniture took the decision to consolidate operations within the capital Nicosia.

Figure 9. Fine furniture showroom
Source: S Kelly.



Why the Interest in Performance Driven Project Management

Fine Furniture, through the initiative of its Managing Director, had been in search of new management techniques and potential investment in order to increase operating efficiency and sales. At the time of the kick-off of the PDPM program, the Director was encouraged by a local consultant from the Management Center, to enroll in the training and coaching effort.

Rather than simply identify a smaller project to work on within the company, the Director determined to formulate the turn-around of the company as a project with duration of 10-12 months. The project objectives were:

- Develop a comprehensive approach to marketing and competition analysis
- Identify and implement strategies to increase the competitiveness of Fine Furniture within the furniture market
- Build the sales volume of the company in all three lines: Furniture, Fitness Equipment, and Household Appliances

The company management had been discussing how to approach these issues for months; however, no concrete actions had been undertaken. The levels of complexity and diversity required actions that seemed overwhelming.

The PDPM method was considered as an approach to bring more discipline to the planning and execution process. The motivation was the hope that using the PDPM tools might result in attaining the desired objectives of a realistic marketing and sales plan, based on current marketplace information. More to the point, implementation of the plan would finally be accomplished.

A Two-Phase Project

The Company Director determined, in initial discussions with the PDPM expert and assigned local consultant, to divide the project into two phases. The first would follow a very aggressive 60-day schedule and focus on conducting market research of the furniture market. This would include research into competitors, with limited customer focus groups and interviews, and a team SWOT analysis to evaluate the information. The end deliverable for this phase was a Marketing Plan. The second phase would be the execution of the marketing strategies identified in the plan. This would last 6 months until the end of the "high season" for Spring and Summer sales.

Starting immediately after the initial PDPM workshop, the Director and consultants held coaching sessions to kick-off the project. As the focus of the PDPM program is primarily knowledge/skill building, it was critical for the consultants not to delve deeply into technical operations of the project. The effort was to work with the Director to practice using the tools to manage his own project. Both consultants had marketing expertise enabling them to advise in designing the project plan, but the success of the execution would be based on Fine Furniture's internal resources.

Prior to using the PDPM approach, projects within Fine Furniture were done informally. Meetings were held, sometimes actions assigned. Much of it was *ad hoc*, with little commitment or discipline to execute the project -- until it became critical! During an initial mapping session, the Director and team identified 28 specific deliverables to be completed within two months. This included the deliverables and associated control information.

Initial Success Builds Motivation and Trust

Before the second workshop six weeks later, there had been several distance coaching sessions and sessions with the local consultant. All the specified deliverables were met on schedule. A marketing plan draft was under study by the management team.

During the coaching meeting following the workshop, the mapping for Phase II was done. This time the Marketing Coordinator took an active role in plotting deliverables across several ambitious target areas of the strategy. In accordance with the marketing plan several parallel aspects of the strategy were to be executed together. These included broad issues such as developing a corporate identity and a refreshed website; bringing in two new product lines before summer and automating the inventory control and sales tracking.

This was all buttressed by increasing investment in advertisement shown to be a key in the competitor analysis. New procedures were already in place tracking competitor campaigns, monitoring showroom traffic, and follow-up with customers. This planning defined an additional 40 deliverables. Given the small size of the staff, the planning was integrated with each person fulfilling at times several roles. Critical were bi-weekly meetings to review deliverable quality and achievement, anticipating upcoming tasks (and potential surprises), and celebrating the milestone successes.

The results of the overall project at the conclusion of six months support? Two new product lines in place. Store traffic increased by 50% since the start of implementation and monthly sales up 100% in six months.

Example #3: Language Center - Blossoming From Crisis

Teaching students a foreign language can be a passion. Building your own business to accomplish this is a worthwhile goal. However, without having managed ones' own business, the requirements and challenges can be both 'hidden' as well as unpracticed; even to a skilled, technical professional. The project objective originally proposed by Apollo Language Center (name changed) was to develop and implement a marketing/sales plan to reinvigorate a shrinking business.

What did happen was the emergence of an entrepreneur, a reformulation of a consulting/language service into an ongoing business, and a revised business objective and marketing strategy with results that exceeded sales targets. The introduction of the PDPM tools and approach was credited by the owners as a catalyst for this. The credit lies with the management team and their energy, focus, and willingness to listen to advice, ask questions, and then implement their own plan.

Opportunity?

Business planning needs some lead time. What the owners of Apollo Language Center did not contemplate was the drastic reduction in tourism, due to an economic downturn. The tourism industry had provided students both directly and indirectly given a demand for service staff required to communicate with international visitors. It was also the key to their long-term goal of creating a tourism/language center in this part of Cyprus. With hope and a long-term perspective, the owners had invested in both an office space and began to equip the classrooms.

Although both partners had experience in teaching and consulting, they did not have extensive experience managing all aspects of a business venture. One word appealed to them in the information about the capacity development program offering of project management: *performance.*

Although the effects of the global economic downturn had hit the Turkish Cypriot community, this did not mean that life had stopped. When the owners considered the situation there were many audiences that needed language training. They had built a reputation for quality. Now they needed to find clients, and a new concept for their business. The first step, everyone presumed, was to decide on a new marketing approach. The effort could then be put into selling. What was not anticipated was the number of tasks generated from the presumptions around the research and implementation of 'the plan'. The burden was falling on one of the partners. Simply, it too much work for one person.

The typical mode had been to see something that needed to be done and one of the owners would do it. And something had to be done! However, there was not enough time or energy in a day. As one of the owners is an architect there was a degree of familiarity with approaching the effort as a project.

The Art and Science of Management

The key responsibilities of managing a business are often misunderstood, misplaced. The main responsibility is to allocate resources, in order to accomplish the priorities of the organization. In order to do that effectively information is needed. How information is handled must be reviewed.

- How closely does one hold information?
- How clearly does one explain the situation to staff?
- Do employees need to know the 'big picture'? Operational concerns?
- Should they focus specifically and exclusively on the quality of their own work?

The principles of Performance Management (based on 80+ years of both research and practice into the most effective management approaches of organizational dynamics) frame the answers to these questions (Pershing, 2006). The slice of performance management that was addressed in the capacity development effort was p*erformance driven Project Management*. Utilizing the principles of PDPM, the owners were able to "manage" the project, involving the staff and key suppliers.

It Is an Iterative Process

Modeling a concept is not a one-off effort; it is an iterative process. Time, coaching, and application will increase competency and the chances of sustainability. The model must be adapted to the organization and the people who are using the tool. Familiarity with and use of project management tools requires feedback and practice. Apollo learned these; and are now part of their repertoire.

The first rule for successful projects is that there must be *clear expectations* for all team members. This is difficult to do if the person framing the expectations is not clear about what they want.

One of the many strengths of the Apollo management team is that they were open to listening to advice – and then make their decision on how to implement it. One of the first "watershed moments" in the project for the owners was to decide to share the 'big picture'. What were their business goal and objectives? What kind of business did they want, and how did each of the teachers and potential support

staff (or suppliers/contractors) fit into to that? What benefits would the management provide for staff in recognition of their performance?

The goal chosen was straightforward and clear: Build enrollment in the school to 100 students for the Winter semester (Figure 10). This led to the first major decision. The business model the owners had envisioned was not going to be possible at this stage in the economic cycle or with the resources they had on hand. The risk analysis and potential were part of the framing of the project.

Figure 10. Apollo project map
Source: Photo M. Novak

Project definition is a necessary first step. Right from the start most projects are confused by a lack of clarity. Although the performance issues may not show up until later – after time, money, and quality have been sacrificed – the root cause is lack of specification and common understanding. And the marketing plan had to match the resources – personnel, time, and budget.

Competition: Internal and External

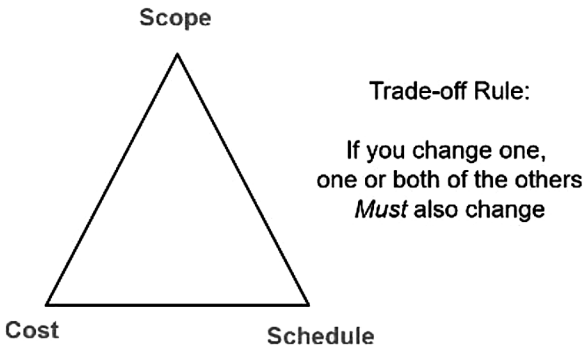
And the personnel, time, and budget were – as always – limited. Apollo had to move quickly and within a reasonable budget.

Four approaches comprised the revised marketing strategy, two traditional and two new:

- Newspaper advertising, banners, leaflets
- Owners' personal meetings with hotel/casino clients
- Assignment of teaching staff to sales meetings
- Contracting out a list of potential client meetings

This was the trigger to another series of difficult decisions that resulted in the successful realization of this project, and the success of the business. In considering a new approach to sales, it was clear that other issues had to be resolved. The structure, policies, and procedures of the company had to align with the company's goals. So did the expectations, skills, and budgets (Figure11).

Figure 11. Priorities: The project triangle



The principles of performance management explain why and what needed to be done. In short, the *'change'* must be anchored to the work processes, organizational policies, and job dynamics of the person or department now responsible. This sounds logical and obvious -- and is virtually never addressed, especially in the context of technical assistance. Using the microcosm of *performance-driven project management* (as a basis for the principal's performance management approach) encouraged the Apollo management team to change the internal operations if they were going to change the expectations, requirements, reward/compensation, even the *role* of staff.

No longer was this a sole proprietorship; it was a small business with competitive challenges. Apollo was changing its business model to suit the business environment. Clearly recognized was that the situation required much more effort than one person could bring to bear. And the cash flow – the lifeblood of any organization – had to be improved quickly.

A preliminary project was set up to consider operational requirements. With the valuable assistance of the local project management consultant this research and review went smoothly and quickly. But not without heart rendering considerations by a company owner. The recognition of the responsibilities and role of the company owner blossomed: this was not just me anymore. A difficult step for many.

Two project management issues emerged immediately. A key element of project success is that the individual team members have frequent, self-monitored feedback. A corollary to this issue is what kind of reported feedback would be useful to management.

The second and more basic issue had to be addressed by the project manager/owner: how much information to share, and of what nature. Many managers believe that each staff member need only information about their slice of the work. Often it is assumed that to give either the 'big picture' or share information across departments or units would only confuse or frustrate. These questions are resolved with PDPM, and performance management principles. Each member of the team must know what the project is trying to accomplish, the big picture. It is also essential to understand the work process, and each team member's contribution and (criteria) expectation to and timing of the process.

It is essential that team members understand the criteria or what problem is being solved in each step, thereby defining criteria of each deliverable. Since it is essential for each staff member to know exactly how they are performing against expectations (as a core element of PDPM) and toward the desired outcome of the project, this information is to be shared. The 'weak link' analogy applies here. And importantly the tendency for project teams and oversight to get off the track, and 'accomplish' something very different than the contracted, agreed result or output of the project.

To restate the critical point, performers need to get feedback on 2 levels – is each performing correctly *and* are the outputs the correct ones, contributing to the desired outcome of the project? Two developments brought these issues into focus for the management team. The first is that the owners did share the information, did include the staff and key contractors in the planning discussions, did agree on expectations, and did develop self-monitored feedback tools. The additional step was to develop management monitoring tools.

The Russian proverb *trust but verify* is useful. Performance management and especially performance-driven project management is also designated 'commitment management'. Making a commitment (to the deliverable and the project objective) demands trust and accountability. Management must have information so that she can assign resources appropriately, effectively. One person on the team balked, for a good reason. She had no professional skills, training, coaching, or practice in selling. She was a language teacher, a very good one and valuable staff member. She could not be faulted for not being able to sell. After skirting around the problem for some days, this was identified in a counseling session and assignments modified. And a potential problem was averted.

The external contractor who was supposed to have made a series of sales calls did not. This contractor also committed to coach and monitor the performance of the teachers in selling situations. None of that happened. In the spirit of the project, the contractor had promised -- and did not deliver. With no feedback, the management team moved into verifying. The contractor had not performed, and the decision was made to cut their losses. Now the management team had another resource decision. These events lead into another aspect of project management, of business – and of life: risk.

Risk and Achievement

The inherent risks in any project are:

- Problems or new technology needs with unknown solutions
- Likelihood that bad things will happen
- Likelihood that the team will not execute as planned

However, there is an even greater one: choosing the wrong strategy at the start.

The owners had encountered and dealt with the first three risks. Now they encountered the strategic concern. What if the strategy failed? The owners of Apollo acknowledged that there was a chance their strategy would fail; they might not make their enrollment numbers, to provide the necessary cash flow. With scenario and contingency planning they had mitigated that risk by developing multiple income streams/audiences. The project was within their operating and project budgets, and timeframe.

With all the energies expended in selling and preparations, the enrollment period opened. Early enrollment was slow and insufficient. There was fear. Focus was kept on the tasks of the plan. Deliverables were met. After several weeks registrations started building and the student pool expanded. The risk paid off! Their target was surpassed by over 120%! New market segments were opened. The project deliverables had created a synergy of interest and reminders with creative solutions to clients' language training needs. The project, the company, the owners are a success.

CONCLUSION

The examples briefly presented here provide evidence that the capacity to use PDPM was not just taught but was learned. The managers opted to implement their professional projects using the knowledge and skills gained. They understood that practice and iteration would be required to master the skills and why this approach made a difference: sustainable and more effective with subsequent strategy and project implementation. Progress was made: the community's quality of life improved.

To be worthwhile, capacity development must go beyond the presentation of knowledge and skills. Second order learning must occur, grasping how the concepts and techniques fit or are adapted into a specific context and how to work through potential roadblocks. There is a real danger that capacity development will end abruptly and projects will fade away as soon as the trainers/consultants leave. There is a misplaced assumption that this stuff is easy, that anyone can perform this way with cursory exposure. The research corroborates that the complexity and value of this approach is an investment of time and budget – and that it pays off in results. The value added can be achieved with appropriate program design and funding (Kelly & Novak, 2007). Ultimately, capacity development is about the choices and commitments made by the participants after the coaches and consultants have moved on.

This *performance* project was designed with the future choices of the participants in mind (Coughlin & Kelly, 2009). Note well: Performance Driven Project Management is a commitment-based approach to project management, and commitment is only possible where there is choice. Participants in this capacity development project were learning how to work with others to get things done, to specification and with a team. It is a recognition that project team members on any project have choices on how they perform. The lead consultants designed the Project Management capacity development program for the participants with getting results in mind. The stakes are too high to approach development in any other way.

One of the unique aspects of the Performance Driven Project Management program design was hands on coaching for each of the participants as they navigated through the PDPM method for the first and second time. When done competently, coaching helps individuals be conscious about the choices they are making, without deciding for them what those choices will be. The coach would observe the team's status meetings and provide feedback relevant to the situation. In this case, the participants were being coached by local consultants, who were receiving some more advanced training and hands on coaching themselves from the international experts. The program intention was to embed not only the PDPM knowledge and techniques, while enhancing the ability to help others learn and implement PDPM. These professional consultants and managers were able to reinforce each other's approach.

With this the capacity for PDPM can continue to grow without direct involvement by the development/international experts. Performance management is a master skill. All too often program designers and funders expect inexperienced consultants – never having been exposed to theory or practice – are able to pick the information out of a manual or a presentation. Beware, your assumptions. The literature acknowledges the low level of project success. Project management – performance driven – is an old skill understood with theory and practice. The effort must be designed and implemented, correctly.

We are not guaranteed success. Stakeholders will monitor program and project processes and outputs and evaluate outcomes. At the end of this PDPM project, there were some very encouraging early indicators. First, it was suggested to the local consultants that to continue to learn about PDPM they would train (and work with) others. With master guidance, this required a fair amount of preparation by each local consultant. The authors designed the practicum so that the participants practiced teaching and

implementing PDPM, with continued feedback and mentoring. Complex solutions are not transferred in one-off, quick attempts.

Since then the local consultants (with assistance from the local PDPM project manager) translated the provided PDPM materials into Turkish, held two full team rehearsals, and recruited more than the target number of workshop attendees for what they called their "first" PDPM workshop. Another group of participants, including some of the local consultants produced a proposal to seek funding to start up a local "PDPM Club," with the hopes of attending the upcoming international council meetings on project management in Istanbul.

Some of these ideas were suggested by the PDPM consultants, and participants have taken responsibility to bring them to fruition with minimal external support. Just as importantly, maybe more so, are the choices many of the participants are making about their own work, and even personal lives. Several of the participants have started implementing PDPM on projects outside the purview of the PDPM program. The hope of any capacity building program is that the improved – and more powerful methods and tools – will be embedded in organizational operations, or a consultant's tool kit. And that these do not slip back into old – and less effective – habits. As longtime practitioners of capacity development and other performance improvement interventions, the consultants for this program are very encouraged by the choices made and the results achieved. The participants and project managers have taken responsibility for the future of PDPM capacity in Northern Cyprus. And that is exactly where the responsibility belongs.

The authors have been successful with other groups in diverse locales. The ability to get results – move from plan to implementation to completion – is a valuable skill set. The literature is rife with studies identifying failure, inadequate outcomes, lists of contributory elements, and explanatory rationale for subpar performance (Kelly, Coughlin & Novak, 2012). Without which there is nothing: *sine qua non.* If we cannot get results, there is a waste of resources, time, and the motivation and skill development of the human resource. All because we have not invested in training and preparation of project management, that is *driven by performance.*

REFERENCES

Coughlin, P.C., & Kelly, S.J. (2009). *Cyprus capacity development program need assessment and intervention design: Final report and recommendations.* Nicosia, Cyprus: Limited Distribution Report.

Daniels, W. R., & Esque, T. J. (2006). Performance improvement: Enabling commitment to changing performance requirements. In J. A. Pershing (Ed.), *Handbook of human performance technology: Principles, practices, potential* (pp. 93–110). San Francisco: Pfeiffer.

Discenza, R., & Forman, J. B. (2007). *Seven causes of project failure: how to recognize them and how to initiate project recovery.* Paper presented at PMI® Global Congress 2007—North America, Atlanta, GA.

Esque, T. J. (1999). *No surprises project management: A proven early warning system for staying on track*. Mill Valley, CA: ACT Publishing.

Kelly, S. J., Coughlin, P. C., & Novak, M. M. (2012). Making a Difference: The Future of HPT in Sustaining Best-Practice International Capacity Development. *Performance Improvement Quarterly*, *25*(1), 85–98. doi:10.1002/piq.20130

Kelly, S. J., Esque, T. J., Novak, M. M., & Čermáková, A. (2012). *Building a Sustainable Project Management Capacity in Cyprus* (Vol. 51). Performance Improvement Journal.

Kelly, S.J., & Novak, M.M. (2007). Performance issues in international donor-funded development: A starting point for the PI professional. *Performance Improvement Journal, 46*(1).

Kelly, S.J., & Novak, M.M. (2010). Applied performance technology gets results in donor funded development. *Performance Improvement Journal, 49*(3).

Kelly, S. J., & Novak, M. M. (2012). *What Cost Development? Building Performance in Transitional Societies*. Performance.

Pershing, J. (Ed.). (2006). *Handbook of human performance technology: Principles, practices, and potential* (3rd ed.). San Francisco, CA: Pfeiffer.

KEY TERMS AND DEFINITIONS

Consultative Decision-Making: Team members are involved in and provide input to changes in project plan although the team leader finally decides; members provide valuable input as they are the ones who must know what they are delivering, to what specification, when in the process (what deliverables proceeds, by whom and what for will your deliverables be used, etc.).

Criteria/Specifications: Each step of the process is a completed deliverable, and to confirm the quality a description of requirements is necessary.

Feedback: There are three kinds of feedback, to the individual or work team. Catchwords for the first two are 'doing things right,' and 'doing the right things'. Efficiency and effectiveness. The third feedback is on the team member's communications and respect for the others on the team. This can radically affect the readiness for the next project/assignment.

Map Day: One of the key elements of managing projects with a performance conceptualization, requiring information (accurate and shared) on tasks; negotiation on criteria, blockages/changes, shift in project triangle balance; commitment to accomplish deliverables to specification; agreement to the flow (steps, precedence and concurrent steps).

Performance Driven: Performance is a complex of elements integrated to produce an output, that meets the criteria and specifications for which it was implemented, in an efficient manner. Productivity and competence are elements, along with the support of an administrative and managerial function, which work to allocate (and move) resources appropriately. Performance requires a degree of agreement or planning, and a degree of 'recovery' or closure and readiness for the next challenge/project/assignment.

Project Management: The effort of delivering something of value for the user of that output. Projects have a beginning and end point, compared to process management which is ongoing/repetitive. Although processes can be broken into projects and projects can be elements of programs, this is a defined effort with resources assigned, timeframe designated, and quality/criteria established.

Second Order Learning: A consideration of the ramifications of actions, an integration into the conceptualization of the topic or action, the widening of perspective to accomplish this.

Silo Mentality: A first order thinking approach – not considering the cross-functional workflow, specifications, timing, resources and absorptive capacity. Acting in isolation.

Trade Off Decisions: Often called the project triangle, it is labelled – scope, budget/cost, and schedule/time. These must be in a workable balance, and that balance must be defended by the project manager's boss. The balance is key and often ignored. You cannot keep increasing the scope without affecting budget and/or time. This balance is easily lost when not using performance driven approaches because commitments become unclear and specifications change. When a 'project manager' reconfigures the workplan in isolation, there is a high probability that the balance is disrupted and the likelihood of 'on time, on budget, to specification' is radically diminished.

APPENDIX: DISCUSSION QUESTIONS

1. What are the key differences between performance driven project management techniques and former traditional methods? How might these be used in your own projects?
2. How important is culture in adapting new management methods? Do some approaches transcend cultural boundaries?
3. All projects at some level become *change management* efforts. What are the key ingredients for successful organization change to be sustained?

Chapter 3
Improving School Systems

Joseph R. Castilleja
https://orcid.org/0000-0003-3917-676X
Mabton School District, USA

EXECUTIVE SUMMARY

Since the start of the United States' No Child Left Behind Act of 2002 (NCLB), and now the Every Student Succeeds Act (ESSA), schools that underperform have been under significant pressure to improve academic achievement. The responsibility for such improvement is placed on school leadership, namely school principals. The endeavor of school improvement takes on many forms since the process varies from one U.S. state to another, meaning that school "turnaround" is becoming a specialization within the work that a principal is already expected to perform. Principals of underperforming schools must therefore familiarize themselves with the specialized roles and responsibilities of the "turnaround principal" to yield results in their own schools. This case study takes a human performance technology approach to understand how one school successfully improved on-time graduation rates (i.e., within four years) by bringing a turnaround principal on board, then later sustaining results by hiring a permanent sustainment principal.

ORGANIZATION BACKGROUND

Anyplace High School, located in a western U.S. state, is a rural public high school serving approximately 2,000 students. The high school is fed by a system which includes multiple middle schools and elementary schools across the district. Though the district is sizable if measured by student enrollment, the surrounding community has a rustic, "small-town" feel with residents who primarily pursue work in agricultural-related industries. The student demographic is growing: more than 90 percent identify as Hispanic or Latino, more than six percent identify as Caucasian, and the rest identify as either African American or two or more races. Twenty percent are classified as English Language Learners (ELLs), nearly 80 percent live in low-income households, and 15 percent are considered migrant (many are abruptly disenrolled when their families move to and from the district to follow seasonal agricultural work, sometimes multiple times a year).

DOI: 10.4018/978-1-7998-3673-5.ch003

Since the 1990s and throughout the era of the United States' No Child Left Behind Act of 2002 (U.S. Department of Education, 2010a, 2010b), Anyplace High School has struggled in a plethora of ways. Historically, gang activity has thrived on the streets of Anyplace, targeting youth and pressuring them to seek membership in a manner that both directly and indirectly adversely affected the school's climate and culture. Qualitative feedback indicated that student commitment to learning was inconsistent, and many students were failing courses at alarming rates. Enthusiasm for involvement in extracurricular activities flagged, and observers were hard-pressed to find a general sense of pride among the student body. Athletic teams maintained long losing streaks, which further affected morale and engagement. Over time, the school earned a reputation as being a "dangerous" place, and Anyplace students were summarily labeled "bad kids." Many on staff, both certificated teachers and support staff, also seemed to buy into these attitudes and labels. Though most staff wanted something "better" for the students, many felt discouraged and/or powerless in terms of how to actually make change happen. Due to their lackluster or non-existent efforts, levels of trust declined among students, staff, and administrators. Most troublingly, data indicated that fewer than 50 percent of students who entered the school as 9th graders would graduate by 12th grade.

SETTING THE STAGE

With the start of the No Child Left Behind Act of 2001, the reality that fewer than 50 percent of Anyplace High School students actually earned a diploma became more public than ever. Dr. Findel (pseudonym), superintendent of Anyplace School District for the previous few years, observed that results lagged even though staff and students exerted effort and made marginal progress. When the state posted a school report card which emblazoned the school's failure as a data point for all to see, it only confirmed what many community members had already felt or believed about Anyplace High School.

Yet as data became more readily available, a change in mindset emerged. Over time, the school district started to attract school leaders who were willing to make courageous moves that would drastically improve outcomes, even if those strategies defied current norms.

By 2009, Anyplace High School had initiated a tremendous amount of work towards improvement, and some positive results were realized; however, the school was still in need of a massive transformation. After careful reflection, Dr. Findel set out to create a new sense of urgency around improving student success at the secondary school level.

As defined by statutes in the No Child Left Behind Act of 2001, Anyplace High School was identified as being *in need of improvement.* More specifically, the school was targeted due to its trend of graduating students at a rate on par with the bottom 5 percent of schools in the state. Through collaboration at the district level, Dr. Findel secured a federal School Improvement Grant (SIG) to support school reform at Anyplace High School. One of the grant's contingencies required the implementation of a comprehensive school reform plan which involved replacing school personnel (Clifford, 2013; U.S. Department of Education, 2010b). Anyplace High School's plan stipulated the replacement of the head principal with an interim *turnaround principal* charged with improving the school's graduation rate.

An extremely committed, reliable, hard-working principal who always aimed to put students first named Mr. Froning (pseudonym) was replaced under this condition. His passion for education was evident in his extensive knowledge about instructional best practices, and he was masterful in selecting curricula and leading efforts to plan the pace and sequence of instruction. He was well in-tune with the

systems and processes necessary for a school's operation, and gaining compliance along the way was never a problem since he regularly implemented new ideas in service of students. Mr. Froning had once been a teacher at Anyplace High School and was regarded positively overall by staff, students, and the community. Because Mr. Froning was a committed member of the team, Dr. Findel chose to reassign Mr. Froning to a district-level leadership position as the Director of Teaching and Learning. Ultimately, Mr. Froning became a front-line architect of the school reform plan that would consequently lead to his replacement by a turnaround principal. Table 1 describes the basic levels of performers in the school organization.

Table 1. organizational levels at Anyplace school district

Organizational Level (Explanation)
Level 1 – District Level Leadership (Inclusive of the school district superintendent's office. This level includes directors in charge of specific areas across all schools in the district.)
Level 2 – School Level Leadership (Inclusive of the principals and vice-principals who supervise and lead specific buildings within the district. This case study concerns the principal and vice-principals at Anyplace High School, although there are also leaders at this level at the middle and elementary schools that feed Anyplace High School.)
Level 3 – School Level Staff (Inclusive of teachers, support staff, clerical staff, custodians, kitchen staff, etc.)

Dr. Findel initiated a nation-wide search to fill the role of turnaround principal. The job was posted with a description that specifically stated that the school was identified as "in need of improvement" for raising graduation rates and that the district specifically sought a transformational leader. The interview team was comprised of district leaders, vice-principals, teachers, staff, and students. After a great deal of networking and an intensive interview process, the interview team selected Mr. Shepherd.

Mr. Shepherd (pseudonym) was an experienced principal who had conducted copious research on educational settings. When he accepted the position, Mr. Shepherd was transparent about the fact that he would serve the district for one to two years to ignite change in a new direction, but that the district would need to plan to find a replacement for him to sustain the improvement that he would initiate. As one condition of accepting the role as the interim turnaround principal, Mr. Shepherd required autonomy to make any change(s) that he believed to be necessary. Dr. Findel and district leadership agreed, and they gave Mr. Shepherd the go-ahead to transform Anyplace High School as he saw fit.

CASE DESCRIPTION

Although Mr. Shepherd had taken on a monumental task that naysayers in the school or surrounding community did not believe possible, he entered the role with poise and confidence. From the start of his time as principal, he was transparent about *why* he was there—to increase graduation success in the school. He was also clear about *how* he would do this, namely by addressing the climate and culture in the school to better support students and staff. To clarify, "climate" refers to how people in the building

feel about the school, while culture refers to how people *behave* as members of the school--a distinction important for a thorough needs assessment (Gruenert & Whitaker, 2015, 2017; Muhammad, 2018).

While fully intending to assess needs and select changes with his new team, Mr. Shepherd knew that the *types* of interventions he selected were not as important as the *process* by which he selected the most efficacious ones. Rather than showing up on the first day of school with a checklist of changes that would supposedly lead to the results he desired, Mr. Shepherd immediately conducted a building-wide needs assessment. He understood that innumerable interventions have proven successful in many schools, but no set of interchangeable solutions work in every school setting; in short, there is no "one-size-fits-all" approach to school turnaround, or even a "one-size-fits-most."

Interventions were not adopted just because they were recognized as best practices or because other schools had implemented them successfully; this decision was firmly grounded in research which found that interventions and changes in different instances of school turnaround are not interchangeably scalable (Smarick, 2010). These findings vindicate Brady's (2003) assertion that "the specific intervention strategy is not important. What's important is having the right mix of people, energy, timing, and other elements—particularly school leadership—that together contribute to success" (p. 32). Although the improvement plan itself is a pivotal element of school turnaround (if only so the entire staff can work towards a common vision and hold one another collectively accountable), modeling improvement efforts on another school's just because they share certain demographics or features would not yield nearly the same returns as interventions or improvements tailored to Anyplace's unique sociocultural context.

Through his own study and assessment of needs in the school, Mr. Shepherd and his team started their journey by first adopting a theory of action that would guide their work. While they wanted to make the right adjustments for the right reasons, Horst (2015) offers a clear definition of intentional action: "An agent's movement is an intentional action if (and because): (i) her intention is a *representation* of her movement and (ii) her intention is the *cause* of her movement" (p. 302). Many school improvement teams set out with the best of intentions and soon start adjusting systemic factors, offering incentives based on stale data, or implementing flashy new grant-funded initiatives. However, the methodology behind data collection and intentionality of change efforts is paramount, especially in rural districts with high levels of poverty and regular staff turnover. Unlike the radical philosophy of change once espoused by Facebook CEO Mark Zuckerberg, when it comes to school improvement, it is unwise to "move fast and break things." Seemingly "broken" elements may be symptomatic of unidentified, underlying causal factors which were products themselves of systemic funding issues, especially in regions where property taxes are historically low and taxpayers refuse to pass levvies. Human Performance Technology (HPT) offers a methodical process through which reformers can evaluate the impact of changes and make further adjustments as more data becomes available.

HPT has been likened to action research in the way it follows a systematic, data-driven process on an intentional trajectory towards a measurable outcome, and put simply, school leaders cannot make necessary changes unless supports are drawn from stakeholders in a variety of interrelated fields. The theory of action framework drawn from HPT allowed Mr. Shepherd and his team to mitigate unintended consequences of making broad changes in a short span of time, rationalizing that "it is not enough to move in *accordance* with one's reason, rather one's movement must be *caused* by the reason with which it accords. The causal condition is required to avoid collapsing the distinction between intentional action, on the one hand, and, on the other, movement that happens to be in accord with one's reason by mere *accident*" (Horst, 2015, p. 300). To avoid such "accidents," three main ideas guided their thinking, planning, and prioritizing, which were communicated in plain language to all building stakeholders.

Their intentionality made greater strides possible in a shorter span of time by allocating the most time to the most nuanced prong: building organizational trust. After trust was in place, stakeholders could unite as a team to faithfully implement systems of support and synergize their efforts under a common mission and vision. Once those two prongs were in place, staff were collaborating more effectively, trusting one another to remain consistent, and finding or offering support if needed. Comparably less time was needed to establish a culture of academic press and increase rigor across disciplines thereafter. These three ideas are represented in Table 2.

Table 2. Anyplace high school's theory of action

Theory of Action Component (Explanation)
Idea #1 – Organizational Trust (This component is listed first intentionally. In complex organizations, if there is a lack of trust among stakeholders, then efforts toward progress will eventually be compromised, and momentum will stagnate.)
Idea #2 – Systems of Support (People within the school have many tasks, roles, and goals which require that they be able to function in an environment which supports their success. If support systems are deficient, systemic barriers will appear. Conversely, support systems of empowerment provide motivation to mitigate barriers.)
Idea #3 – Academic Press (The main function of the school is to provide students with learning experiences that lead to graduation and future success. This vision requires that everyone in the school community be "pressed" in their thinking and actions around academics, which could include teachers to reconsider methods of formative assessments, communicate expectations and standards, and demonstrate instructional practices in their classrooms.)

Organizational Trust was very intentionally listed as the first component to Mr. Shepherd's theory of action. The selection of this component was based on Stephen M. R. Covey's (2006) book titled *The Speed of Trust*, where Covey argues that "nothing is as fast as the speed of trust" (p. 3). By his estimation, trust is a superlative quality, without which organizations cannot make sustained progress or achieve success. Further, he asserts that when trust is low, efforts slow to a crawl and cost more, but when trust is high, initiatives move faster and cost less. Trust cannot be bought--it must be earned. Offering financial incentives in exchange for raising graduation rates is insufficient and transactional; Parker et al. (2017) are critical of decisions to invest "considerable time and money into designing and implementing performance-based compensation/reward programs" (p. 169). There is mixed empirical support for theories recommending performance-based extrinsic rewards to enhance motivation and performance, especially among some meta-analyses which found that such rewards yielded no effect or a small positive effect (Parker et al., 2017, p. 170). Of the environmental supports which affect human performance as described in Gilbert's (1978, 2007) Behavioral Engineering Model, motivation is listed third; before incentives can be considered, both the "information" and "instrumentation" elements of environmental supports require that staff know what is expected and have the tools they need to meet those expectations. Indeed, Mr. Shepherd and Anyplace High School's staff had many frank, solutions-focused exchanges about barriers to high levels of performance. Abaci & Pershing (2017) support this assertion, noting that "we need more collaboration between scholars, practitioners, professional associations, and businesses to create a culture of engagement and involve everybody in the validation of applied research and theory development" (p. 19). In the case of Anyplace High School, after many years of failure, there was admittedly a great deal of broken trust between teachers and administrators, teachers

and students, and between the community as a whole and the school itself. Every time conflict arose, problem-solving often took a back seat to numerous preoccupations with unimportant details, and true collaboration was a rare occurrence. Mr. Shepherd and his team immediately recognized this barrier and committed themselves first to building trust among all stakeholders within and outside of the school.

Systems of Support, the second component of Mr. Shepherd's theory of action, is an attempt to identify and halt or eliminate systemic barriers to success which were preserved over time mainly because they were simply "how things had always been done." Throughout the needs assessment phase, the team found many policies or procedures still in place which were counterproductive to supporting the school's new direction. As one example, consider the fate of a student who fails a class at Anyplace High School. When Mr. Shepherd was first hired, if a student failed a class, he or she was re-enrolled in the class the next school year, rendering them even less likely to earn enough credits to graduate on time. A more supportive system welcomed the inception of intervention classes that helped students make up both credit and content (i.e. proficiency in meeting standards) either outside of school hours or during the school day. Further, rather than having to wait until the next school year to make up a class, a trimester system was devised where students could make class schedule adjustments three times per year to speed up the time between failure and the opportunity to take a recovery course.

Academic Press was the third and final component to Mr. Shepherd's theory of action. The word "press" was selected purposely, as it indicates a more thoughtful and meaningful way of evoking a positive growth mindset and therefore drawing out the best effort in those whose affective filters may be raised. Academic *push* has a more forceful and directive connotation, whereas *press* is a more graceful approach for applying pressure to a situation so that the person (or people) being pressed can respond through reflection and action rather than impulsivity or apathy. In a sense, academic press is a means of interrogating the current shared reality of all stakeholders involved in school improvement efforts, and then making changes to improve outcomes with urgency.

With this theory of action in mind, Mr. Shepherd and his staff began their journey. Kendziora & Osher (2016), who explored the impact of Social and Emotional Learning (SEL) on climate improvement across multiple districts, acknowledge that "Although federal, state, and local education policy are changing (e.g., The Every Student Succeeds Act of 2015), these changes are not yet aligned with the basic insights of the SEL field. In addition, there is a gap in the public's understanding of what SEL means; why it is important for education; and what parents, citizens, and young people can do to become effective SEL advocates and role models" (p. 809). The theory of action delineated by Kendziora & Osher (2016) bears some similarity to Anyplace's (albeit with more steps), and both frameworks are compatible with qualitative and quantitative evaluation using Gilbert's (1978, 2007) Behavioral Engineering Model. However, Kendziora & Osher's (2016) short list of open-ended evaluative questions for tracking district progress with their model could raise more questions than they answer in a new turnaround principal for whom finding a starting point is already a daunting task. Gilbert's (1978, 2007) Behavior Engineering Model, conversely, is a user-friendly tool which differentiates environmental supports from behavioral supports and explores both through lenses of information, instrumentation, and motivation to identify actionable areas of improvement within the school leader's sphere of influence.

The past decade has brought an explosion of research on social and emotional learning (SEL) and the way that cultivating growth mindsets and deliberately teaching self-regulation and executive functioning skills to at-risk students are foundational for cultivating engaging learning environments where students are intrinsically motivated to achieve long-term academic success (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011; Jones, Greenberg, & Crowley, 2015; Schonfeld et al., 2015). In terms of the con-

nection between SEL or school turnaround and Human Performance Technology, the HPT practitioner recognizes that it is imperative to intervene only after developing an understanding of "how humans work and function internally and within organizations that are bounded by environmental, societal, and economic realities" (Abaci & Pershing, 2017, p. 19). To build this understanding, Anyplace High School's next step was deciding on a plan of action for improving graduation rates. How would they build trust? How would they create systems to support *everyone* in the school? Finally, how would they press their academic program toward excellence without pushing students further toward self-fulfilling prophecies that were sometimes scripted generations before they were born? Table 3 provides an overview of the specific interventions initiated by the turnaround principal (Mr. Shepherd) and the Anyplace High School staff.

Table 3. Interventions and themes associated with Anyplace high school's turnaround

Intervention or Theme (Explanation)
Systems of Support (Systems and programs put in place to support students and staff in school. This idea guided the selection and design of many of the interventions in this Table. Creating a system that was supportive of all students became a commonplace action in Anyplace High School's turnaround.)
All Hands on Deck (To support students in the theory of action, Anyplace High School implemented a student advisory time called "All Hands On Deck" (AHOD). During this student support system, counselors and teachers worked together to support students in tracking and analyzing their school attendance, behavior, and course grades. This advisory setting was intended to be a time for students to build a relationship with their AHOD teacher in order to enhance trust so they could discuss current performance in terms of the student's attendance, behavior, and course grades in relation to where they should be performing.)
State Testing (The state mandates high-stakes testing requirements for students to earn a high school diploma. As students failed these tests, they were supported in courses they took moving forward. Many classes were designed specifically to help students improve their content proficiency where their skills may be lacking. These courses were technically an intervention strategy, albeit embedded into students' daily core schedules.)
Professional Learning Communities (A Professional Learning Community (PLC) is a model for collaboration by teachers based on DuFour et al.'s (2006) model for collaboration. The model guides teacher collaboration with the questions [a] What do we want students to learn? [b] How will we know if they have learned it or not? [c] What will we do if they have not learned it? and [d] What will we do if they have learned it? Using these questions as a guide, teacher teams work together to enhance student success by using data to guide instruction.)
Attendance (The school attendance rate was a publicly shared data point. Students individually tracked their own attendance data during AHOD.)
Intervention Courses (Courses were designed to fill in the gaps for struggling students where content was strategically sequenced so that the most important standards and skills were selected, assessed, tracked, and retaught. Intervention classes target students who are below grade-level based on test scores, or because of past course failures.)
Color Coding (A color coding system (i.e. green, yellow, orange, red) was put into place to help the school community understand and track their progress toward graduation. The total number of students in each category was posted publicly for a visual depiction of the entire system. Individually, students were made aware of their status on this scale. Green meant "on track," yellow meant "short on credits," orange meant "short on state tests only," and red meant "short on credits and one or more state tests.")
Feeling of Belonging (School leadership rolled out a theme which advocated not only that everyone had a place in the school community, but that everyone should feel that way also. Every student and staff member was encouraged to have some kind of leadership role somewhere in the school, and the principal and building administration team worked tirelessly to ensure everyone was treated in such a way that they felt truly valued. Treating others in ways that made them feel as though they did not belong was not tolerated.)
Mascot Time (This was a system for supporting course success during a block of time before lunch in which students got help from teachers. Students with an F or D grade in any class were required to attend Mascot Time. Students with grades of "C" or better in all classes were granted extended lunch time. This strategy rewarded students who maintained good grades while supporting those who needed extra help.)

continues on following page

Table 3. Continued

Intervention or Theme (Explanation)
Data (Leadership committed to utilizing qualitative and quantitative statistics to guide decision-making and prioritization of actions and inputs.)
Focus on Graduation (The universally agreed-upon, overarching theme prioritized graduation as the students' ultimate goal. "Graduation Matters" was commonly seen posted or bannered all over the school.)
Extended School Day (The school day was extended 45 minutes during the years of school turnaround, which allowed for additional instructional time for students and additional pay for staff and faculty due to the extended workday.)
Trimester Adoption (The school switched from a traditional two-semester system to a three-term trimester system. Though students took fewer classes each term, all classes met for a longer period of time. Additionally, this system allowed students to take more courses throughout the year, including new electives. Students were afforded the opportunity to make schedule adjustments based on their own academic needs throughout the school year.)
Internal Experts (The principal relied on his own teachers to plan and provide professional development, intentionally cutting out outside consultants. In the past, there was a feeling that the consultants were coming in to "fix" them. This new approach validated teacher expertise and entrusted them to take the lead in school reform.)
Replacing the Principal (The superintendent initially started the school turnaround process by replacing the principal. Critical research offers no examples of school turnaround that were not led by a strong principal (Clifford, 2013; Leithwood, Louis, Anderson, & Wahlstrom, 2004). Clifford (2013) states, "The work of turning around school performance inevitably befalls local educators and specifically school principals" (p. 50).)
Formative Assessments (Teacher teams worked together to design formative assessments, which allowed teachers to assess student progress throughout the teaching and learning process and served as leading indicators to inform instruction before summative assessments were given.)
Data Dashboard (School leaders maintained a set of key data (e.g. classroom pass rates, benchmark test scores, essential standards) on whiteboards in offices as well as on shared spreadsheets on the school computer network. This data was used to inform decision-making.)
Special Populations (Data from underserved student populations (e.g. migrant students, Hispanic/Latino, students receiving special education, and English Language Learners) were tracked. This disaggregation of data allowed leadership to identify disparities in achievement and prompted quicker action or intervention.)
STAR (The STAR Protocol is a classroom observation tool disseminated by BERC Group, a commercial company that offers protocols for informal, non-evaluative classroom observations during periods of instruction. The protocol is used to provide feedback to teachers based on what was observed about their instructional practice.)
Visible Data (Data was displayed publicly for students, staff, and community.)
Belief (The idea that improvement can and will happen in school was emphasized in their language.)
Intrinsic Satisfaction (The idea that people are self-motivated from within, and that positive experiences are the best way to influence motivation.)
45-Day Action Plans (Each school leader was responsible for continually maintaining a 45-day improvement plan.)
Broken Triangle (A model for improving attendance, student behavior, and course success. "*Broken triangl*e" is a term used by the turnaround principal to emphasize the importance of three measures of student success: [a] attendance in school, [b] behavior in school, and [c] earning a passing grade in all courses.)
Total number of interventions identified: 24

(Castilleja, 2019, pp. 87-89)

Anyone who has been part of a school as either a student or staff member can likely relate to one or even several of the interventions listed in Table 3. Nothing listed is novel or extraordinary, though a purposeful combination of items on the list and meticulous adjustments based on resulting data seemed to have proven successful for Anyplace High School. From a Human Performance Technology lens, it is interesting that most of the items on the list are merely changes (or clarifications) in the existing school environment. For example, teachers have recorded student attendance data for decades, often for esoteric reasons tied to state reporting, or were otherwise just one more perfunctory item to check off in the mad rush after the tardy bell. The difference after Anyplace High School's turnaround was that now attendance became an actionable data point that was tracked, talked about, and emphasized school-wide. After the transition, everyone knew the school attendance rate, every student knew his or her own attendance rate, and performance steadily started to rise. Gilbert's (1978, 2007) Behavior Engineering Model suggests that worthy performance in an organization can be orchestrated by addressing (a) information, (b) tools, and (c) motivation within the workplace. More specifically, Gilbert challenges performance technologists to think about these three areas first in the work environment, and then in relation to the repertory of the person. Another way of thinking about this concept requires consideration of the data, information, tools, and incentives that Mr. Shepherd offered to his school community *before* he started addressing the training, capacity, and internal motivations of his staff. Eventually, Mr. Shepherd led professional development in his school, but first he prioritized what was important to influencing graduation, and then he made data-informed changes to the school environment using systems that were already put in place.

Sustaining Results

The results under Mr. Shepherd's leadership represented a major breakthrough for Anyplace High School. In 2010, Mr. Shepherd was hired as the turnaround principal to lead the journey toward graduation rate improvement despite the fact that the school had become accustomed to (and appeared to accept) a graduation rate that consistently fell below 50 percent. At the end of his two-year tenure, the school had reached a four-year graduation rate of 72 percent. This news was exciting for the staff and students of Anyplace High School, but it was time for Mr. Shepherd to abdicate his role. The school community quickly realized that the process for hiring the person meant to serve as the *sustainment principal* was just as important as the process that took place when they were selecting the turnaround principal.

The school community, under the leadership of Mr. Shepherd, enacted yet another nationwide search for a principal. As it turns out, they selected Ms. Tyson (pseudonym), one of their very own vice-principals who had been part of the turnaround all along. Maintaining realized improvement and continuing to enhance the progress that had already been made was crucial to everyone in the school. The staff had shifted from a feeling of helplessness to one of enthusiastic belief, and now more than ever they knew what they wanted in a leader: someone who could continue to grow and maintain the trust they had built together and who understood the importance of school environment which supports people in their success and values the idea of removing systemic barriers to success. In addition, they wanted a school leader who had the knowledge, leadership, and grace to press the academic system to be better each school day.

In the years since Ms. Tyson has taken on the role of the sustainment principal, staff and students have come to recognize her as an effective and committed leader for their school. Not long after Ms. Tyson took over at Anyplace, the school's graduation rate outperformed the state average graduation rate. Soon after that, Anyplace High School's graduation rate became the highest in the region, and it was even in

the top five percent of the entire state. Today, it is expected that every year Anyplace High School will graduate 90 percent or more of their students within four years. Many of the interventions that started during Mr. Shepherd's time have continued and fine-tuned. Most importantly, staff and students now feel empowered to plan, track, and create their own success.

CURRENT CHALLENGES FACING THE ORGANIZATION

Since the implementation of an interim turnaround principal and a permanent sustainment principal, Anyplace High School has not had a change in principal leadership. There have been nominal changes in shuffling vice-principals, but this is to be expected since vice-principals tend to grow into head principals eventually. This stability in leadership and the subsequent school-wide buy-in are indicators that people are fulfilled intrinsically through building and growing in a positive system. Incidentally, graduation success has remained steady and predictable, with rates that have continually maintained at or around 90 percent with each passing year.

Admittedly, 90 percent is admirable, but what about the ten percent who don't graduate? Some students do return to finish in their fifth or sixth school years, but some drop out altogether. During the time of the transformation, building leaders encouraged staff to take collective ownership of the success of *all* students in the school, never turning any away or forcing them into alternative schools. This attitude proved to be the right attitude for most students—approximately 90 percent of them. Now that systems have stabilized, the school has continued to struggle with getting that last ten percent to graduation.

The work that Anyplace High School has poured into their transformation has resulted in drastic, tangible improvements for the majority of students (and specific sub-groups), but some individual students do have individual needs. Taking a renewed look at the last 10 percent (approximately 50 students) and their perceived or actual barriers to success is the next challenge for Anyplace High School. This time, however, they may not be looking at school-wide systems, or even smaller programs to address sub-group needs, but rather ways of addressing each of the 50 students on a more personalized basis. With stability established, most students will function successfully within the school-wide system, but Anyplace High School is now seeing that for a small number of students, the school-wide system is still not enough.

SOLUTIONS AND RECOMMENDATIONS

Though Human Performance Technology has been used as a lens through which some school improvement efforts have been actualized, it still has not been widely adopted in U.S. public schools (Moore & Kaminski, 2011; Page & Hale, 2013). Moore and Kaminski (2011) observed that schools have consistently lagged behind the times with regard to Human Performance Technology. They state that performance improvement practitioners "have been helping companies and industries for well over 50 years [c. 1960 to present] survive and expand in the global market—now is the time to take it to the next level, right here at home [in schools]" (p. 29). Though Anyplace High School was able to make the transformation to improve student success, many well-intentioned schools and school leaders fall victim to the fate of Sisyphus: each re-packaged framework strains against collective doubt as progress slowly inches uphill, then lodges in the opportunity gap and tumbles back down. Human Performance Technology could help

school leaders understand that *which* interventions are selected are not as important as getting the *right* interventions in place for the *right* school at the *right* time.

Ms. Tyson has done exceptional work at sustaining and stabilizing student graduation success at Anyplace High School. While undergoing school-wide transformation, things moved faster and on a larger scale, so about 50 students each year do not get what they need within the school-wide system to graduate on time. Using a Human Performance Technology approach (Van Tiem, Moseley, & Dessinger, 2012), she would assemble a team to assess needs by identifying specific gaps in performance and their causes as represented by those 50 students. Next, the team would design, develop, and implement interventions on a smaller scale to test effectiveness for individual students chosen from a smaller group and then scale up if needed--an approach akin to using a scalpel instead of a pickaxe, so any progress is appropriately attributed to a specific intervention (Bryk, Gomez, Grunow, & LeMahieu, 2017). Some school districts who have struggled with performance improvement over many years may not have these teams in place, so coordinating schedules and meeting consistently could pose an initial challenge.

One final recommendation not just for Anyplace High School, but for the district: given the extensive commitment at the district level to supporting Anyplace High School's turnaround, these efforts should be replicated and differentiated for the middle and elementary schools. It is possible that the high school's transformation influenced its feeder schools, but targeted supports at lower grades could offer younger students a greater head start. Admittedly, for rural Title I districts, efforts could be stymied if funding or support is unavailable. However, future action research approached through a Human Performance Technology lens could determine the efficacy of these methodologies on efforts to decrease the number of students who drop out in 12th grade and mitigate the devastating effects of the opportunity gap.

REFERENCES

Abaci, S., & Pershing, J. A. (2017). Research and theory as necessary tools for organizational training and performance improvement practitioners. *TechTrends*, *61*(1), 19–25. doi:10.100711528-016-0123-7

Brady, R. C. (2003). *Can failing schools be fixed?* Washington, DC: The Thomas B. Fordham Institute. Retrieved from https://files.eric.ed.gov/fulltext/ED498798.pdf

Bryk, A. S., Gomez, L. M., Grunow, A., & LeMahieu, P. G. (2017). *Learning to improve: How America's schools can get better at getting better*. Cambridge, MA: Harvard Education Press.

Castilleja, J. R. (2019). *Using a human performance technology approach to understand high school graduation rate improvement* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses Global database. (UMI No. 13808978)

Clifford, M. (2013). Learning to lead school turnaround: The Mississippi LEADS professional development model. *Cypriot Journal of Educational Sciences*, *8*(1), 49–62. Retrieved from http://cjes.eu/

Covey, S. M. R. (2006). *The speed of trust: The one thing that changes everything*. New York, NY: Free Press.

DuFour, R., DuFour, R., Eaker, R., Many, T. W., & Mattos, M. (2006). *Learning by doing: A handbook for professional learning communities at work*. Bloomington, IN: Solution Tree Press.

Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011). The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. *Child Development*, *82*(1), 405–432. doi:10.1111/j.1467-8624.2010.01564.x PMID:21291449

Gilbert, T. F. (1978). *Human competence: Engineering worthy performance*. New York, NY: McGraw-Hill.

Gilbert, T. F. (2007). Human competence: Engineering worthy performance (tribute ed.). San Francisco, CA: Pfeiffer.

Gruenert, S., & Whitaker, T. (2015). *School culture rewired: How to define, assess, and transform it*. Alexandria, VA: Association for Supervision and Curriculum Development.

Gruenert, S., & Whitaker, T. (2017). *School culture recharged: Strategies to energize your staff and culture*. Alexandria, VA: Association for Supervision and Curriculum Development.

Horst, D. (2015). Actions and accidents. *Canadian Journal of Philosophy*, *45*(3), 300–325. doi:10.1080/00455091.2015.1080045

Jones, D. E., Greenberg, M., & Crowley, M. (2015). Early social-emotional functioning and public health: The relationship between kindergarten social competence and future wellness. *American Journal of Public Health*, *105*(11), 2283–2290. doi:10.2105/AJPH.2015.302630 PMID:26180975

Kendziora, K., & Osher, D. (2016). Promoting children's and adolescents' social and emotional development: District adaptations of a theory of action. *Journal of Clinical Child and Adolescent Psychology*, *45*(6), 797–811. doi:10.1080/15374416.2016.1197834 PMID:27611060

Leithwood, K., Louis, K. S., Anderson, S., & Wahlstrom, K. (2004). *How leadership influences student learning*. New York, NY: The Wallace Foundation.

Moore, A. K., & Kaminski, J. M. (2011). Working with your local school district: A tale of two cities. *Performance Improvement*, *50*(4), 26–30. doi:10.1002/pfi.20210

Muhammad, A. (2018). *Transforming school culture* (2nd ed.). Bloomington, IN: Solution Tree Press.

Page, D., & Hale, J. (2013). *The school improvement specialist field guide*. Thousand Oaks, CA: Corwin. doi:10.4135/9781506335711

Parker, S. L., Jimmieson, N. L., & Techakesari, P. (2017). Using stress and resource theories to example the incentive effects of a performance-based extrinsic reward. *Human Performance*, *30*(4), 169–192. doi:10.1080/08959285.2017.1347174

Schonfeld, D. J., Adams, R. E., Fredstrom, B. K., Weissberg, R. P., Gilman, R., Voyce, C., & Speese-Linehan, D. (2015). Cluster-randomized trial demonstrating impact on academic achievement of elementary social-emotional learning. *School Psychology Quarterly*, *30*(3), 406–420. doi:10.1037pq0000099 PMID:25485463

Smarick, A. (2010). The turnaround fallacy: Stop trying to fix failing schools. Close them and start fresh. *Education Next*, *10*(1), 21–26. Retrieved from https://www.educationnext.org/files/ednext_20101_20.pdf

U.S. Department of Education. (2010a). *NCLB table of contents*. Retrieved from https://www2.ed.gov/policy/elsec/leg/esea02

U.S. Department of Education. (2010b). *Elementary and Secondary Education Act (ESEA)*. Retrieved from https://www.ed.gov/esea

Van Tiem, D. M., Moseley, J. L., & Dessinger, J. C. (2012). *Fundamentals of performance improvement: Optimizing results through people, process, and organizations*. San Francisco, CA: Pfeiffer.

KEY TERMS AND DEFINITIONS

School Improvement: The process of managing change within a school setting to improve student success. Though improved student success is the goal of school improvement, the interventions within the school improvement process are often focused on the practices within the control of the adults in the school.

School Turnaround: The process of leading and initiating school-wide reform to turn a low performing school into one with high performance results for students.

Sustainment Principal: When a school has utilized a turnaround principal, it often finds itself in the position of having to replace that principal with a long-term school leader. A *sustainment principal* is a school leader strategically selected to replace a turnaround principal, sustaining improved results and furthering improvement.

Turnaround Principal: When a school identifies that it has a system-wide need for improvement, a *turnaround principal* is a school leader carefully selected to lead the improvement process. Turnaround principals are sometimes a temporary leader, where they are put in place for specified amount of time while they assess needs and implement change in the school. Turnaround principals may be focused on specific results, such as improved graduation, student test scores, or climate and culture of students and staff.

APPENDIX: QUESTIONS

Given the case example, what advice might you give a *turnaround principal* in regard to utilizing improvement theory in a school turnaround situation?

1. What elements of the work environment do you think were most impactful in this case? Why?
2. What elements of performer (ie - teachers and administrators) knowledge do you think were most impactful in this case? Why?
3. What are some examples of performance measures that could have been helpful to the *turnaround principal* in this case example?
4. Why might it be important for a *turnaround principal* to measure specific staff behaviors? What about student performance?

Chapter 4
Using the 10 Performance Improvement Standards to Guide Strategy Development and Implementation:
A Marketing Performance Improvement Case

Frank Q. Fu
University of Missouri-St. Louis, USA

Lidan Li
China Telecom College, China

Hong Yi
Sinotrac Consulting, China

Xiangjiang Wang
China Telecom Corporation, Zhongshan, China

Yuan Zheng
China Telecom College, China

Xiumei Zhang
China Telecom Corporation, Guangdong, China

EXECUTIVE SUMMARY

This case demonstrates an award-winning performance improvement project conducted by a large state-owned enterprise in China that satisfies the 10 standards of performance improvement and adds value to the organization. Multiple tools developed by performance improvement professionals in China are used to develop and implement marketing strategies and achieve market share improvement goals. These tools are based on the performance improvement literature, specifically designed for and empirically tested in the Chinese market. The case also shows benefits and challenges associated with integrating performance improvement and marketing management.

DOI: 10.4018/978-1-7998-3673-5.ch004

ORGANIZATION BACKGROUND

China Telecommunications Corporation, also known as China Telecom, is a Chinese state-owned telecommunication company. It is the largest landline service and the third largest mobile telecommunication provider in China (China Telecom, 2019). The corporate mission of China Telecom is to let the customers fully enjoy a new information life and its strategic goal is to become a leading integrated intelligent information services operator. China Telecom puts the customer first and pursues a mutual growth of corporate value and customer value as its philosophy. One of the key strategies of China Telecom is to expand the scale of business through increasing efficiency and reducing costs in order to achieve high-quality development.

With subsidiaries in all Chinese provinces and major cities, China Telecom occupies more than 50% market share of the landline service. In 2018, the total sales revenue of China Telecom was over 350 billion RMB (roughly $55 billion in 2018 US dollars). For several consecutive years, China Telecom has been on the list of the Fortune Global 500 Companies. Facing strong competition from China Mobile and China Unicom, the other two major state-owned telecom providers, China Telecom has been striving to provide voice, data and Internet services to customers in China, Asia, Europe, Americas and Mideast. To operationalize, China Telecom has established nearly 60,000 sub-dividing performance evaluation units as a means to motivate its frontline employees.

The focus of this case is on one subsidiary, China Telecom's Zhongshan Branch (CTZB). Zhongshan is a medium-sized city with a population of three million in Guangdong Province, which is the most populous province of China. After decades of rapid growth, the Gross Domestic Product (GDP) of Guangdong Province has reached almost nine trillion RMB (roughly $1.42 trillion measured in US dollars) in 2017, making its economy close to the size of South Korea. Strategically located in the center of the Pearl River Delta Economic Zone near Hong Kong and Macau, Zhongshan represents one of the high-potential markets of China Telecom. However, in each of the three years from 2015 to 2017, the Zhongshan Branch failed to reach the annual market share goal of the mobile phone service market. In 2017 and 2018, a project led by members from the CTZB, China Telecom College (CTC) and Sinotrac Consulting Company successfully improved the marketing performance of the mobile phone service market in Zhongshan City and demonstrated the significant value created by the performance improvement methodologies.

SETTING THE STAGE

Performance improvement is a systematic approach used by professionals and consultants to improve individual, departmental and organizational performance in various industries (Gilbert, 1978; Rummler, & Brache, 1995; Van Tiem, Moseley, & Dessinger, 2012). This definition reflects both the process and outcome of making performance better. The performance improvement approach involves using methods, tools and techniques developed by scholars and professionals from different disciplines to accomplish this goal. The field of Performance Improvement emerged from the fields of educational technology and instructional technology somewhere between the 1920s and 1930s. Over the decades, this approach has been applied in a variety of fields including human resource development, training and learning, organizational development, manufacturing, research and development, as well as quality management. In recent years, performance improvement has been increasingly gaining popularity in China, as many

Chinese firms and multinational corporations operating in China use this approach to improve business performance. Interestingly, many performance improvement practitioners in China who have worked on successful projects are in the area of marketing.

The American Marketing Association defines marketing as the activity, set of institutions and processes for creating, communicating and delivering value to customers, clients, partners, stakeholders and society (AMA, 2013). Marketing has long been treated as one of the essential organizational functions that moves an organization's agenda forward and contributes to its success. Indeed, marketing is one of the key drivers of organizational performance (Porter, 1985). For marketers, strategy is an organization's long-term course of action designed to accomplish its mission and achieve its performance goals (Kerin, Hartley, & Rudelius, 2014). Implementation is the process of converting a strategy into proper actions and achieving the expected outcomes. Both the processes of strategy development and strategy implementation are critical for the success of marketing programs.

Corporate America spends hundreds of billions of dollars every year on various marketing programs. However, research shows that more than half of these marketing programs fail to achieve the goals and deliver expected results (Kerin, Hartley, & Rudelius, 2014). These failures are costly and waste scarce organizational resource. Marketers can improve the success rates of their marketing programs by improving marketing strategies, enhancing implementation or doing both. A proven practice to achieve this goal is to integrate marking with performance improvement (e.g., Fu & Jones, 2015; Fu, Yi, & Zhai, 2013; Tan, Fu, & Yi, 2016).

When marketers equipped with performance improvement skills and performance consultants with marketing knowledge work together, the whole team is better at developing and implementing marketing strategies and directing efforts and resources more effectively and more efficiently (Kotler & Armstrong, 2013; Van Tiem et al., 2012). In this article, we present a case that shows how performance improvement contributed to both the development and implementation processes of marketing strategies in the Chinese telecommunication industry. The case also highlights the importance of forming partnerships between marketers and performance improvement professionals.

To set a proper stage for the case discussion, it would be beneficial to review some fundamental principles and techniques in the area of performance improvement and discuss how they apply to marketing. For example, performance improvement professionals use the 10 Standards to guide their practices (ISPI, 2019). The first four standards are also known as the principles, because they are fundamental to every standard. In fact, many performance improvement professionals believe that each performance improvement project should have at least some aspect of each of the four standards (ISPI, 2019). According to the International Society for Performance Improvement (ISPI), the first four standards are:

Standard 1: Focus on Results or Outcomes

Instead of predisposing to a set of solutions, performance improvement practitioners should focus on results throughout their programs and projects. In marketing management, the expected results are typically financial and customer related, such as sales revenue, profitability and market share, as well as customer satisfaction. Marketers and practitioners need to have these goals in mind during their projects.

Standard 2: Take a Systemic View

Performance improvement practitioners should take a systemic view while conducting analysis. For marketers, this standard suggests that marketers should consider how the dynamics in society, the marketplace, workplace, work and workers affect the desired outcomes of their projects, while conducting situation analysis and other analyses.

Standard 3: Add Value

Performance improvement practitioners should add value by using their expertise to facilitate the performance improvement process and provide benefits in a cost efficient way. In marketing, we define value as the ratio of benefit and cost. Value adding can be achieved by either increasing benefit or decreasing cost or accomplishing both simultaneously.

Standard 4: Work in Partnership

Performance improvement practitioners should collaborate with customers, clients and stakeholders. Marketers need to work with experts, specialists and consultants both inside and outside their organizations to draw on their expertise and gain support. This standard ensures that team members share responsibilities for the success of the marketing programs, foster open communication within and between groups and make certain that customers' needs are met in an efficient and sustainable way.

In addition to the four principles, the 10 Performance Improvement Standards lay out a six-step process for professionals to analyze performance gaps and opportunities, investigate causes, design and implement solutions and evaluate outcomes and results of programs and projects. Specifically, the six steps are represented by Standards 5 to 10. These six standards and how they contribute to the success of marketing programs are discussed below.

Standard 5: Determine Need or Opportunity

Performance improvement professionals conduct analyses to find the difference between the current and the desired performance, the performance gap, as well as ignored growth opportunities. In marketing, the common analyses conducted by marketers, such as situation analysis, marketing audit and some marketing research studies, can serve this purpose.

Standard 6: Determine Cause

Performance improvement practitioners conduct analyses to find out why a gap exists between the current and desired performances. They look for the underlying causes, before designing solutions. For marketers, gaps may be caused by poor marketing strategies or poor implementation of good marketing strategies.

Standard 7: Design Solutions

After determining a performance gap and causes, performance improvement practitioners design or select solutions to address the causes, in order to close the gap. For marketers, the solution can be a marketing program either targeting a new segment, promoting a new product, adding a new distribution channel, etc.

Standard 8: Ensure Solutions' Conformity and Feasibility

Performance improvement practitioners oversee the development of the solutions and make sure they are feasible, workable and conform to the requirements. Marketers and performance improvement professionals sometimes use pilot studies or test marketing for this purpose. Results of the pilot studies are used to make necessary adjustments.

Standard 9: Implement Solutions

Performance improvement practitioners develop strategies, acquire resources and coordinate support to sustain change. It corresponds to the implementation stage of the strategic marketing process. Both financial and human resources are needed to ensure the success of strategic implementation of marketing programs.

Standard 10: Evaluate Results and Impact

Performance improvement practitioners help clients measure the impact of solutions and compare them with goals. For marketers, the impact can be related to business, such as improved sales revenue, market share and customer satisfaction ratings. Sometimes, marketers calculate the return on investment (ROI) and estimate intangible benefits of their marketing programs, such as enhanced branding and relationships.

Remarkably, although the performance improvement methodologies were originally developed in the US and primarily applied in Western contexts, new progress has been made in the Chinese market after the methodologies were introduced to China around 2011. Performance improvement consultants, scholars and professionals in China have developed new tools and techniques to add to the performance improvement literature. These tools are uniquely designed for the Chinese market, but consistent with performance improvement principles and standards. The China Telecom case to be introduced in the next section will show how professionals and consultants used some of these tools and achieved significant outcomes.

CASE DESCRIPTION

As one of the leading enterprises in the rapidly growing telecom industry in China, China Telecom has been striving to improve its financial and customer performance and strengthen its market leadership position. One corporate initiative adopted by the management has been to utilize performance improvement in the whole organization. The China Telecom leadership at both the corporate level and subsidiary level recognize the value of Human Performance Technology (HPT). This is a systematic and systemic methodology developed by ISPI and introduced to the Chinese market by Sinotrac Consulting Company

(Sinotrac) and other organizations in 2011. Serving as a strategic partner of ISPI, Sinotrac is the leading performance improvement consulting company in China. Over the years, Sinotrac has provided training and management consulting services to clients in a variety of industries, including multiple branches of China Telecom.

From 2016 to 2018, the executives at CTZB, together with consultants and instructors from Sinotrac and CTC, launched a performance improvement project and successfully improved the marketing performance of this branch. CTC is the internal training facility that offers learning solutions to China Telecom employees throughout the nation. In this project, the CTC and Sinotrac served as internal and external consulting partners of CTZB, respectively.

The case consists of two phases. From late 2016 to the end of 2017, the CTC helped CTZB conduct a marketing strategic development project. As an outcome of this project, the CTZB identified a potentially profitable but neglected market segment as a growth opportunity. Then, from January to June in 2018, the CTZB conducted a marketing strategy implementation project by focusing on this new target segment. The project improved market share of the identified segment and accomplished important strategic and organizational goals. In the next sections, we will refer to the marketing strategic development project as Phase 1 and the subsequent marketing strategy implementation project as Phase 2. Phase 1 identified an important but neglected market segment and Phase 2 more than doubled the market share of China Telecom in that segment. Both phases were critical components of the project.

Phase 1: Developing Marketing Strategy

In September 2016, the CTZB executives invited CTC to design and implement a performance improvement project and help the CTZB develop its core business. On September 12, 2016, executives and consultants from CTC set up a dedicated group consisting of Mr. Zheng, as the project director, Mr. Li, as the project manager, and eight CTC trainers. The dedicated CTC group formed a joint project team with Mr. Wang and Ms. Zhang, the general manager and marketing director of CTZB, as well as performance improvement consultants from Sinotrac.

Organizational Analysis

From September to October 2016, the project director, project manager and business experts of China Telecom conducted an extensive organizational analysis of CTZB and submitted a report and project proposal. In October, Mr. Wang and Ms. Zhang, the general managers of the CTZB, met the joint project team and discussed the project's scope, budget and general goals. One focus of these discussions was reaching strategic consensus among executives, aligning marketing programs with organizational strategies and facilitating strategic implementation. Following Standard 1 of performance improvement, the project team focused on results and outcomes during the discussion. They determined that the general goal of the project was to improve China Telecom's mobile phone market share in Zhongshan City.

Environmental Analysis

In order to further understand the situation, the project team conducted an environmental analysis. This approach enabled the project team to take a systemic view, which was consistent with Standard 2 of performance improvement. The process was similar to the situation analysis many marketers are familiar

with and was conducted at the World, Workplace, Work and Worker levels. As discussed in the previous section, the four levels covered both external and internal factors significant to marketing performance.

First, on the world level, the project team focused factors at the society and marketplace level. Factors at this level typically relate to customers, competitors and the PEST factors, which stand for political, economic, social and technological forces. The political forces in this context refer to factors related to laws, legislations and policies regulating pricing, product, distribution, etc. The economic forces include the overall macroeconomic conditions, growth of income, inflation and unemployment rates, etc. The social forces are factors related to both demographic shifts and cultural changes. The technological forces refer to inventions and innovations from engineering and applied science and their effects on customer value and marketing practice. These factors are generally beyond marketers' control, but their impacts tend to be strong and significant. For example, many good marketing programs fail during economic downturns and new technologies, such as the Internet and Artificial Intelligence, may completely change an industry.

The project team analyzed the Report on Development of Chinese Mobile Phone Users 2014-2016 (provided by the Ministry of Industry and Information, China). According to the report, from 2014 to 2016, the average annual growth rate of Chinese mobile phone users was 12%; specifically, the growth rate was 27% in the West and Middle regions and 3% in the Southeast region of the nation where there were 1.13 mobile phones per capita. The report also indicated that the growth rate of mobile phone users in Zhongshan city was lower than the national level. This was because Zhongshan had developed rapidly and each adult resident already owned at least one mobile phone, resulting in a shrinking market space. Furthermore, the Report noted that, in the past three years, data used by Chinese mobile phone users grew by 132%, which indicated that the consumption model for mobile phone users had transformed from voice-oriented to data-oriented and data consumption was growing rapidly. Meanwhile, the project team analyzed Zhongshan City's Short-term Development Plan 2015-2020, according to which Zhongshan should have about 4.35 million residents by 2020. The project team concluded from the analysis that CTZB had the market potential to develop its business of mobile phone users.

The focal point of the world-level analysis should be the customer. To understand their customers, the project team conducted a survey study on mobile phone users in Zhongshan. According to the survey, 92% of users cared more about the availability and rates of their mobile phone data plans. In addition, 72% of users thought that their current data plans were insufficient and costed too much. The average monthly expenditure of a customer on a data plan was 86 RMB (roughly $13 in 2018 US dollars), whereas the expected expenditure was between 40 – 50 RMB ($5.8 - $7.2 US dollars). Out of the 72% users who complained about the insufficiency and high prices of their data plans, 60% were using services provided by CTZB's competitors. On the technology side, though unlimited data plans had been gaining popularity in the market place, many customers were not aware of this option.

At the workplace level, China Telecom had a strong representation in the landline service market with a market share of over 50%, due to industry and regulative histories. China Telecom also had much stronger connections with many government agencies at different levels and large and medium-sized state-owned enterprises than the other two major competitors. However, the relationships were primarily on the Business-to-Business level and there was not much connection at the individual employee level of these government agencies and industrial enterprises. China Telecom also lacked the marketing resource, expertise and experience to develop their business clients' individual employees as a consumer segment.

At the work level, data showed that, in the past two years, CTZB had developed its mobile phone business primarily through the retailing channel of its distribution partners. Specifically, 73% of its mobile phone users registered in the mobile phone retailing stores operated by its agents and distributors. However, the retailing channel in Zhongshan was dominated by Competitor A, which had three times more stores than China Telecom. Consumers could also purchase through an electronic channel. However, in Zhongshan City, this channel was dominated by Competitor B, as China Telecom only had limited representation in this channel. The analysis also revealed another option, developing a third channel, which meant promoting mobile phone services to consumers through their employers, enterprises and government agencies. This channel was less crowded, but China Telecom had limited expertise and experience to develop it.

At the worker level, the project team conducted internal survey research using stratified sampling and found that 85% of the staff members in CTZB expressed some dissatisfaction with either the results, the promotional approach of the mobile phone service or both. Specifically, 78% were dissatisfied with product design and 69% with the promotional approach. Although dissatisfied, the staff members said they did not have better alternatives. Furthermore, the project team conducted one-on-one interviews with the general manager and deputy general managers of CTZB, as well as managers and supervisors in charge of the marketing, retailing and channel, industrial client and business client departments. From these interviews, the project team learned about the competition strategies, product strategies and channel strategies adopted by CTZB, and its top management's core views about the current situation, opportunities and challenges with respect to the market development of mobile phone users. The interviews indicated that the general managers, marketing director and other managers believed that in the next couple of years, this market would continue to grow rapidly and that the key questions were how to take advantage of the trend and determine the necessary marketing strategies and action plans.

Performance Gaps and Objectives

By comparing the results of the situation analysis and that of the environmental analysis, the project team identified multiple meaningful performance gaps and potential opportunities. One of them was that China Telecom was not fully utilizing its good relationships with enterprises and government agencies in Zhongshan City and had failed to establish competitive advantages in this high-potential market. The team also set specific objectives for the three following business measures for CTZB: the total number of mobile phone users, the market share and the total sales revenue of mobile phone services in the Zhongshan market. These objectives guided both the strategy development and implementation processes.

New Marketing Strategies

Based on the analyses, the China Telecom project team reached a consensus that the key to achieving market development was to find a specific targeted segment. Their effort led to the identification of a neglected segment, the employees in government agencies and industrial organizations as a new target. This decision was based on high potential benefits due to the segment size and growth rate, as well as the relatively low marketing cost due to China Telecom's good relationships with the Top 500 enterprises and government agencies in Zhongshan. This choice was consistent with Standard 3 of performance improvement, since it would add value to China Telecom where value was defined as the ratio of benefit and cost.

The project team also made suggestions regarding the marketing mix elements. The marketing mix elements, also known as the 4Ps, are the decisions marketers have to make in order to achieve organizational goals and marketing objectives. They typically refer to the product, price, promotion and place (distribution) strategies of the marketing program. Specifically:

- **Product:** China Telecom Zhongshan Branch (CTZB) would modify its product by significantly improving the data plan from 6G to 20G, satisfying the needs of this new target segment.
- **Price:** CTZB would decrease monthly prices of unlimited data plans to RMB 80.00 with no contract and RMB45.00 with a 1-year contract with rates lower than those of its competitors.
- **Promotion:** CTZB would promote the new mobile phone plans to individual employees of the enterprises and government agencies, which had good relationships with China Telecom.
- **Place (Distribution):** CTZB would train and motivate its channel partners to jointly promote this new target segment. The channel partners refer to individuals and businesses working with the CTZB to distribute its products and services, typically including distributors, retailers and agents.

During the whole process of marketing strategy development, the CTC project team worked closely with CTZB's management team, functional departments, business experts, consultants and sales managers. The fact that they formed partnerships for the same causes was consistent with Standard 4 of performance improvement.

Phase 2: Implementing Marketing Strategies

During the phase of marketing strategy development, the project team of China Telecom identified an important but neglected market segment and modified marketing strategies related to product, price, promotion and place. The marketing strategies needed to be properly implemented in order to achieve the performance goals. From the end of 2017, the CTZB (i.e., China Telecom Zhongshan Branch), together with internal consultants from the CTC (i.e., China Telecom College) and external consultants from Sinotrac (i.e., Sinotrac Consulting Company), launched a marketing performance improvement project focusing on the new target segment. Similar to Phase 1, the project team utilized the 10 ISPI Standards as guidelines in Phase 2. These standards ensured that team members would agree upon major aspects of project management, gain support from stakeholders and contribute to the success of the project.

Standard 1: The project started with a comprehensive review of the outcomes achieved in Phase 1 and conducted additional analysis focusing on the new segment. The project team found that the segment market share of the enterprise employees was only 10% in 2017, which was 6% lower than the overall market share of Zhongshan Telecom. This analysis confirmed the gap identified in Phase 1. Meanwhile, the project team conducted a benchmarking analysis. Benchmarking is the practice of comparing business processes and performance metrics to the best practice in other companies or other branches. In this particular case, the project team compared the performance and practices of CTZB with that of the Guangxi Branch, a branch of China Telecom in Southwest China. Guangxi is a province in Southwest China and the Guangxi Branch is a well-performed branch within China Telecom. Based on these analyses, the project team set a specific market share goal for the CTZB, which was to increase the market share of the mobile phone market in the Top 500

enterprises to 20% in the first half of 2018. This effort ensured that all stakeholders focused on the desired outcomes and objectives and was consistent with Standard 1 of performance improvement.

Standard 2: To ensure a systemic view was taken, the project team once again conducted an environmental analysis, this time with a specific focus on the factors influencing CTZB's market share in the Top 500 enterprise markets. At the world level, the team recognized that, with new technology breakthroughs and changing consumer preferences, the demand for unlimited data plans was increasing, although the average price was expensive (more than RMB199 per month, roughly $29 in 2018 US dollars). At the workplace level, the team found that CTZB had been promoted to employees in government agencies, but not those in the industrial sectors. At the work level, the project team analyzed CTZB's promotion process and found that it consisted of three major stages: promotional message dissemination, purchase intention registration and delivery. At the worker level, the team found that most CTZB salespeople were comfortable selling offline, but lacked experience and expertise selling online using social media marketing.

Standard 3: As we will discuss in subsequent sections, the project team identified three potential solutions based on their analyses. They selected the final solutions using three criteria: effectiveness, efficiency and potential risks. This decision-making process added value because the selected solutions provided more benefit and cost less money than the alternatives. This practice is consistent with Standard 3 of performance improvement.

Standard 4: Similar to Phase1, Phase 2 of the marketing improvement project saw team members working closely with CTZB executives, managers from the marketing department, human resource department, finance department and information technology department, as well as product managers, account managers and performance improvement consultants from both inside and outside of China Telecom. The project received support from the top management of CTZB and CTC. The general managers of CTZB and instructors from CTC were actively involved in the process of project design, analysis, implementation and evaluation. The partnerships enabled the project team to coordinate efforts and gain support from stakeholders. The stakeholders included both internal colleagues and external partners. These practices helped acquire financial and human resources and, therefore, had positive impact on the process and outcomes of the project.

Standard 5: Using the outcomes of Phase 1 as managerial expectations and organizational goals, the project team conducted multiple analyses to fully understand the situation. At the first step, the project team analyzed both external factors, such as political, economic, social and technological forces (PEST), and internal factors, such as resources, expertise and organizational strategies. These analyses led to refined segmentation, targeting, positioning, and differentiation (STPD) strategies. The segmentation and targeting strategies deal with analyzing and determining target customer groups, whereas the positioning and differentiation strategies deal with communicating with the selected target group in order to create a different and superior position in their mind. The team also conducted a SWOT analysis, which stands for Strength, Weakness, Opportunity and Threat. The SWOT analysis is a common method used by marketers in different industries to understand positive and negative effects of internal and external factors on marketing performance.

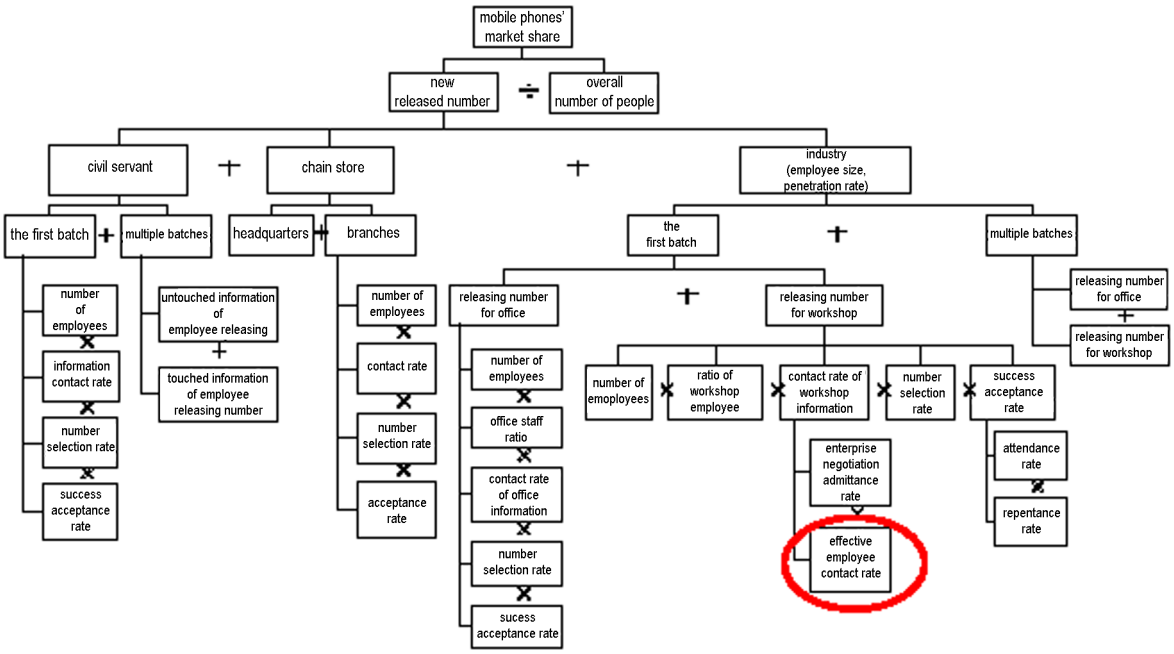
Based on these analyses, they set a specific performance improvement objective, which was to increase the market share of mobile phone services in the Top 500 enterprises market in Zhongshan to 20% in the first half of 2018. The Top 500 enterprises were defined by their total number of employees. In order to better understand the new target segment, the project team collected data using focus groups,

interviews, and survey methods. Nearly 800 participants of 18 organizations sampled from the target segment completed the survey. The project team also used company documents and records to find sales data. They then used the data to conduct a Key Value Chain Analysis.

The Key Value Chain Analysis was created by the Sinotrac Consulting Company specifically for analyzing performance gaps in order to better explore causes and solutions. Instead of looking at the organization as a whole, the method focuses on the discrete activities the organization conducts and identifies weaknesses, which can be discrepancies or ignored opportunities. Inspired by Michael Porter's framework on Value Chain (Porter, 1980), Sinotrac consultants believe that one cannot fully analyze a firm's business just by looking at the firm as a whole. Instead, professionals should focus on the discrete activities the firm conducts and analyze how each activity contributes to customer values. Over the years, Sinotrac consultants and managers of clients have used this method in hundreds of projects and successfully improved performance in a variety of industries in the Chinese market.

Figure 1 shows the results of the Key Value Chain Analysis conducted by the CTZB project team. As part of the analysis, the project team divided the segment further into three groups and identified employees in the industrial sector as the focal point of analysis. As highlighted in the figure, one of the weaknesses identified by the Key Value Chain Analysis was that the effective employee contact rate in the industrial sector was too low. This rate was defined as the ratio of the number of employees contacted by CTZB sales force divided by the total number of employees in the industrial sector. The actual rate was only 20% and this number suggested that the CTZB sales force effectively contacted only two out of 10 employees in the industrial sector of the Top 500 enterprises. The effective employee contact rate was significantly lower than the goal of 50% and the project team believed that if they could close this gap, they would be able to accomplish the project objective of improving marketing share to 20% in the new target segment.

Figure 1.



Standard 6: The project team then conducted cause analysis to find out why CTZB had this weakness, namely, a low effective employee contact rate. Specifically, they used a five-step cause analysis approach created by Sinotrac. The first step consisted of the project team brainstorming to generate many potential causes. For the second step, a cause conversion tool was employed to convert uncontrollable and external causes into controllable and internal causes. The tool also converted causes related to others into causes related to self. Sinotrac Consulting developed this tool specifically for performance improvement practitioners in China to avoid some common mistakes they often make. In the third step, the project team reorganize the causes using the Behavioral Engineering Model (BEM) developed by Gilbert (1978). Gilbert has been considered by many as one of the founders of the performance improvement field and his models have been serving as the basis of many analytical tools developed in this field. Specifically, the model organizes potential causes into six levels, with the three higher-level causes related to managerial expectation, resources and incentives, and the three lower-level causes related to individuals' skill, knowledge and motivation. According to the model, practitioners should start with causes associated with higher-level factors before working on those at lower-levels. The fourth step of the approach was to compare the causes identified with a list of typical causes summarized from the literature, while the fifth step was to remove causes that were less relevant or beyond the project team's control. This approach enabled the project team to focus on three major factors that were causing the low effective employee contact rate. The three causes were: 1) a lack of data and good understanding of the target group; 2) a lack of resource and tools to promote to the group; and 3) a lack of incentives to motivate China Telecom's sales force and channel partners to promote to the target group. The channel partners included businesses and individuals working with China Telecom in distributing its products and services to customers.

Standard 7: The project team developed multiple solutions specifically to address the three causes. They then used three criteria to finalize the solution development process. As discussed in the previous section, the three criteria used were effectiveness, efficiency and potential risks of the solutions. To address the first cause, the project team decided to require the account managers of CTZB to collect data regarding the organizational structure of the Top 500 enterprises and basic information from their employees. The project team developed two tools to address the second cause. The first one was a systemic tool for social media marketing, an increasingly popular approach to engage customers through the Internet and smart phone app based tools. One tool used by the team was WeChat, a mobile phone app similar to Twitter and Facebook and used by hundreds of millions of people in China (WeChat, 2019). The second tool employed a systemic approach by embedding China Telecom's product information into clients' new employees' onboarding process. In addition, the project team designed incentive schemes to motivate channel partners and decision makers in the Top 500 enterprises, a solution that addressed the third cause. To ensure successful implementation and evaluation, the project team also developed action plans, including leading indicators, data collection and measurement plans.

Standard 8: The eighth standard of performance improvement is making sure the solutions are feasible, workable and will achieve the intended goals. The CTZB executives selected and trained capable professionals to form a development team and conducted survey and focus groups studies to ensure the solutions were easily understood and adequately adopted by the employees. They assigned resources and developed tools to help the sales force collect data from and communicate with target groups. In addition, they conducted a small-scale pilot study that involved three randomly

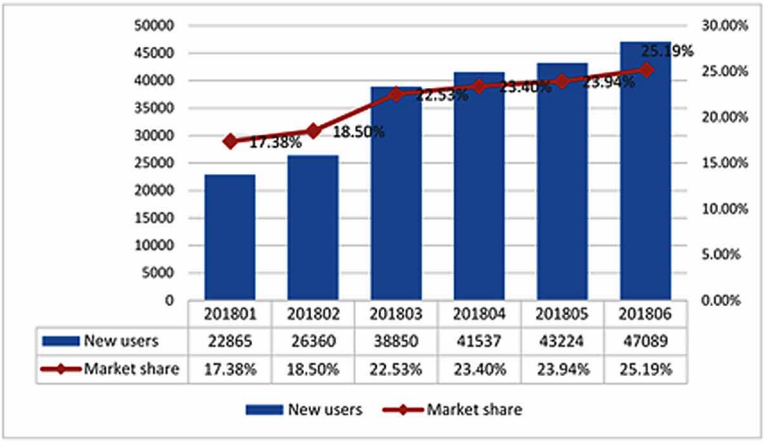
selected enterprises from the target segment and used responses from the sample to make necessary adjustments.

Standard 9: The project team took several steps to ensure successful implementation. First, they trained salespeople and equipped them with tools, knowledge and skills to implement the solutions. They also maintained communication and provided feedback on a regular basis. Second, they formulated strategies to understand key personnel's needs and concerns in order to address them properly and leveraged the influence of these key personnel to gain organizational support. The key personnel consisted of the marketing department, the department of government and enterprise, sales managers and distribution agents. Third, they held monthly meetings (both online and offline), reviewed and analyzed marketing and sales data and made necessary adjustments in order to ensure that the solutions were carried out as planned. Fourth, the project team and CTZB executives conducted joint sales calls and collected information directly from clients. Fifth, during the whole process, they ensured adequate communication and shared progress data among all stakeholders using social media tools such as WeChat.

Standard 10: After six months, the solutions closed the performance gap and generated positive results as expected. The evaluation was conducted by measuring and comparing the pre- and post-program market shares data, as well as longitudinal monthly sales data collected from company records. In addition, the project team measured and compared the gaps before and after the interventions were implemented. The results showed that the performance improvement program successfully closed the gaps, significantly improved Zhongshan Branch's market share in the mobile phone market and accomplished the project goals.

Specifically, the effective employee contact rate increased from 20% to 55%, exceeding the goal of 50%. This simply means that the CTZB was able to effectively contact 55% of employees in the Top 500 enterprises in Zhongshan and promote China Telecom's mobile phone services and data plans to them. As shown in Figure 2, addressing this gap led to increased market share, from 17.38% in January to 25.19% in June 2018. This result exceeded the 20% market share objective set by the project team. The increased market share added additional users and new sales revenue significantly, demonstrating value creation and indicating successful implementation of the marketing strategies.

Figure 2.



CURRENT CHALLENGES FACING THE ORGANIZATION

The outcomes of the marketing performance improvement project were positive and significant. However, for a marketing program like this, a typical challenge is how to demonstrate that the value was indeed created by the project and not by some other means. After all, there were external and internal factors influencing the outcomes of the marketing performance improvement project simultaneously and most of them were beyond control of the project team. The second challenge facing the CTZB was how to sustain the positive impact of the solutions and engage in continuous improvement. Although the project achieved satisfactory outcomes and accomplished the goals, the dynamic market environments, changing customer preferences and intense competition have put pressure on marketing professionals and executives to sustain the desirable changes and continuously grow market share.

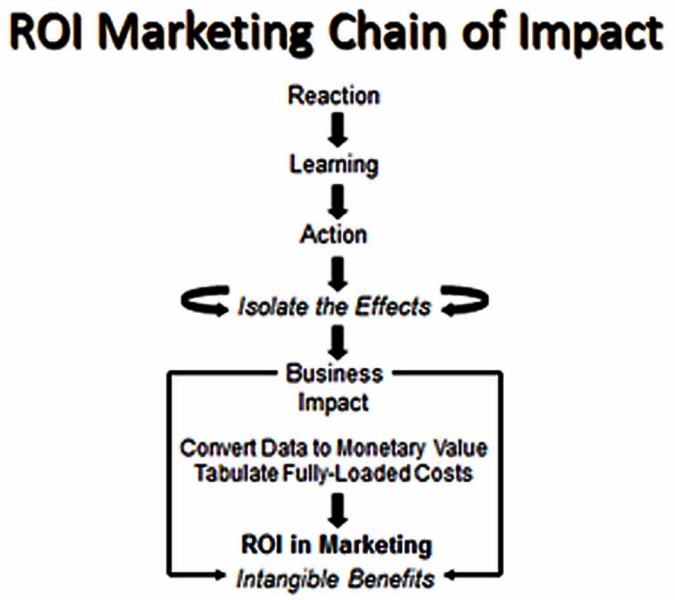
Thirdly, China Telecom also faced a serious challenge, which was how to replicate the CTZB success in other branches of this large and complex organization. Although there were similarities among the branches, each branch faced unique market conditions and different competitions. The capabilities of employees and recourses available also differ from one branch to another. Therefore, the solutions that worked for the CTZB may or may not work in other branches. It thus is an opportunity for the CTZB as a branch, and China Telecom as an organization, to develop a systemic and robust approach to improve marketing performance, enhance competitive advantage and sustain leadership in the industry.

SOLUTIONS AND RECOMMENDATIONS

The first challenge facing the CTZB (i.e., China Telecom Zhongshan Branch) is by no means unique. Marketing managers and professionals in many industries find themselves struggling to demonstrate the value of their marketing programs. In 2016, leading scholars in the marketing field summarized three gaps that cause a challenge (e.g. Kumar, 2016). First, the marketers lack of reliable performance metrics at attitudinal, behavioral and financial levels to measure the impact of marketing programs. Second, the causal links between marketing programs and performance metrics are difficult to estimate. Third, marketers fail to engage in effective communication to demonstrate the value of marketing to stakeholders.

To help marketers and performance improvement professionals address these issues, researchers have developed an ROI in Marketing Methodology (ROI Marketing). Borrowing the concept of Return on Investment (ROI) from the financial field, marketers have been trying for decades to argue that marketing is an investment, and we should estimate its financial return (Lenskold, 2003). Unlike previous models, the new approach, ROI Marketing, achieves the goal by using a systemic and systematic approach (Phillips, Fu, Phillips, & Yi, 2019). This ROI Marketing approach builds its analysis on customers' reactions, learning, action and their impact on business outcomes, based on Phillips' ROI Methodology (Phillips & Phillips, 2007). The tools embedded in this ROI Marketing Methodology include a chain of impact. As highlighted in Figure 3, this chain of impact shows how a marketing program achieves business outcomes and satisfies payoff needs by influencing customers' reactions, learning and action (Fu, et al., 2018). By measuring the effects of a marketing program on customers' reactions, learning, action and business impact levels, marketers are able to build sufficient evidence to demonstrate the value creation process of their marketing program. Furthermore, part of the Chain of Impact requires and enables marketers to isolate the effects of a marketing program from background noise, thus increasing the validity of this

Figure 3.



estimation. Marketers also have the options to calculate the ROI and estimate the intangible benefits of their marketing programs. All of these contribute to determining and demonstrating the value creation and help address the first challenge.

To address the second challenge, the CTZB has been taking action to integrate ongoing evaluation into a performance sustainment and continuous improvement strategy. The project team reanalyzed and summarized the solutions that were proven effective and feasible and implemented them in the 24 townships of Zhongshan City. The market share of China Telecom mobile phone service in the Top 500 enterprises in Zhongshan City continued to grow. By the end of 2018, the market share exceeded 30%, indicating that the growth trend in the first half of the year had been continued and sustained. In addition, the CTZB set second-stage performance objectives and developed action plans to achieve them. For example, they decided to establish a service system for important clients, to optimize the promotion embedded in the new employee orientation process and to improve client managers' service capabilities.

The success of the CTZB project has inspired China Telecom to replicate the practice of Zhongshan Branch in other branches of China Telecom in order to improve marketing performance for the whole organization. During the process, the executives and marketing managers of China Telecom recognized the following valuable lessons that are potentially beneficial. First, although facing different market and competition conditions, most branches of China Telecom are blessed with good relationships with governmental agencies and clients in the industrial sector. The targeting strategy used by the CTZB may be refined and replicated in many other branches. Second, the solutions based on social media promotion and embedded in new employee orientation of clients can also be used in other branches. Finally, the project represents a good example of collaboration among the CTZB, the CTC and Sinotrac Consulting and highlights the importance of partnerships between marketers and performance consultants. The partnership continues as China Telecom has begun marketing performance improvement projects in other branches.

Failures of marketing programs posit a serious threat to organizational performance. Some of the failures are caused by poor strategies and others are due to poor execution (Matta & Ashkenas, 2003). This case highlights multiple theoretical and managerial implications for improving marketing program success through applying the 10 Performance Improvement Standards in an organization. These implications are relevant to performance improvement professionals, marketing managers and corporate executives. Specifically:

1. The 10 Performance Improvement Standards empower project members to focus on the same objectives throughout the project. These objectives may be at the organizational level, departmental level or individual level and can be related to strategic development and implementation. Focusing on the same objectives early on and throughout the project facilitates communication among team members, ensures proper resource allocation and thus creates better alignments, all important to marketing program success.
2. The 10 Performance Improvement Standards demand that project members conduct systemic analyses, a practice conducive to assessing marketing performance issues and identifying gaps and root causes. The solutions based on these analyses are, therefore, more effective in enhancing marketing performance than alternatives.
3. The 10 Performance Improvement Standards encourage all project team members to consider value adding, where value is defined as the ratio of benefit and cost. By focusing on both benefit improvement and cost reduction, project members are able to increase both the effectiveness and efficiency of their marketing programs.
4. The 10 Performance Improvement Standards motivate and reward project members to work as partners. Marketing performance improvement projects in many organizations, especially large and complex enterprises, involve professionals from different departments and with different expertise. By working as partners, all project members are able to contribute to the success of marketing programs in their unique ways and jointly improve organizational performance.
5. The 10 Performance Improvement Standards provide a systematic process with built-in tools for analyzing causes, designing and implementing solutions, as well as evaluating and sustaining outcomes. They also create a platform for professionals to develop and add additional tools to the toolkit. As highlighted in the case, tools specifically linked to a culture, an industry and a market developed by consultants and professionals who are familiar with both the performance improvement methodology and organizational needs are especially effective.

REFERENCES

American Marketing Association. (2019). Retrieved October 9, 2019, from https://www.ama.org/

China Telecom. (2019). Retrieved October 9, 2019, from https://www.chinatelecom-h.com/sc/business/business_overview.php

Fu, F. Q., & Jones, E. (2015). Bridging research and practice: How sales training can contribute to new product launch success. *Performance Improvement*, *54*(2), 29–36. doi:10.1002/pfi.21459

Fu, F. Q., Phillips, J. J., & Phillips, P. P. (2018). ROI marketing: Measuring, demonstrating, and improving value. *Performance Improvement*, *57*(2), 6–13. doi:10.1002/pfi.21771

Fu, F. Q., Yi, H., & Zhai, N. (2013). Training to improve new product sales performance: The case of Samsung in China. *Performance Improvement*, *52*(5), 28–35. doi:10.1002/pfi.21346

Gilbert, T. F. (1978). *Human competence: Engineering worthy performance*. New York, NY: McGraw-Hill.

International Society for Performance Improvement. (2019). Retrieved October 9, 2019, from http://www.ispi.org/ISPI/Credentials/CPT_Certification/CPT_Standards.aspx

Kerin, R., Hartley, S., & Rudelius, W. (2014). *Marketing*. New York, NY: McGraw-Hill Education.

Kotler, P., & Armstrong, G. (2013). *Principles of marketing*. Upper Saddle River, NJ: Prentice Hall.

Lenskold, J. (2003). *Marketing ROI: The path to campaign, customer, and corporate profitability*. New York, NY: McGraw-Hill.

Marshall, G. W., & Johnston, M. W. (2018). *Marketing management*. New York, NY: McGraw-Hill.

Matta, N. F., & Ashkenas, R. N. (2003, September). Why good projects fail anyway. *Harvard Business Review*, *§§§*, 109–114. PMID:12964398

Phillips, J. J., Fu, F. Q., Phillips, P. P., & Hong, Y. (2019). *ROI in marketing: Use performance improvement and design thinking to measure, prove, and improve the value of marketing*. New York, NY: McGraw-Hill. Working manuscript.

Phillips, J. J., & Phillips, P. P. (2007). *Show me the money. How to determine ROI in people, project, and program*. San Francisco, CA: Berrett-Koehler Publishing, Inc.

Porter, M. E. (1985). *Competitive advantage*. New York, NY: Free Press.

Rummler, G. A., & Brache, A. P. (1995). *Improving performance: How to manage the white space on the organization chart* (2nd ed.). San Francisco, CA: Jossey-Bass.

Tan, X., Fu, F. Q., & Yi, H. (2016). Improving retail sales performance by integrating HPT with marketing strategies. *Performance Improvement*, *55*(1), 6–13. doi:10.1002/pfi.21546

Van Tiem, D., Moseley, J. L., & Dessinger, J. C. (2012). *Fundamentals of performance improvement: Optimizing results through people, process, and organization*. San Francisco, CA: Wiley & Sons, Inc.

WeChat. (2019). Retrieved October 9, 2019, from https://www.wechat.com/en/

KEY TERMS AND DEFINITIONS

10 Performance Improvement Standards: The International Society for Performance Improvement (ISPI) suggests that competent practitioners should follow the 10 standards in their practice of human performance technology. The first four standards are also called principles, because they are fundamental

to every standard. Standards 5 through 10 describe the systematic processes competent performance improvement practitioners should follow.

Channel Partners: The channel partners refer to individuals and businesses working with a company to distribute its products and services, typically including distributors, retailers and agents, to the company's customers.

Key Value Chain Analysis: The Key Value Chain Analysis is a tool created by the Sinotrac Consulting Company in China specifically for analyzing performance gaps, in order to better explore causes and solutions. Instead of looking at the organization as a whole, the method focuses on the discrete activities the organization conducts and identifies weaknesses, which can be discrepancies or ignored opportunities.

Marketing Mix Elements: The marketing mix elements, also known as the 4Ps, are the decisions marketers have to make in order to achieve organizational goals and marketing objectives. They typically refer to the product, price, promotion and place (distribution) strategies of the marketing program.

Marketing Strategy: Marketing strategy is an organization's long-term course of action designed to accomplish its mission and achieve its performance goals. Implementation is the process of converting a strategy into proper actions and achieving the expected outcomes. Both the processes of strategy development and strategy implementation are critical for the success of marketing programs.

APPENDIX: DISCUSSION QUESTIONS

1. What are the 10 Performance Improvement Standards? Why are they important to the success of China Telecom's marketing performance improvement project?
2. Why are the first four standards also known as principles? Please select two of them and discuss why they are critical for all performance improvement projects.
3. What is the key Value Chain Analysis? How does the project team use this tool in the project?
4. What is the Marketing ROI Methodology? How will the project team use it to demonstrate value?
5. Describe two takeaways from this project. How are they relevant to improving your own job performance?

Chapter 5
Use of On-Line Discussion Forums for Training

Sue Czeropski
Performance Instruction, LLC, USA

EXECUTIVE SUMMARY

There is evidence that corporations are currently using e-learning for corporate training. Discussion forums in academia, particularly higher ed, are known to be an effective learning strategy that is widely used across many universities. Adoption of using discussion forums in Corporate America has been slow. Collaboration and discussions are key for the learner's journey, yet not many training initiatives include the use of discussion forums. Why are companies not using discussion forums? What is the resistance behind why discussion forums are not incorporated into training? A study was conducted at Jones Company (pseudonym) to understand the resistance from three levels of employees: the executive, manager, and the employee.

WHY THIS CASE IS IMPORTANT

In a 2019 study conducted by Hanover Research (Jewell, 2019), 56% of participants in the study were interested in training or development to forward their careers in critical thinking, data-driven decision making and communication. These are topics that need more than a simple test to determine if the skill has been learned.

Research and market forecasts show triple the revenue of 2015, e-learning will grow into a $325 Billion business by 2025. (McCue, 2018). As a result of this spending, corporations expect a return on investment, as well as do the employees. Companies want to know what the benefits and results of their spending are, and employees have a personal stake in wanting to further their knowledge and abilities not only for their current job, but for their careers in general. The results showed that business skilled professionals were most interested in developing were strategic planning, critical thinking, decision making using data (data driven decision making), communication, negotiation and conflict resolution. Working professionals consider electronic delivery of courses or e-courses, will allow them to obtain these skills due to these factors:

DOI: 10.4018/978-1-7998-3673-5.ch005

- Flexibility
- Being able to take the course when they have time to take it
- Convenience

This case provides insight to one method of training, discussion forums. While these are not often used in business but they are used effectively in academic settings. The success factors from the literature provided by academic institutions provide a bridge to justify their use in the business setting. Numerous studies suggest show students are more engaged in the learning process (Andresen, 2009; Clark, 2001; Guldberg & Pilkington, 2006; Hung & Chen, 2000; Palmer et al., 2008). Althaus (1997) found classroom learning blended with electronic learning provided superior learning compared to a traditional classroom. Hein and Irvine (1998) showed discussions were beneficial and useful in understanding physics and liked the role of the instructor to be giving constructive feedback to students allowing the students to go deeper into the topics. To recap those success factors:

- More engagement in the learning process
- Superior learning using classroom learning with electronic learning
- Reflective thinking for deeper understanding of the topic
- Collaborative learning

The case shows whether political patterns, those activities associated with the use of influence tactics to improve personal or organizational gains within an organization contribute to forms of resistance. Remember the managers who conspired against using the discussion forums because they did not understand? If the Learning and Development Director had known about this pattern up front, she could have acted before the e-courses were delivered to show them the value of using the discussion forums. This knowledge can help practitioners within an organization design discussion forum activity in their courses that meet the needs of the individual and the organization.

For all the reasons stated, this case may help change the way an organization thinks about using technology to deliver training.

ORGANIZATIONAL BACKGROUND

Jones Company (pseudonym) is a 46-year-old distribution firm located in Northern California and employs approximately 200 people located across the southwestern United States. In 2012, Jones Company was recognized as the, largest private company in Silicon Valley by the Silicon Valley Business Journal and came in at #46 on the Industrial Distributions Big 50 list in 2018. Industrial Distribution is a journal that focuses on industrial distributors of all sizes, reaching out to facilities, operations, logistics, and supply chain professionals. Each year, Industrial Distribution recognizes 50 companies across the United States. This award is coveted by recipients as it acts as a marketing tool to potentially bring in new business.

Silicon Valley is just south of the San Francisco Bay Area in Northern California in the United States. This Valley was named Silicon Valley from the word silicon, a material that is needed to make semiconductor computer chips. During the late 1960's and the early 1970's, there were many semiconductor manufacturing companies and innovators such as Intel, Cisco, Advanced Micro Devices, and Fairchild Semiconductors to name a few, that made their headquarters in Northern California and the name Silicon

Valley was born. During this time, it was considered a highly sophisticated technology area and it gave the United States a competitive advantage over other countries.

Over the past seven years, Jones Company (pseudonym) has a growth strategy of acquiring other distribution firms whose products address the needs of industry segments such as process control, fluid handling, automation, filtration and heating controls. More than 28 companies were acquired between 1974 and 2019. The motto of the company is that if it flows through a pipe, Jones Company can monitor it, control it, heat it, cool it, filter it and automate it. Industries served include oil and gas, semiconductors, power generation, pharmaceutical, water treatment, food and beverage and more.

The business is segmented into five predominant knowledge centers: automation, filtration, process control, fluid handling, and heating controls. The company is predominately a sales firm with a small staff of engineers who design custom solutions. The knowledge centers sell and provide support products into specific areas of expertise. The sales employees are organized by knowledge center.

There is a team of application engineers who work to speed project time from design, prototyping, and into production quicker. The executive team feels that their application engineers are an extension of their customer's design team, moving through system interface questions and product selection details. This allows customers to focus on their core competencies, while the application engineers design a solution to meet their needs.

The overall organization has a traditional structure with the Chief Executive Officer (CEO) at the top of the organizational pyramid, Vice Presidents, Directors, Mid- level managers, Supervisors and the employees. Goals are set at the functional levels with little to no interaction between the functions. Rummler and Brache (1995) would have called this structure a *silo structure* noting that the culture created from the compartmentalization of the structure forces managers to resolve lower level issues thus taking time away from higher priority customer and competitor concerns. In business terms, the word silo is used when departments or management teams do not share common goals, information, and or priorities with other departments. The silo mentality is believed to sub optimize each department and may contribute to the failure of a company over time. For example, a manufacturing department may have a goal of producing product fast to get the product to market. The quality department wants no defects in the product, so they slow the process down so mistakes are not made. The quality department may add time to producing the product making manufacturing miss its production schedule.

SETTING THE STAGE

In 2011, Jones Company adopted a new growth strategy. This strategy was to move away from selling parts to selling engineered solutions. While the revenue had grown from the acquisition strategy, it was noted that for sales to be able to sell customers on Jones' ability to provide engineered solutions, sales needed a broader depth of knowledge in all five of the knowledge center areas.

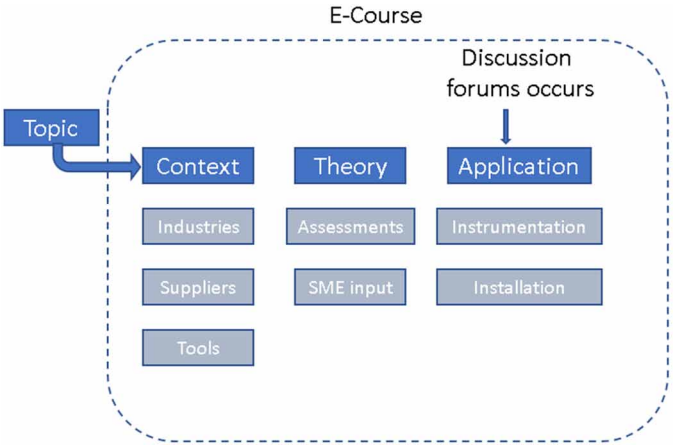
The Learning and Development Director was given the task of designing and implementing training to address the knowledge need. She determined the following:

- Sales had depth of knowledge in their perspective knowledge center but did not have the knowledge of the other knowledge centers.
- The sales force also lacked basic theoretical understanding of flow, pressure, and level measurement which were common to all knowledge centers.

- Sales had little knowledge in the topic areas of instrumentation, installation, and troubleshooting across the knowledge center.

She determined with the help of the management team that two electronic learning training interventions would most likely close the knowledge gaps. One electronic course, e-course, would be a self-directed course to teach fundamental theory in press, flow, and measurement. The second e-course would involve a cultural shift and teach how to sell process solutions instead of parts. The Learning and Development Director and the Performance Consultant developed a content model for designing the second e-course.

Figure 1. Content model for e-course design
(Czeropski, 2012)



The model shows how the content of the sales theory course was built by embedding the asynchronous discussion in the application segment. Context defines the context of the work. Theory is the underlying theory of the why the products solid work. Application is the module that shows how the products are used in different environments (Czeropski, 2012).

Literature suggests that asynchronous discussions are effective for using discussions to increase learning. Business organizations rarly use discussion as an integral part of their e-learning designs. Fulford and Zhang (1993). There are other studies that suggest learners will be more engaged in the learning process if a discussion is used (Anderson, 2009; Clark, 2001; Guldberg & Pilkington, 2006; Hung & Chen, 2000; Holt & Bray, 2008; Collier, 2018).

The Learning and Development Director discovered there is evidence that discussion forums play a role in informal learning. In the 2010 American Society for Training and Development 2010 Best Company awards, the top three companies demonstrate this point. Intercontinenal Hotels group advocates the use of social media tools to react to learning content (Harris, 2010). A business unit inside General Electric in India, provides the collaborative tools within their knowledge management system, (KLM), available for employees to use when the employees want to use them (Harris, 2010). Farmers Insurance is another company using social media for informal learning (Salopek, 2010). The Learning and Development

Director also discovered that while exploration is occuring there is still little evidence to suggest that businesses are looking at discussion forums as an integral part of their learning strategies and designs.

From his consulting blog, Gramm (2018) asserted that deliberate practice should be designed in experiences with practice, reflection, built tacit knowledge, and design rich feedback. Tacit knowledge can be define as skills or experiences that people have but are not easily expressed. (Chugh, 2015)

For today's learners, learning is a social experience. (Belcher, 2019). Learning is accomplished through sharing with peers, managers, people in different geographical work spaces doing the same jobs. Learning needs to be supported by social features, like discussion forums, blogs, likes, and shares (Belcher, 2019). Most learning management systems, LMS, have the capability to have a discussion forum. The integration of discussion forums can help expedite awareness, best practices, and discussion on problem solving that people can learn.

The Learning and Development Director found many studies in the educational world to suggest that collaborative learning methods suggest discussion forums show greater student engagement in the learning process. (Anderson, 2009; Clark, 2001; Guldberg & Pinkington, 2006; Hung & Chen, 2000; Palmer et al., 2008).

Not all of the Learning and Development Director's research was on the positive side. While millions of dollars are spent on technology solutions for developing and delivering training, most of the technology projects fail within the first year of implementation and never become institutionalized. (Whittaker, 2008). The Learning and Development Director had tried using discussion forums at a previous company, Medx (pseudonym). Medx, a medical device facility, failed to institutionalize the use of the discussion forums for training even though the course was proven to be a value-added technology solution. Medx experimented with discussion forums in a business writing course for five courses then discontinued them. When the Learning and Development Director held a debriefing as to why the discussion element was dropped, she was able to define several reasons related to resistance to using discussion forums:

- **Passive Resistance:** Management did not participate because they were not sure another trainer could be taught to facilitate the course. This was labeled as passive resistance.
- **Stress & Fear:** The hourly workers worried about keeping up with salaried employees. There was an inate belief they were not smart enough and feared that if they particpated on work time, they would be penalized.
- **Political Pattern of the Organization:** Politics in an organization refers to a variety of activities associated with the use of influence tactics to improve personal or organizational issues (Jarrett, 2017). In this case study, the managers did not understand the value added by the discussion forums. As a result of not understanding the value add of the discussion, some managers worked together to try and discredit the use of discussion forums for training.
- **Perceived Threat:** A mismatch between individual, functional groups, and the training function of how training should be conducted.
- **Individual Resistance:** The attribute of the individuals participating in the course ending up in a lack of participation in the discussion (Martinko et al., 1996).

One lesson learned from Medx is a course using discussion formums does not change the companies behavior about using discussion forums as a training practice. Changing behaviors and culture is a soft skill problem that has more to do with the social and psychological barriers to adopting technology for

use. (Hayes & Fryling, 2007). Soft skills can be defined as the personal attributes that allows someone to interact effectively and agreeably with others.

All the research the Learning and Development did plus her own experience, made her believe using discussion forums in the training could help Jones Company address their knowledge gap issues. The Learning and Development Director also believed that identifying factors that trigger resistance can provide clues as to how to design effective e-courses that would overcome the resistance that would impact the success of the courses.

CASE DESCRIPTION

This case is all about understanding the resistance of using discussions forums in the business community. Identifying the resistance factors that might cause a company not to use discussion forums as a viable e-learning strategy, will allow companies to understand those triggers of resistance which will lead to more effective learning solutions and improve performance. As a result of this case, businesses can take the information and fully utilize discussion forums and design e-learning that will exceed the expectations of an organization and the employees who participate in the learning experience. The questions the Learning and Development Director desired to address were:

- From an executive team, what opinions are formed about the appropriate use of discussion forums. What types of scenarios and or environments do they think discussion forums are useful?
- From the middle level management team, how do they perceive the value of discussions for training?
- From the employee perspective, what are the sources of resistance to participating in discussion forums for training?

Technology Components and Concerns

The Learning and Development Director worked with two outside vendors to develop and design two types of e-courses, both using discussion forums. Two e-courses were developed, one on sales theory to address the sales performance issues of inadequate cross selling defined as selling a different product or service to an existing customer. The second course addressed the culture change of shifting an emphasis on selling parts to an emphasis to selling engineered solutions. The design problem was extensive and for both courses different design models were used.

For the first course, a combined design of classroom training and electronic training was created. This is referred to as “blended learning”. The course was placed on the vendors web site. The Learning and Development Director held a one-hour face to face training with the participants teaching them how to navigate through the website. The structure of the first course consisted of reading material on a topic and a set of questions regarding the topic. These questions were referred to as challenges. Employees responded to the challenges and would determine on the merits of the responses. This course started in October of 2010 and continued through January 2011. Very few complaints surfaced during this course.

Rather than complaints, the Learning and Development Director heard people asking each other if they had done their discussions and reminding each other of the due dates for the discussion. The concern of having time to respond to the challenges did surfaced even though the Chief Executive Officer offered a cash incentive for those challenges that were determined the best.

For the second course, The Learning and Development Director had planned for a one-day face to face introduction to the course and the rationale for why each of the modules within the course was needed. After the one-day session, there were eight e-learning modules delivered over an 8-week period. Each self-paced module lasted for 30 minutes and contained discussion forums with challenge questions in which participants wound respond to each other. The Learning and Development Director worked with different subject matter experts, who facilitated the module in their perspective knowledge area. Subject matter experts are those employees who are experts or the best at their jobs. The e-learning modules were placed on Jones LMS which was equipped with discussion forums. The Learning and Development Director worked with the employees and the subject matter experts to guide them with the use of the technology as well as gave a webinar and a job aid so employees would understand how to use the discussion forum on the LMS. As with the first course, the concern of time participating in the discussion forum surfaced.

When the time came to evaluate the case the Learning and Development Director used Survey Monkey, a popular on-line tool for conducting surveys, and information taken out of the LMS. This information was the actual responses to the questions and interviews which are considered as company records. The Learning and Development Director worked with the HR team to develop themes to derive the challenges and problems with using discussion forums as a training strategy.

Current Challenges and Problems

According to Kvale (1996) "sorting patterns, themes, seeing plausibility, and clustering helps to determine where patterns and themes can be paired or complement each other" (p. 204). These are themes that surfaced. These themes showed up on the survey, the interviews and the company records. Table one shows how the themes surfaced on each of the data sources.

Table 1. Triangulation of data

Survey Theme	Interview Theme	Company Record
Company training philosophy	Company training philosophy	% of population high usage rate
Time	Time	Time
Fear	Fear	Safe writing/ text cut & paste
Bias for classroom training	Bias for classroom	
Construct of discussion thread	Construct of discussion thread	Writing in wrong locations
Participation does not equal discussion	Participation does not equal discussion	Limited number of words in postings; doing minimal work and for not responding
Value Add	Value Add	Substantive posts

Company Philosophy on Training

The first theme was Jones company philosophy on training. While Jones believes in training, the company does not care if training is done on work time if the employee does not fall behind on the work that needs to be done because of the training. Management made the training mandatory but did not tell employees to take work time to participate in the discussions and forums. One of the middle level managers said that "Organizational requirements such as training are things you make time for because it is an expectation for success."

Time

Time was a barrier early on and continues to be a big issue. Not enough time to do the training, work pressure, and having too much work made it hard to prioritize participating in a discussion forum. One employee stated, "People don't want to work 12-hour days; most people want to turn off their computers and do family things when they go home." The Learning and Development Director realized that 50% of the barriers listed from the survey were time based.

Fear

Three forms of fear surfaced. Employees felt a fear of reprisal from their managers if the response was not good in their manager's eyes and would act against the individual for the perceived poor response. The second type of fear was intimidation. Some employees did not feel their responses were as good as a co-worker's response. The third form was being made fun of from a written response. The Learning and Development Director heard employees discussing what was written in a discussion forum and try to make jokes about the person who did the writing. Making fun of someone for what they have written in a discussion forum is a form of bullying and or harassment. When this happens, documentation of the event including the date and time and any new forms of harassment should be discussed with a supervisor or a human resource professional.

Classroom Bias

The older generation, those known as "baby boomers," those born between the years of 1946 through 1964, had a preference for classroom training whereas the "Millennials," those born between the years 1981 through 1996, preferred the e-learning.

Technology

The construct of the discussion thread in the learning management system caused participants difficulty to follow and caused people to have to read everything, every day to follow the discussion. This was a problem because people had difficulty following the discussion thread which acted as a deterrent to participating in the discussion. One manager told the Learning and Development Director, "When I put posts out in the discussion forum, I was looking for people who had reacted to what I had posted. I wanted to know if people were debating my positions. There is no way I was going to log into the

learning management system every day and to through 300 posts to see what was said that was relevant to what I had written."

Participation versus Discussion

There were a few people who determined the discussions were not robust enough. The experience felt more like homework and the responses were given but were not very substantiated.

Value Add

It was clear from the responses that the employees think discussion forums are a good alternative to traditional training and the self-paced e-learning. Managers thought the discussion forums could be used as a type of metric for learning and skill transference. The executives said they thought that discussion forums as collaborative learning verifies that a knowledge transfer had taken place. Another comment was "the discussion forums allowed me to think more broadly." The newer employees appreciated hearing the perspective of the more seasoned workers and learned from their learning experiences. They felt confidant and reassured in their own interpretation of feasible applications of products in different knowledge centers. The discussion forums even brought new thinking. The employees were recognizing the gaps in their own performance.

The Learning and Development Director learned from the data that in Jones' company, a directive from the Chief Executive Officer (CEO) established the importance of the training and set an expectation that the employees would participate in the training regardless of the delivery mode. Because of the political patterns of the company, the employees strived to keep controversy as far away from the Chief Executive Officer (CEO) as possible because of the employee perception that if they said something the CEO didn't like, they would attach a name to it and would come after them. In the end, the employees would participate in the discussions, but would do so in a safe mode and free from any controversy.

From a technology perspective, there were hurdles created from the construct of the discussion forums in the learning management system where the discussions were taking place. The adoption rate of the learning management system was higher than expected. Some employees said they thought they were doing double the work when trying to respond to another.

Interesting enough, the executives felt that discussion forums would be useful as a stand-alone experience, such as reading a book and responding to questions. They also thought discussion forums could be used pre or post work with training designs that combined classroom training with electronic training. Finally, the executives thought the discussions were appropriate for new acquisitions, giving them a means to unite the new employees, focusing them in a specific direction, and helping new employees to learn how Jones organization thinks and works together.

From reading the responses, the management team saw a tangible measurement tool to determine if any learning and or behavior change was occurring. They could see from the text and the depth of the discussion which employees were putting in the effort from those employees who were only repeating back what was in the reading assignment.

There was acceptance of the discussion forum for the execution of the learning program. The Learning and Development Director believed that learning occurred as the direct result of the participation in the discussion forum, however, there were no comments in the survey that led her to believe this. However, there were enough stated outcomes that indicated that learning was enhanced because the discussion

forums were used. Eighty percent of those who participated in the training determined discussion forums in the electronic courses are a good alternative to traditional training since it was hard to travel to get to a location for classroom training. Seventy-five of those who participated said they learned from each other in the electronic training which reinforces the idea that collaborative learning took place. Fifty percent of the executives thought the level of responses in the discussion forum could be used as a measurement tool. Seventy-five of the employees determined that the discussion forums allowed a way to think differently about how to solve a problem. Fifty percent of the employees said their thinking about what others said deepened their own learning because they could reflect and try to understand how different perspectives could help them to do a better job with a similar problem in their own knowledge centers.

SOLUTIONS AND RECOMMENDATIONS

Setting Expectations and Feedback

For any training intervention to work, expectations need to be given as well as feedback (Czeropski, 2012). Both actions are needed. In this case, while the Chief Executive Officer (CEO) set the expectations to participate in the training, he made the training mandatory which adversely impacted the employees resulting in fear. A high-level behavioral objective was set "Increase cross selling" but it was so broad there was no linkage to the course, the discussion questions, and the performance goals. Remember cross selling is a term that refers to the practice of selling different products from all the different knowledge centers as well as the application of the products across the different industrial segments.

Before discussion forums are used, expectations need to be spelled out and clearly defined and each employee needs to know how participation in the discussion forum tie to their performance goals.

In a study by Hara and Kling (2000) students stated they wanted prompt feedback from the instructor. The impact of not getting the feedback in a timely fashion caused confusion, anxiety and frustration. Depending on the amount of questions and the workload of those doing the facilitation, employees need to know how much and when they will get feedback. Employees also need to know the subject matter expect or the individual who is best at selling in their knowledge center doing the facilitation of the discussion is trained in facilitating discussion. It is important that feedback is given in a nonthreatening way and in a way that motivates the participate to respond and interact in the discussion.

Tools and Resources

In this case the construct of the learning management system was a detriment to using discussion forums. If the tool used is not set up the way that makes it easy for the employees, leadership should consider a different tool or modify the existing tool to make it easy for participants to use it. If you cannot modify the way the discussion forums are set up in your system, train the employees ahead of time and give them tips of how to work around it to save time such as copying and pasting the initial post before responding to it.

Facilitators are considered resources. Use facilitators that are subject matter expects, but train them in the art of facilitation. They need to know how to respond when to respond and use a level of intimacy such as addressing a response using a person's name to build a bond with the employee. Managers need to realize that for the duration of the course, the facilitator has an extra load on them, and accommodations should be made to assist with the workload while the discussion forums are in play.

Skills and Knowledge

Participants using the forums should have a baseline level of knowledge so they will be able to share their knowledge and experience. Take the time to assess who will be in the discussion forums so that everyone can contribute. This will help with the fear/intimidation factor.

Make sure the designer of the questions, adapt the questions to the level of the learner. In those cases where using a discussion forum is a new concept, participants need to be taught how to collaborate. Through the design of dialog in a training course, it is possible to create expanded learning networks which can be used for informal learning avenues. Build the capacity in the organization that will result in meaningful dialog.

Consequences and Incentives

The consequences and incentives need to be discussed. For the first course, the Chief Executive Officer (CEO) offered a cash incentive for those challenges which were better than the others. He only did this for the first group to go through the course. The second group did not get the same offer. Offering the incentive for the first group and not giving it to the second group had a negative impact. Participants with the incentive spent so much time reflecting, writing and rewriting responses it resulted in time away from the job, contributing to lower sales. After the incentive was removed, the second group complained they were not treated fairly because there was no incentive, they were less inclined to put the effort into participating in the challenges. If you are going to offer an incentive, make it fair. The Learning and Development Director recommends not giving cash incentives for participation in the discussions. If an incentive is needed, make it consistent for all groups who go through the training.

In both courses, no consequences were given for not participating. If you use discussion forums as an integral part of your training, there is an advantage to having consequences for not participating. Consider giving points that will reflect in a performance review.

Earlier it was mentioned that several of the managers thought the quality of the discussion posts could be used as a metric to determine if learning took place. Be careful with this. Using the quality of the posts could be misleading. The instructional designer needs to address the capacity differences of the course participants at the instructional design level. The employees who do not know as much going into the forums may have difficulty participating at the same level in the discussion, this could make the metric misleading, not to mention increase the fear level.

Selection and Assignment Capacity

Bruffee (1993) defines collaborative learning to situations where a group of learners work jointly to understand the topic at hand. For employees who are new to discussion forums, they benefit from being taught how to collaborate. Through the design adding dialog to training, it is possible to create expanded learning networks that extend through different geographical locations. The networks in turn can produce meaningful group learning in which there is a common basis. Organizations need to build the capacity to design conditions that engender meaningful dialog. The discipline of team learning starts with dialog, the capacity of the learners to suspend assumptions and into a genuine thinking together (P. Senge, 2009).

Motives

Binder (2009), defines motives and preferences as a collection of attitudes about how individuals feel about their job and all the other factors that comprise the performance system in which they work make up employee satisfaction. The initial motivation in this case study was a mandate by the Chief Executive Officer (CEO). Before implementing the use of discussion forums in training, look at all the environmental factors. A broader field of variables and conditions needs to be taken into consideration. It is evident that while an effective training could have an impact on human performance, it rarely works alone. Thomas Gilbert's Behavioral Engineering Model, or Carl Binde'rs Six Boxes® model as a framework to look at other areas that could impact the training and whether it sustainably influences job performance. Binder enhanced the original work of Binder by making it easier to use. This will have the greatest impact on eliminating the fear that can manifest itself from using discussion forums. Take care of all the other factors in the models and the motive will take care of itself.

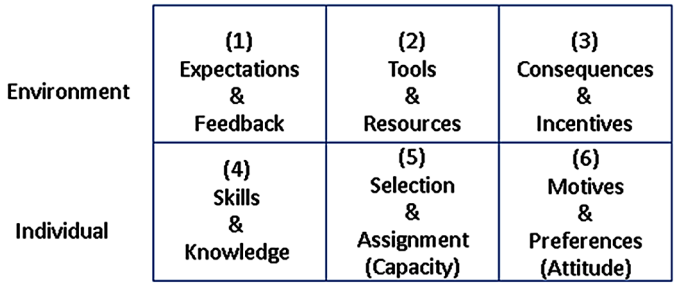
The training intervention, regardless of how training is delivered, has an impact on human performance. Carl Binder says that it has become evident that while effective training can have an impact on human performance, it seldom works alone (Binder, 2009). Binder's Six Boxes® model can be used a framework to discuss implications for practice and research (Czeropski, 2012). This framework will allow the users to look beyond using discussion forums in electronic courses and look at a broader field of variables that will make a training intervention that uses discussion forums more effective to bring out a desired behavior change.

Six Boxes® Model

To understand where Binder's model came from, we need to look at Tom Gilbert's Behavioral Engineering Model, BEM. In this model, the six cells were split into two segments, the environment and the person. In the environment section there were three categories of behavioral influences: data, instruments, and incentives. In the person section the three cells were labeled knowledge, capacity, and motives. This model was built from Skinner's model of behavior and the variables that influence it. Despite the power of Gilbert's model, the language often confused non-experts from using it. Binder simplified and user-tested the language until he could introduce it to people, and they would make few if any category errors. One of the rows, environment, is still named environment. The second section was changed from person to employee. In the environment section, box 1 data was renamed to expectations and feedback, box two instruments changed to tools and resources, and box 3, incentives was changed to consequences and incentives. In the employee section, knowledge was changed to skills and knowledge, capacity was changed from capacity to selection and alignment, and motives was changed to Motives and preferences. This terminology made the model into a plain English model for a practitioner to use.

The Six Boxes® Model allows people to understand and plan behavior influences to optimize results. The influences of behavior, things like expectations, feedback, incentives, etc., drive behaviors that produce the work outputs which in turn drive the business results. It is been said that if you manage boxes one through five, box six will take care of itself. On the other hand, if you fail to manage boxes 1-5, box 6 will be a chronic problem (Binder, 2006)

Figure 2. Binder's six box® model
Source: From What is So New About the Six Boxes®, A White Paper From the Performance Thinking Network (p.4), by C. Binder, 2009. Copyright 1998 by Binder Riha Associates. Adapted with permission.



CONCLUSION

Companies today strive to make their training more interactive, more available, and more collaborative. Discussion forums are a great value to use in business training. These discussions can provide a means to unite the population, focus them in a specific direction, and provide visibility to the inner workings of a corporation.

While this case study discussed two different interventions showing how discussion forums can be integrated into training, it is important to understand what resistance or barriers as part of the change management process for implementation.

Learning today is changing from a personal experience to a personal and social experience. Employees learn by sharing with peers, managers, and mentors. They learn by following others ad seeing what they share in return Belcher, (2019). Discussion forums help to meet the personal and social needs.

Research and market forecasts show triple the revenue of 2015, e-learning will grow into a $325 Billion business by 2025. (McCue, 2018). As a result of this spending, corporations expect a return on investment, as well as do the employees. Companies want to know what the benefits and results of their spending are, and employees have a personal stake in wanting to further their knowledge and abilities not only for their current job, but for their careers in general. Discussion forums are a means to achieve this.

REFERENCES

Althaus, S. (1997). Computer mediated communicated in the university classroom: An experiment with online discussions. *Communication Education*, *46*(3), 158–174. doi:10.1080/03634529709379088

Andresen, M. (2009). Asynchronous discussion forums: Success factors, outcomes, assessments and limitations. *Journal of Educational Technology & Society*, *12*(1), 249-257.

Belcher, D. (2019). Getting personal with learning. *Chief Learning Officer*, 32–33.

Binder, C. (1998). The Six Boxes™: A Descendent of Gilbert's Behavioral Engineering Model. *Performance Improvement Journal*, *37*(6), 48–52. doi:10.1002/pfi.4140370612

Binder, C. (2006). *The six boxes™ model-invited tutorial* [PowerPoint presentation]. Retrieved from: obmnetwork.com/wp-content/uploads/2017/05/ABA2006_binder_sixboxes.pdf

Binder, C. (2009). *What is so new about the six boxes?* (Performance Thinking Network white paper). Retrieved from https://www.sixboxes.com/

Bruffee, K. A. (1993). *Collaborative Learning: Higher education, interdependence, and the authority of knowledge*. Baltimore, MD: Johns Hopkins University Press.

Chugh, R. (2015). Do Australian Universities Encourage Tacit Knowledge Transfer? *Proceedings of the 7th International Joint Conference on Knowledge Discovery, Knowledge Engineering and Knowledge Management*, 128-135. 10.5220/0005585901280135

Clark, J. (2001). Stimulating collaboration and discussion in online learning environments. *The Internet and Higher Education*, *4*(2), 119–124. doi:10.1016/S1096-7516(01)00054-9

Czeropski, S. (2012). Use of asynchronous discussions for corporate training: A case study. *Performance Improvement Journal*, *51*(9), 14–21. doi:10.1002/pfi.21304

Fulford, C., & Zhang, S. (1993). Perceptions of interaction: A critical predictor in distance education. *American Journal of Distance Education*, *7*(3), 8–21. doi:10.1080/08923649309526830

GrammT. (2018). Practice, Practice, Practice [Blog Post]. Retrieved from: https://gramconsulting.ca/blog/

Guldberg, K., & Pilkington, R. (2006). A community of practice approach to the development of nontraditional learners through networked learning. *Journal of Computer Assisted Learning*, *22*(3), 159–171. doi:10.1111/j.1365-2729.2006.00171.x

Hara, N., & Kling, R. (2000). Students 'distress with a web-based distance education course: An ethnographic study of participants' expectations. *Information Communication and Society*, *3*(4), 557–579. doi:10.1080/13691180010002297

Harris, P. (2010). Where people power makes the difference. *Training & Development*, *10*, 32–34.

Hayes, L. J., & Fryling, M. J. (2007). Towards an interdisciplinary science of culture. *The Psychological Record*, *2009*(59), 679–700. Retrieved from https://opensiuc.lib.siu.edu/cgi/viewcontent.cgi?article=1043&context=tpr

Hein, T. L., & Irvine, S. E. (1998). Assessment of student understanding using on-line discussion groups. *FIE '98, 28th Annual Frontiers in Education Conference, Moving from Teacher Centered Education. Conference Proceedings* (CAT.No. 98CH36214). Retrieved from: https://www.academia.edu/21702535/Assessment_of_student_understanding_using_on-line_discussion_groups

Hung, D., & Chen, D. (2000). Appropriating and negotiating knowledge: Technologies for a community of learns. *Educational Technology*, *40*, 29–32.

Jarrett, M. (2017). The 4 Types of Organizational Politics. *Harvard Business Review Online*. Retrieved from: hbr.org/2017/04/the-4-types-of-oranizational-politics hbr.org/2017/04/the-4-types-of-oranizational-politics hbr.org/2017/04/the-4-types-of-oranizational-pol

Jewell, D. (2019, June). Today's Learner/Leader is Self-Directed and Intrinsically Motivated. *Chief Learning Officer*, 27–28.

Kvale, S. (1996). *Interviews: An introduction to qualitative research interviewing*. Thousand Oaks, CA: Sage.

Martinko, M. J., & Gardner, W. L. (1982). Learned helplessness: An alternative explanation for performance deficits. *Academy of Management Review*, *7*(2), 95–204. doi:10.5465/amr.1982.4285559

Martinko, M.J., Henry, J. W., & Zmud, R. W. (1996). An attributional explanation of individual resistance to the introduction of information technologies in the workplace. *Behavior & Information Technology*, *15*, 313-330.

McCue, T. J. (2018). E Learning Climbing To $325 Billion by 2025 UF Canvas Absorb Schoology Moodle. *Forbes.* Retrieved May 31, 2019, from https://www.forbes.com/sites/tjmccue/2018/07/31/e-learning-climbing-to-325-billion-by-2025-uf-canvas-absorb-schoology-moodle/#1d0036a63b39

Palmer, S., Holt, D., & Bray, S. (2008). Does the discussion help? The impact of a formally assessed online discussion on final student results. *British Journal of Educational Technology, 39*, 847-858. doi:.00780.x doi:10.1111/j.1467-8535.2007

Rummler, G., & Brache, A. (1995). *Improving performance. How to manage the white space within the organization chart*. San Francisco, CA: Jossey-Bass.

Salopek, J. (2010). Thriving through change, cultivating growth. *Training & Development*, *10*, 53–54.

Schreiber, D. A. (1998). Best practices of distance training. In D. A. Schreiber & Z. L. Berge (Eds.), *Distance training: How innovative organizations are using technology to maximize learning and meet business objectives* (pp. 393–409). San Francisco, CA: Jossey-Bass.

Senge, P. (2009). *The Fifth Discipline: The Art & Practice of the Learning Organization*. New York, NY: Doubleday.

Whittaker, B. (2008). *What went wrong? Unsuccessful information technology projects*. Retrieved Feb. 4, 2012 from: https://www.emeraldinsight.com/doi/abs/10.1108/09685229910255160

KEY TERMS AND DEFINITIONS

Asynchronous Discussion: A discussion that takes place by participants independently of one another at different times and/or places.

Collaborative Learning: A situation in which a group of individuals learn together by sharing knowledge and skill and builds on experience. Sometimes known as social learning.

Cross-Selling: A term used in Jones Company that refers to the practice of selling the products from all the knowledge centers. This speaks to the both the number of products within a product line as well as the application of the products across the different industrial segments.

Discussion Forum: A discussion that takes place on the electronic platform. It could be on a learning management system or in an email.

E-Course: A course that is delivered through electronic technology.

E-Learning: Electronic (computer and/or network) transfer of knowledge and skills (see also web-based learning).

Knowledge Center: A term used in Jones Company which speaks to the organizational structure as well as those employees who are known to be experts in specific suppliers and their product lines. Others in the company refer to the knowledge center to support sales when their knowledge is limited.

Learning Management System: LMS for short, is a software application or web-based technology used to plan, implement, and assess learning processes. Typical LMSs provide a way to create content, deliver training, monito student participation and assess student learning.

Subject Matter Expert: Usually referred to as a SME, the subject matter expert is a person who is an expert in their field/job. People who design instruction will use a SME to help them develop content for training.

Web-Based Learning: Internet-enabled transfer of knowledge and skills.

APPENDIX: QUESTIONS

1. Why are companies not using discussion forums as part of their training designs?
2. What is the resistance behind employees not wanting to participate in a discussion forum?
3. What are the benefits of using discussion forums in business training?

Chapter 6
Member Value?
Evaluating Professional and Learning Networks

Elizabeth A. Carter
Capella University, USA

EXECUTIVE SUMMARY

Imagine an organization where every employee/member/student is fully engaged, working to full potential, adding personal and professional value. How does that happen? It happens through deliberate engagement tools that allow individuals to come together with common interests and goals. The goal is to elevate the skills of the individuals to the point of personal and professional growth. This case study describes an educational environment that is very beneficial in driving development, performance improvement, engagement, and value at a low cost.

ORGANIZATIONAL BACKGROUND

The organization can be any "group of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting (with each other) on an ongoing basis" (Wenger, McDermott, & Snyder, 2002, p. 4). These types of groups are technically termed communities of practice. Examples of common communities of practice include, "special interest groups, professional associations, parent–teacher associations, and clubs" (Roy & Pershing, 2012, p. 83). Examples in corporate settings include employee networks, business resource groups, diversity and inclusion networks, and learning communities.

The qualities of a community of practice are different than those of groups who function as teams. Wenger et al. (2002) describes the difference as a unique combination of three fundamental elements: a domain of knowledge, which defines a set of issues; a community of people who care about this domain; and the shared practice that they are developing to be effective in their domain (p. 28). Watland, Hallenbeck, and Kesse (2008) have identified these reasons that communities of practice are not teams:

DOI: 10.4018/978-1-7998-3673-5.ch006

the relationship lasts longer in duration than teams, membership is voluntary, and members continue to interact as long as there is value. *Value* is defined as the awareness of the benefits and outcomes, provided as improvement in a tangible or intangible way, that positively impact organizations and/or individuals and their personal and professional environment.

A community of practice is a newly identified solution to improve an individual's and/or organization's performance. Performance can be tangible such as monetary status or profitability, or intangible such as confidence or stature. When Van Tiem, Moseley & Dessinger enhanced their 2000 performance improvement technology model in 2012, they added professional communities of practice as a personal development solution. They recognized that personal development does not only occur in one-on-one interactions such as coaching or mentoring, but that group feedback in a peer environment also enables growth and development.

Because of the newness of the term, the groups or teams in organizations may be communities of practice. To assist in determining if a group or team is a community of practice, an organization can compare why their members join. Community of practice members come together "to share their knowledge and engage in innovative thinking that fosters creative, meaningful approaches to problems" (Regan & Gold, 2010, p. 18). These types of groups add value to organizations in several ways; help drive strategic direction in the organization, solve key problems quickly, transfer best practices, develop professional skills, and help recruit and retain talent (Regan & Gold, 2010. p. 18). Wenger et al. (2002) noted these reasons why individuals join communities of practice; to expand skills and expertise, a way to enhance one's professional reputation, a place to gain a sense of professional identity, and the ability to increase marketability and employability.

Participation in a community of practice occurs through social and professional networks (Cortese & Wright, 2018). Table 1 provides some examples of groups that have communities of practice characteristics that may not have been recognizable at first thought.

Table 1. Examples of groups that function as communities of practice

Group	Community of Practice Characteristics
Professional association groups (such as industry associations, labor groups, affinity groups)	Association exists "on behalf of members sharing their knowledge with others and networking; they normally convene via monthly/quarterly meetings, conferences/ conventions and other venues" (Carter, 2018, p.109).
Community groups (such as age 55+ groups, Girl/ Boy Scouts, youth teams, specific interest groups)	Members "join for the networking, social aspects, and to interact with people with similar interests" (Carter, 2018, p.109).
Religious institutions (such as bible study groups)	Group offers accountability, creates connections, fosters community, and provides encouragement (Brown, 2017).
Medical support groups (such as drug support groups, Alcoholics/Eaters Anonymous, etc.)	Group provides "a venue to cope and be part of a community that shares the same concern, symptom, or situation" (Carter, 2018, p.109).
Cohort of educators, students and field experts	Each cohort will: explore theories and practices of community-engaged learning; meet monthly to discuss readings, projects and challenges; and expand the idea of what it means to teach and conduct research, with community partners. The diversity of projects and programs that will lead to rich conversations and collaborations and will have important positive benefits for their students and community partners (McGandy, 2019)
Collaboration of non-profit organizations for underserved entities, community members, and local experts	Participants have in common" their commitment to improving the lives of their citizens and an understanding that making more effective use of data and evidence can aid them in their goals" ("What works", 2019).

[a]Most annotated fromCarter, E. A. (2018). *Perceived value of professional communities of practice: A case study* (Doctoral Dissertation). Capella University. Available from ProQuest Central. (2135425081).

Even bloggers and Youtubers have qualities of a community of practice.

With better recognition that most groups convene for reasons that are like communities of practice, a possible re-evaluation of the purpose and value the community provides may be a beneficial activity.

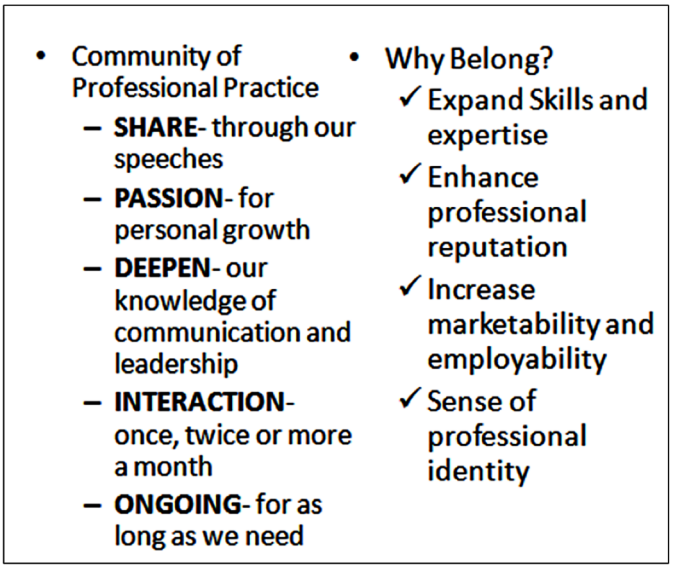
To illustrate a community of practice, Restam Z (pseudonym) is such an organization. Restam Z is a communication and leadership development organization (Restam Z, n.d.b). It was formed because there was a need for men to learn how to speak, conduct meetings, plan programs and work on committees. Since its inception in the early 1920's, the organization of men and women has grown to over 350,000 members in 140 countries across the world who wish to gain "vital skills that promote self-actualization, enhance leadership potential, foster human understanding, and contribute to the betterment of mankind" (Restam Z, n.d.a, Art. 1, Sec. 1).

Restam Z is a professional community of practice organized for personal development. As a community of practice, professional associations facilitate learning through social engagement as members join to learn from and identify with other professionals, grow their competencies and ultimately help to negotiate the practices and their meaning central to the community (Weller, 2017). Members of this organization meet as communities (clubs) at least once a month to improve their speaking and leadership skills for future endeavors. The Restam Z program is a structured program with a Go at your own pace mantra, which creates flexibility in personal development in which "individuals assume ownership of their success or failure" (Van Tiem et al., 2012, p. 224). The annual membership dues are less than one-hundred US dollars. These fees, along with the peer-learning environment, makes this personal development solution a low investment with a potential large return.

The statistics during the 2017-2018 year were good but not great; member growth was less than 2%, retention hovers near the 50% mark every year, the average age is one of a generation X individual (while the targeted attraction in recent years is towards millennials) and the top reasons for joining are to improve communication, gain confidence, and receive professional development.

Comparing to the community of practice areas defined by Wenger et al. (2002), the reason why Restam Z was an appropriate example for this case study is shown in figure 1.

Figure 1.



The key words in the definition of community of practice fit the structure of Restam Z. Members join to improve their communication and leadership skills to ultimately achieve these outcomes.

SETTING THE STAGE

Communities of practice are used to improve the quality of work and personal life. The benefits and outcomes described to perspective members contribute to the 'sale' of joining a specific group or organization, the 'why' a member should join and 'what' is expected. The 'why' is usually a term of development; learn or expand a skill, solve a problem, increase marketability, or expand one's network. The 'what' should provide the expectations of what the member needs to do in order to achieve the why, such as, participate in meetings, come prepared to contribute, and provide feedback to peers. The value to the individuals came from whether the benefits sold matched their needs and outcomes.

Wenger et al. (2002) described short-term value in organizations that use communities of practice as improved business outcomes, such as an arena for problem solving, improved quality of decision making, reduced time and cost, and the ability to take risk (p. 16). Long-term value to organizations included ways to develop organizational capabilities; "executing a strategic plan, increased retention of talent, forum for 'benchmarking' against rest of industry, and the ability to take advantage of emerging market opportunities" (Wenger et al., 2002, p. 16). The literature provided evidence of short-term and long-term value to organizations and members. Examples are shown in table 2

Table 2. Short and Long-term value of communities of practice

Benefactor	Short-Term Value	Long-Term Value
Organizations	Improved business outcomes "Improved reputation, increased levels of trust, better business outcomes, and innovation" (Millen, Fontaine, and Muller, 2002, p. 70).	Developed additional organizational capabilities "Increased retention of talent, forum for 'benchmarking' against rest of industry, and the ability to take advantage of emerging market opportunities" (Wenger et al., 2002, p. 16)
Community Members	Improved experience in their work "Fun of being with colleagues, and a sense of belonging" (Wenger et al., 2002, p. 16).	Fostered professional development "Remained at the forefront of the discipline, enhanced professional reputation and gained confidence in own expertise" (Millen, et al., 2002, p. 71).

[a]Annotated fromCarter, E. A. (2018). *Perceived value of professional communities of practice: A case study* (Doctoral Dissertation). Capella University. Available from ProQuest Central. (2135425081).

In order to get to the value metrics described above, there needs to be evidence to support the value statements. This is done by describing the outcomes, or results exhibited by the organization or member. The best way to determine an outcome is through a tangible benefit; one we can quantify, touch or see.

The literature provided information where there were: tangible outcomes to the organization, tangible outcomes to the individuals, and intangible outcomes to individuals. Examples of outcomes are displayed in Table 3.

Based on these findings in the literature, this case study sought to discover the reasons for joining, benefits and outcomes, and answer the question: How do members of a professional community of practice describe their perceived value from participating in Restam Z? The contributors to the study consisted of two groups:

Table 3. Tangible and intangible outcomes from participating in a community of practice

Benefactor	Tangible	Intangible
Organizations	• Sales turnover (close rate) at Schneider Electric increased by 20% annually (Gelin & Milusheva, 2011) • The results of the Subaru Owner Loyalty Index Plus and the Loyalty Index increased by 6.1% and 10.8% respectively (the mean scores were statistically significant; Land et al., 2009) • LPL Financial increased new customer referral and lead flow across channels (revenue generator), and improvement of a vendor training program, which led to cost savings for the firm (Regan & Gold, 2010)	• Schneider Electric community members received recognition from their peers (Gelin & Milusheva, 2011) • Hewlett-Packard created a new service catalog, a lessons-learned interest group, an internal support group, and marketing of special services that had not been publicized in the past (Lee-Kelley, Turner & Ward, 2014)
Community Members	• Ninety-three percent of the students completed all coursework without an interruption and 75% of the participants who entered the program with the goal of seeking new employment were successful at finding new positions (Cowan, 2012).	• Participation was associated with individual performance gains (Gelin & Milusheva, 2011) • Confidence and credibility (Cowan, 2012, Watland et al., 2008, Newswander & Borrego, 2009) • Motivation to change (Nixon & Brown, 2013).

[a]Annotated fromCarter, E. A. (2018). *Perceived value of professional communities of practice: A case study* (Doctoral Dissertation). Capella University. Available from ProQuest Central. (2135425081).

Member Testimonials: *Thirty-six members that had been previously interviewed by an employee of Restam Z and shared on the Restam Z.org website*

Member Interview: *Thirteen advanced Restam Z members from one club located in the Western United States. An advanced Restam Z member is defined as a member who has (at a minimum) completed the first designation in the program. These members have exhibited commitment to the program, and most have progressed much further in the program.*

CASE DESCRIPTION

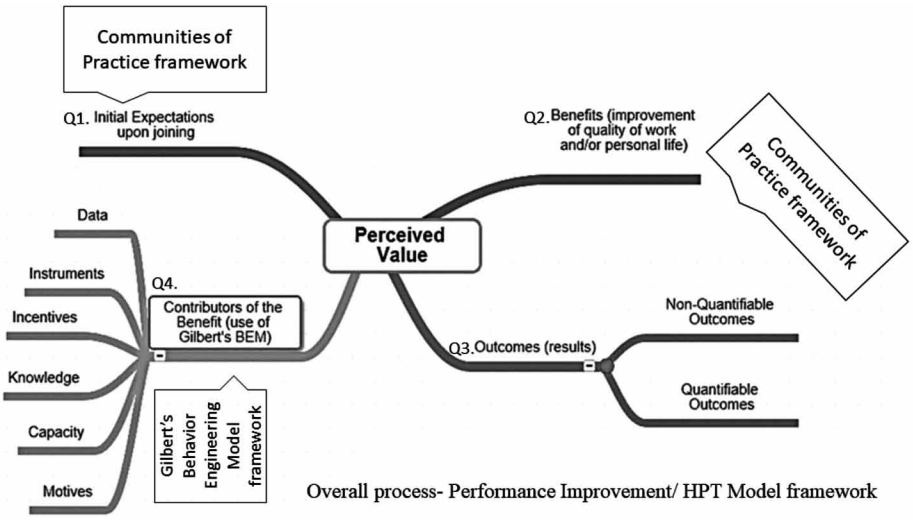
In the case study done by Elizabeth Carter (Carter, 2018), she utilized the above two groups to answer these questions to understand how community of practice members described value.

1. What were the members' expectations when joining a professional community of practice?
2. What were the members' benefits realized from participation in a professional community of practice?
3. What were the members' outcomes received due to participation in a professional community of practice?
4. What were the members' contributors to the benefits and outcomes of perceived value from participation in a professional community of practice?

The research study used the theoretical framework performance improvement/ human performance technology (aka HPT) model as defined by Van Tiem, Moseley and Dessinger (2012), and Thomas Gilbert's (2007) behavior engineering model.

Figure 2 provides a visual of the questions in the form of a mind map.

Figure 2.



The performance improvement/human performance technology (aka HPT) model developed by Van Tiem et al. (2012) is a seminal tool in the training and performance improvement specialization. The performance improvement/human performance technology (aka HPT) model is a "diagnostic and strategic tool for improving workplace performance" (Van Tiem et al., 2012, p. 41). The model is one of many models developed after the initial performance improvement pioneers of Thomas Gilbert, Joe Harless, Robert Mager, and Geary Rummler (Wilmoth, Prigmore, & Bray, 2002). The phases of the model are performance analysis, intervention selection, the design and development of the intervention(s), intervention implementation and maintenance, and evaluation (Van Tiem et al., 2012). The cause analysis step in the performance analysis phase of the performance improvement/ human performance technology (aka HPT) model seeks to determine why performance gaps exist (Van Tiem et al., 2012). There are several methods that can be used for this analysis, but most of the models agree that the performance problems are the result of the lack of knowledge, skills, training or management (Binder, 1998). After the gaps are identified, conclusions include the identification and recommendation of one or more interventions. An intervention is a "deliberate, conscious act that facilitates changes in performance" (Van Tiem et al., 2012, p. 195). The interventions may be directed towards the organization, teams, or individuals. Van Tiem et al. (2012) stated that interventions should be "selected based on outcomes or results, impact, value, costs and benefits to the organization and the situation" (p. 47). Communities of practice is an intervention that is used to improve knowledge or skills.

Thomas Gilbert is best known for his behavior engineering model. This model provides a process to find the causes of performance problems, also known as deficiencies. Gilbert (2007) stated that a deficiency can be caused by behavior repertory (personal characteristics), the environment that supports the repertory (what the organization provides), or by both. This combination of theories is also called the management theorem because regardless of where the deficiency lies, "the ultimate cause will be found in a deficiency of the management system" (Gilbert, 2007, p. 76). The model has six dimensions of deficiency: data, resources, and incentives, which are the environmental factors; and knowledge, capacity, and motives, which are the personal factors (Gilbert, 2007). The six dimensions allow a performance

improvement practitioner to use these categories to organize data collected and prompt discussions during interviews and focus groups (Binder, 1998). Whereas the behavior engineering model is normally used to find deficiencies driving non-optimal performance, this study took a novel, reverse approach and sought to find contributors improving performance. The literature review provided themes of deficiencies in each of the behavior categories. For this study, those themes shaped the reverse activities used to categorize the themes that arose from the guiding interview questions pertaining to the aspects of the program that members of the community of practice felt provided value.

The data collection included interviews to collect rich data in a face-to-face setting and documentation of comments made by community members in text on the organization's website. Data analysis was completed by assembling all the feedback and categorizing the data.

The first two questions asked during the face-to-face interviews were of the initial expectations the member had when joining and the length of time it took to realize those expectations. A crucial component of the development of members in the community is the expectation they had upon joining. If the marketing of the community is not accurate, then member retention along with favorable testimonials will be low. Individuals also have in their mind a time frame in which to solve a problem or deepen their knowledge. There has been an increased need for speed, a shift from 'slow and steady' learning to 'I want it now'.

The expectations upon joining of the members of the sample group consolidated up to two categories: basic and advanced, the distinction being the level of knowledge or expertise the person had prior to joining. Table 4 displays the levels of expectations, the summary and detailed categories and some examples of the comments the participants shared.

Table 4. Expectations when joining the community of practice: Categories[a]

Type of Need	Summary Category	Detailed Category	Key Words/Comments
Basic	Gain Comfort	Gain more confidence Overcome fear	· Safe place to share · Non-judgment zone · More comfort in discussing specific topics · Improve in English
Advanced	Performance Improvement	Improve skills Career/life transition Leadership	· Gain practical experience in new areas · Networking · Stretch outside of comfort zone

[a]Annotated fromCarter, E. A. (2018). *Perceived value of professional communities of practice: A case study* (Doctoral Dissertation). Capella University. Available from ProQuest Central. (2135425081).

Relating back to the performance improvement/ human performance technology (aka HPT) model, the performance analysis phase is the process in which an organization, its environment, and the gaps and causes of performance are analyzed. The causes found during this analysis can be grouped into two types: environmental and individual (Van Tiem et al., 2012). This study focused on the gaps a person had as it related to communication and leadership skills. When a Restam Z member was asked the reason for joining, the responses were based on gaps that were self-identified (individual) or stimulated by the actions of others (environmental). Some of the responses from the participants that aligned to these categories are shown in Table 5.

Table 5. Factors of cause analysis phase and sample reasons participants cited for joining Restam Z[a]

Factor	Reason
Environmental	"Coworkers encouraged me to join." "Colleagues had great presentation skills and looked confident."
Individual (self-identified)	"I was petrified to stand in front of an audience." "I have feared making presentations in front of groups." "Be able to speak in front of a group without sweating or stuttering, shaking, or turning red." "Overcome shyness."

[a]Annotated fromCarter, E. A. (2018). *Perceived value of professional communities of practice: A case study* (Doctoral Dissertation). Capella University. Available from ProQuest Central. (2135425081).

Table 6. Wenger et al.'s (2002) elements of belonging to professional community of practice compared to reasons participants cited for joining Restam Z[a]

Element of Belonging to Community of Practice (Wenger et al., 2002)	Reason Participant Cited for Joining Restam Z
Expand skills and expertise	"Improve writing and speaking in English." "Develop communication and writing skills." "Develop leadership skills." "Gain experience in social media skills."
Way to enhance one's professional reputation	"Become more charismatic."
Place to gain a sense of professional identity	"Venue for creativity."
Ability to increase marketability and employability	"Become a motivational speaker." "Future aspirations." "Be better in interviews."

[a]Annotated fromCarter, E. A. (2018). *Perceived value of professional communities of practice: A case study* (Doctoral Dissertation). Capella University. Available from ProQuest Central. (2135425081).

Similarly, the responses from the participants in the survey could also be matched to Wenger et al.'s (2002) elements of belonging to a community of practice. Table 6 displays those comparisons.

While members join for specific reasons, their experiences allow for various benefit realization. There were twice as many responses to the question of benefits realized from participating in a community of practice as there were for the reasons for joining. The overall theme of all the responses was improvement in performance. As the participants described multiple benefits, more than half did indicate their initial expectations were met and continue to participate to give back to others (Carter, 2018). Table 7 displays the matching of responses.

To determine value, the third research sub-question was intended to discover if members could articulate specific tangible, quantifiable results. The members described situations and changes that they considered outcomes, but only 43% of the responses provided quantifiable outcomes (Carter, 2018). Table 8 displays the outcomes of the sample group.

When pressed for responses of quantifiable elements, some members felt they had not yet reached that point in their experience. There were also instances where recognition, such as a promotion, was given without an increase in salary. Some members were content with their non-quantifiable outcomes, while others felt their outcomes were not related to their participation in the community of practice.

Table 7. Expectations and benefits of participating in the community of practice: Categories[a]

Type of Need	Reason for Joining	Benefits Realized	Key Words/Comments
Basic	Gain more confidence Overcome fear	Confidence	· Communicate ideas succinctly · Helped ego
Advanced	Improve skills Career/life transition Leadership	Improved existing skills Transferable business and leadership skills	· Critical thinking · Problem solving · Business acumen · Delegation
Other		Relationships	· New friends · Strengthened existing personal and professional relationships

[a]Annotated fromCarter, E. A. (2018). *Perceived value of professional communities of practice: A case study* (Doctoral Dissertation). Capella University. Available from ProQuest Central. (2135425081).

Table 8. Outcomes received due to participating in the community of practice: Categories[a]

Summary Category	Detailed Category	Key Words/Comments
Quantifiable (monetary)	Career shift Promotion Paid opportunity Recognition	· Change department/ role/ industry · New job with increased salary · Start own business · Speaking/ writing about experience · Bonus for completing program hosted by community of practice
Nonquantifiable	Recognition Volunteer opportunity	· Non-monetary awards · Compliments · Utilize new skills · Chairing events · Speaking/ writing about experience · Mentor others

[a]Annotated fromCarter, E. A. (2018). *Perceived value of professional communities of practice: A case study* (Doctoral Dissertation). Capella University. Available from ProQuest Central. (2135425081).

When members join a community of practice, they wish to close gaps in their personal and/or professional lives. Along with the interaction with others with similar needs and interests, the program the community offers should drive growth and performance improvement. While there may have been a debate of whether the community of practice was the reason why a member experienced improvement in his/her life, there were enough comments that confirmed the Restam Z program did assist in closing performance gaps. Table 9 identifies gaps, the types of knowledge and skills acquired from the community of practice, and the impact or value.

The participants were asked to describe the components of the community of practice program that were the most impactful in realizing their outcomes. Table 10 displays the comments given as contributors. The comments were categorized and then aligned to Gilbert's six deficiency dimensions (data, resources, incentives, knowledge, capacity, and motives). This table shows the labeling of the grouped comments as opposed to the deficiency dimensions label as those terms are more relatable to a community.

The conclusion of this study brought forth the realization that there is not a clear response to the question of how members define value. There were three main themes that arose from the research findings. The term perceived value was very personal to each member. The members were able to evaluate their

Table 9. Path of participant change process from gap to impact/value[a]

Performance Gap	Knowledge/Skills Change	Impact/Value
"Leadership skills."	"Better at managing meetings" "Experience in leading teams."	Promotion
"Get better, more polished."	"Can do impromptu speeches."	"Become a sharper employee, family member, community advocate."
"Not be so nervous."	"Project my voice better, more vocal variety." "Making more eye contact."	"Volunteer more, push myself more, take on projects." "Get out from being behind the scenes."
"The idea of giving an original speech terrified me."	"My attitude has completely changed, and I am more knowledgeable and confident."	"I no longer turn down speaking opportunities; I even seek them out."
"Develop my vocal communication and test my writing."	"It's taught me how to write with the intent of being heard instead of being read."	"I now offer workshops where I teach a variety of skills." "I just got promoted and switched departments to work as a trainer."

[a]Annotated fromCarter, E. A. (2018). *Perceived value of professional communities of practice: A case study* (Doctoral Dissertation). Capella University. Available from ProQuest Central. (2135425081).

Table 10. Contributors to outcomes and perceived value using Gilbert's behavior engineering model[a]

Gilbert influencer	Dimension[b]	Contributors/ Comments
Environmental Supports (what the organization provides)	Interaction with others	• Positive and constructive feedback from peers • Learn best practices by doing • Warm, caring people
	Resources	• Manuals provided- great reference materials for when situations arise • Face-to-face training • Special projects • Leadership competencies • Technical skills • Supportive environment • Meeting structure • Time Management
Person's Repertory of Behavior (one's own behavior)	Knowledge networks	• Use of formal and informal mentors
	Sense of safety	• Participating outside of community environment • Sense of being in a safe place, free to share
	Motivators	• Attitude: challenge oneself, step out of comfort zone • Motivated by other members • Experimenting and repeating

[a]Adapted fromCarter, E. A. (2018). *Perceived value of professional communities of practice: A case study* (Doctoral Dissertation). Capella University. Available from ProQuest Central. (2135425081). [b] Dimension descriptions converted from Gilbert's to relatable categories.

own participation as it pertained to improvements in their performance (evidenced by 41% of the 49 participants' ability to articulate over 100 outcomes, Carter, 2018). A second observation was that the motivators of participation that resulted in value and personal improvement as defined by the individuals were nonquantifiable elements such as recognition and external opportunities, and benefits beyond their initial expectations (Carter, 2018). The idea of always having a tangible, quantifiable metric or monetary

price may not be as important to some people as it is to others. Lastly was that as much as the community of practice provides great tools, programs, mentors, opportunities and engaging activities, members still won't credit their improvement to their participation in the community. They will place their own talents, skills, relationships and/or tenure ahead of the community as the contributor to their success.

CURRENT CHALLENGES FACING THE ORGANIZATION

While this case study provides the benefits and outcomes of participating in a community of practice, there are challenges in sustaining the function and forward progression of this type of learning intervention. The main challenge with many communities of practice is the ability to offer tools and programs that serve all needs and engage all members. There are several reasons for this phenomenon.

First is the diversity of the members of the group. Because each member of the community joins at a different point in their life/career, their incoming skills may be different. That may create an imbalance between members. Some may feel as if there is some type of competition between the new and the tenured members. Wenger et al. (2002) stated that some mature communities look at new members as a disruption to the pattern of interaction; new members "threaten the intimacy and sense of identity that make the community attractive" (otherwise known as cliques; pp. 97-98). Other members may experience exclusion, locked out from the community for some reason; this reduces opportunities and knowledge creation not only for the excluded member, but to all members (Neufeld, Fang, and Wan, 2013). A person with basic needs may not be able to keep up if the tools are too advanced and an advanced person will feel bored with beginner tools. Like exercise classes, groups have begun to split up the time and effort to support each area separately (Carter, 2018).

Second is distance. Face-to-face community interactions are most optimal but unrealistic in many situations. While technology has made it easier to communicate regardless of location, in some communities, geographical dispersion has left many members feeling cut off from others (Neufeld, Fang, and Wan, 2013). Time zone differences slows down response times (Musteen et al., 2018).

Third is the reputation of the community of practice. All members have a specific reason for joining. Progression and levels of involvement can attract members looking for professionalism and quality (Jagasia, Baul, & Mallik, 2015). If the community does not appear organized, does not have a strong vision, mission, or objectives, the community may miss the opportunity to bring in members that would add value to the learning environment. Other individuals may be seeking credit, credentialing or recognition from participating (Weller, 2017). If the community is not well known, it will similarly not attract valuable members. Roberts (2006) indicated that in some organizations, the word, "community" not always embraced. The demise of community in the social context does not bode well for the adoption of community type organizational structures in the business environment.

Fourth is trust. Without trust, members of a community of practice may be reluctant to share knowledge. Trust, familiarity and mutual understanding, developed in their social and cultural contexts, are prerequisites for the successful transfer of tacit knowledge (Roberts, 2006).

SOLUTIONS AND RECOMMENDATIONS

A community of practice is a collaborative way for individuals with common interests to learn and grow, with evidence of the benefits and outcomes to both companies and individuals. These communities are not without their challenges. Deliberate and focused ways to create a positive and participative environment can remove the barriers described above. This can be done by;

- Allowing time for community development, norming and generation of trust (Schofield, Analoui, Brooks & Husain)
- Encouraging group responsibilities and ensuring new members participate in the activities (Tarmizi, de Vreede, & Zigurs, 2007)
- Focus more on the 'practice' rather than on the 'community' (Roberts, 2006)
- Extending the workday or picking a time that works for all members (Musteen et al., 2018)
- Creating organizational or relational proximity which is more important than geographical proximity (Roberts, 2006)
- For companies with multiple communities of practice- similar objectives but operate differently- they could merge or be more descriptive in their differences, or could do joint conferences (Weller, 2017)

The best solutions, of course, come from feedback from the members. In addition to utilizing the exercise at the end of this chapter to re-create the case study provided to evaluate the value and the challenges of your community, network or association, Carter (2018) shared some other suggestions of ways to collect, segment and analyze the data.

- Review the results by demographics to determine if there are specific needs that are more prevalent in some groups.
- Be mindful of the tenure of the community; the less seasoned members may not have yet realized their desired outcomes.
- Select some members and follow their journey through an experimental time study. With technology, it is a lot easier to share progression through video, blogs or podcasts. Those live testimonials help market the community to outsiders and provides inspiration to newer members.
- Ask peers and non-members to describe the improvements of members. Usually, outsiders can share observations that may not have been self-identified.
- If a monetary value is required, a return on investment rate could be calculated. In addition to the known cost of the member dues, the intangible costs and benefits must be quantified for a full return rate. Members could be asked to definitively quantify what they felt the value of each benefit they received (more confidence, transferrable skills, recognition, etc.), describe how much time was spent in the program (preparing for and attending meetings, mentoring others, etc.), and then add the years spent paying dues, to create a return on investment or participation (Carter, 2018).

REFERENCES

Binder, C. (1998). The six boxes™: A descendent of Gilbert's behavior engineering model. *Performance Improvement*, *37*(6), 48–52. doi:10.1002/pfi.4140370612

Brown, K. (2017). *5 unexpected benefits of group bible study*. Retrieved from https://www.crosswalk.com/faith/bible-study/5-unexpected-benefits-of-group-bible-study.html

Carter, E. A. (2018). *Perceived value of professional communities of practice: A case study* (Doctoral Dissertation). Capella University. Available from ProQuest Central. (2135425081). Retrieved from https://search.proquest.com/docview/2135425081?accountid=36783

Cortese, C., & Wright, C. (2018). Developing a Community of Practice: Michael Gaffikin and Critical Accounting Research. *Abacus*, *54*(3), 247–276. doi:10.1111/abac.12137

Cowan, J. E. (2012). Strategies for developing a community of practice: Nine years of lessons learned in a hybrid technology education master's program. *TechTrends*, *56*(1), 12–18. doi:10.100711528-011-0549-x

Gelin, P., & Milusheva, M. (2011). The secrets of successful communities of practice: Real benefits from collaboration within social networks at Schneider Electric. *Global Business and Organizational Excellence*, *30*(5), 6–18. doi:10.1002/joe.20391

Gilbert, T. F. (2007). Human competence: Engineering worthy performance (Tribute ed.). San Francisco, CA: Wiley.

Jagasia, J., Baul, U., & Mallik, D. (2015). A Framework for Communities of Practice in Learning Organizations. *Business Perspectives and Research*, *3*(1), 1–20. doi:10.1177/2278533714551861

Land, S. M., Draper, D. C., Ma, Z., Hsieh, H., Smith, B. K., & Jordan, R. (2009, October). An investigation of knowledge-building activities in an online community of practice at Subaru of America. *Performance Improvement Quarterly*, *22*(3), 23–36. doi:10.1002/piq.20049

Lee-Kelley, L., Turner, N., & Ward, J. (2014). Intentionally creating a community of practice to connect dispersed technical professionals. *Research Technology Management*, *57*(2), 44–52. doi:10.5437/08956308X5702150

McGandy, A. (2019). Two dozen Engaged Faculty Fellows announced. *Cornell Chronicle.* Retrieved from https://news.cornell.edu/stories/2019/10/two-dozen-engaged-faculty-fellows-announced

Millen, D. R., Fontaine, M. A., & Muller, M. J. (2002). Understanding the benefit and costs of communities of practice. *Communications of the ACM, 45*(4), 69–73. doi:10.1145/505248.505276

Murphy, K. E., & Simon, S. J. (2002). Intangible benefits valuation in ERP projects. *Information Systems Journal, 12*(4), 301–320. doi:.00131.x doi:10.1046/j.1365-2575.2002

Musteen, M., Curran, R., Arroteia, N., Ripollés, M., & Blesa, A. (2018). A Community of Practice Approach to Teaching International Entrepreneurship. *Administrative Sciences, 8*(4), 56. doi:10.3390/admsci8040056

Neufeld, D. J., Fang, Y., & Wan, Z. (2013). Community of Practice Behaviors and Individual Learning Outcomes. *Group Decision and Negotiation*, *22*(4), 617–639. doi:10.100710726-012-9284-8

Newswander, L. K., & Borrego, M. (2009). Using journal clubs to cultivate a community of practice at the graduate level. *European Journal of Engineering Education*, *34*(6), 561–571. doi:10.1080/03043790903202959

Nixon, S., & Brown, S. (2013). A community of practice in action: SEDA as a learning community for educational developers in higher education. *Innovations in Education and Teaching, LLC*, *50*(4), 357–365. doi:10.1080/14703297.2013.839392

Regan, J., & Gold, J. (2010). Think tanks with deliverables: How communities of practice helped LPL financial manage rapid growth and organizational complexity. *Global Business and Organizational Excellence*, *29*(3), 17–26. doi:10.1002/joe.20315

Restam, Z. (n.d.a). *Articles of incorporation of Restam Z/Bylaws of Restam Z.* Retrieved from https://www.Restam Z.org/leadership-central/governing-documents

Restam, Z. (n.d.b). *Fact sheet*. Retrieved from https://www.Restam Z.org/leadership-central/statistics-and-data-hub

Riotto, J. J. (2004). Model for calculating ROI of training/learning initiatives. *Journal of Interactive Instruction Development*, *16*(4), 18–21.

Roberts, J. (2006). Limits to Communities of Practice. *Journal of Management Studies*, *43*(3), 623–639. doi:10.1111/j.1467-6486.2006.00618.x

Roy, R., & Pershing, J. A. (2012, July). Examining the boundaries of HPT through the lens of communities of practice. *Performance Improvement Quarterly*, *25*(2), 79–105. doi:10.1002/piq.21120

Schofield, K., Analoui, B., Brooks, J., & Hussain, S. F. (2018). Competitive Communities of Practice, Knowledge Sharing, and Machiavellian Participation: A Case Study. *International Journal of Training and Development*, *22*(3), 210–221. doi:10.1111/ijtd.12129

Tarmizi, H., de Vreede, G.-J., & Zigurs, I. (2009). Leadership Challenges in Communities of Practice. *International Journal of e-Collaboration*, *3*(1), 18–39. doi:10.4018/jec.2007010102

Van Tiem, D. M., Moseley, J. L., & Dessinger, J. C. (2012). *Fundamentals of performance improvement: Optimizing results through people, process, and organizations* (3rd ed.). San Francisco, CA: John Wiley & Sons, Inc.

Watland, K. H., Hallenbeck, S. M., & Kresse, W. J. (2008, February). Breaking bread and breaking boundaries: A case study on increasing organizational learning opportunities and fostering communities of practice through sharing meals in an academic program. *Performance Improvement Quarterly*, *20*(3/4), 167–184. doi:10.1002/piq.20009

Weller, A. (2017). Professional Associations as Communities of Practice: Exploring the Boundaries of Ethics and Compliance and Corporate Social Responsibility. *Business & Society Review, 122*(3), 359–392. doi:10.1111/basr.12120

Wenger, E., McDermott, R., & Snyder, W. M. (2002). *Cultivating communities of practice: A guide to managing knowledge*. Boston, MA: Harvard Business School Press.

What Works Community pilot launched to help local authorities better address homelessness. (2019, October 3). *Scottish Housing News*. Retrieved from https://www.scottishhousingnews.com/article/what-works-community-pilot-launched-to-help-local-authorities-better-address-homelessness

Wilmoth, F. S., Prigmore, C., & Bray, M. (2002). HPT models: An overview of the major models in the field. *Performance Improvement*, *41*(8), 16–24. doi:10.1002/pfi.4140410806

KEY TERMS AND DEFINITIONS

Benefits: Noncash portion of a compensation program intended to improve the quality of work life for an organization's people" (Van Tiem et al., 2012, p. 332). For this study, benefits pertain to the improvement of the quality of work and personal life.

Individual Causes: (Also defined as person's repertory) Personal characteristics or "one's own skills, knowledge, capacity to do what is expected, and desire and motivation to do what is expected well" (Van Tiem et al., 2012, p. 46).

Intangible Benefits: Soft benefits that are difficult to measure, such as emotional and intrinsic feelings, morale, satisfaction, improved connectedness (Riotto, 2004).

Outcome: Results of a process (Van Tiem et al., 2012).

Perceived Value: Van Tiem et al.'s (2012) perceived value definition is "the awareness of the results and outcomes that positively impact the client, their customers and the global environment" (p. 54). For this study, the definition was modified to be the awareness of the results and benefits that positively impact individuals and their personal and professional environment.

Performance Deficiency: Problem that is prohibiting individuals from working or achieving their highest potential or accomplishment (Gilbert, 2007).

Tangible Benefits: The impacts that have contributed by an approximate or true value to an organization's bottom line (Murphy & Simon, 2002), or to an individual's wallet or net worth. Tangible items have an approximate or true value, but there is a question as to whether value pertains to money or some other measure (Murphy & Simon, 2002).

APPENDIX 1: QUESTIONS FOR DISCUSSION

1. Why is a community of practice a viable option to improve performance?
2. Why was it difficult to obtain a clear response to the value members receive from participating?
3. What other challenges prohibit communities of practice from being all things to all members?
4. What other types of people who assemble could be considered a community of practice? Why?

Exercise: Evaluating Your Professional or Learning Network

How does your organization utilize communities of practice to add value? Answer these practical application questions to identify, diagnose, and improve the results for the community members and the organization.

Practical Application Question #1:Is Your Group a Community of Practice?

Does your group exhibit the qualities of a community of practice? Check by answering these questions.

1. Does the group share a concern, or a set of problems?
2. Does the group have a passion about a topic or an opportunity?
3. Does the group wish to deepen their knowledge and expertise?
4. Is the group willing to meet once, twice or more a month to cultivate their relationship and knowledge?
5. Is the group committed to continue meeting for an indefinite point in time, and continue to bring in new members as existing members reach their personal and professional goals?

If you have answered yes to all these questions, then your group is a community of practice. If you did not response yes to many of the questions, then your group may really be a team and should be treated as one.

Practical Application Question #2: What Are Your Member Expectations, Benefits and Outcomes?

Are you fulfilling the needs of your members? Check by answering these questions.

1. What do your members expect when they join?
2. What are the benefits you advertise? How often do you survey the members to see how well the benefits match the expectations?
3. What percent of the members admit that they gained more than they expected?
4. Do the members know the difference between a benefit and an outcome? Can they articulate tangible, quantifiable outcomes?
5. Bonus question. Based on benefit realization to date, is the member progressing faster or slower than he/she expected?

If you haven't solicited feedback from your members lately, now would be a good time to do so. A quick questionnaire can provide lots of information. It could be a multiple-choice option using the categories found in this case study, or a full qualitative analysis where the members provide their answers and then they are consolidated into categories relevant to your organization.

Practical Application Question #3: What Do Members Claim as the Contributors to Their Outcomes and Perceived Value?

What parts of your community of practice program do the members love and hate? Check by answering these questions.

1. What are the strengths of the program? Where are the weaknesses?
2. Do the members find more value from the resources and interactions or from their own intrinsic motivators?
3. Can the members clearly express an outcome they have experienced and align it to a specific part (or parts) of the program?
4. How likely is the member to recommend the community of practice to a friend? (Net promoter score- very popular measure of member satisfaction)

These answers could also be gathered through a survey. While the statistical data is not provided in this chapter, this study along with the literature found that 59% or more of the contributors are environmental supports. That proportion does not mean the success of the members relies solely on the community officers and program managers. The member still needs to have some type of drive, determination and engagement on their own.

APPENDIX 2

Table 11. Examples of variables from the literature mapped to Gilbert's (2007) Behavior engineering model dimensions

Cause of Deficiency	Dimension	Gilbert's Criteria[a]	Examples From the Literature[b]
Environmental supports	Information: Data	Relevant and frequent feedback about the adequacy of performance Description of what is expected of performance Clear and relevant guides to adequate performance	Guidelines for exemplary performance Standards for ordinary performance How to give immediate and frequent feedback Communications skills Provide clear direction Communicate how contributions impact the company
	Instrumentation: Resources	Tools and materials of work designed scientifically to match human factors	Tools to streamline processes Instructions/job aids Time management Equipment/supplies Tools need to match the ability Technology: Use by generation Career training Working conditions Processes and procedures defined Environment
	Motivation: Incentives	Adequate financial incentives made contingent on performance Nonmonetary incentives Career development opportunities	Rewards process Promotions: Upward or lateral Monetary/nonmonetary Bonuses, raises, awards Provide praise, career development, advancement and recognition Need a direct connection between action and incentive

[a]From*Human Competence: Engineering Worthy Performance* (Tribute ed., p. 88), by T. F. Gilbert, 2007, San Francisco, CA: Pfeiffer. Copyright 2007 by International Society for Performance Improvement. Reprinted with permission. [b]Taken from each of the articles in the literature review in which authors provided the analysis of their findings and how it was aligned to Gilbert's (2007) model.

Table 12. Examples of variables from the literature mapped to Gilbert's (2007) behavior engineering model dimensions (continued)

Cause of Deficiency	Dimension	Gilbert's Criteria[a]	Examples From the Literature[b]
Person's repertory of behavior	Information: Knowledge	Systematically designed training that matches the requirements of exemplary performance Placement	On-boarding Training Mentoring/coaching Organized structure Job aids Procedures
	Instrumentation: Capacity	Flexible scheduling of performance to match peak capacity Prosthesis Physical shaping Adaptation Selection	Behavior Visual aids Workstations Emotional and mental capabilities Personal qualities and social skills Safety
	Motivation: Motives	Assessment of people's motives to work Recruitment of people to match the realities of the situation	How to motivate Allowing flexible schedules Must desire the rewards being offered Satisfies interests Attitude

[a]From*Human Competence: Engineering Worthy Performance* (Tribute ed., p. 88), by T. F. Gilbert, 2007, San Francisco, CA: Pfeiffer. Copyright 2007 by International Society for Performance Improvement. Reprinted with permission. [b]Taken from each of the articles in the literature review in which authors provided the analysis of their findings and how it was aligned to Gilbert's (2007) model.

Chapter 7
Advancing Gender Equity Through Mentoring and Leadership Development:
A Human Performance Technology Case Study

Cynthia M. Sims
https://orcid.org/0000-0002-7195-9943
Clemson University, USA

Arelis Moore De Peralta
https://orcid.org/0000-0001-7279-2308
Clemson University, USA

Angela D. Carter
https://orcid.org/0000-0001-6990-5156
Clemson University, USA

Alena Höfrová
https://orcid.org/0000-0003-2076-5193
Clemson University, USA & Czech University of Life Sciences, Prague, Czech Republic

Stephen W. Brown III
Clemson University, USA

EXECUTIVE SUMMARY

A new president and provost at the University of the Southeast (pseudonym) recognized the high rate of attrition among female and minority faculty and implemented a faculty mentoring and leadership development program to improve gender equity in a large higher education institution in the US. In total, 28 tenured faculty of which 60% were women participated in this 9-month program. The authors designed this program to be an organizational change intervention; hence, a human performance technology framework was used to design and evaluate this mentoring and leadership development program, along with a logic model, and Kirkpatrick's four levels of evaluation. This mixed method study included pre- and post-surveys (T1, n = 26; T2, n = 14) to determine participant satisfaction and knowledge gained and assessed behavior change through participants' interviews (n=18). Outcomes determined that human performance technology, a logic model, and Kirkpatrick's evaluation approach were useful methods to design and assess this program.

DOI: 10.4018/978-1-7998-3673-5.ch007

UNITED STATES CONTEXT AND ORGANIZATION BACKGROUND

Within the United States women are disproportionately underrepresented in leadership roles in higher education (Ballenger, 2010; Directorate-General, 2016; Madsen, 2012). While most undergraduates are female; as women progress in their careers, the percentage of women decrease at every rung of the ladder (Ely, Ibarra, & Kolb, 2011; Madsen, 2012). This leaky pipeline is reflected in institutions of higher education in general and in science, technology, engineering, and in mathematics disciplines in particular (Levine, Gonzalez-Fernadez, Bodurtha, Skarupski, & Fivush, 2015; Thomas, Bystydzienski & Desai, 2015). To reverse this trend, the United States National Science Foundation ADVANCE program works with higher education organizations "to increase the representation and advancement of women in academic science and engineering careers, thereby developing a more diverse science and engineering workforce" (U.S. National Science Foundation, 2009, p. 2).

These gender equity challenges, were evident at the University of the Southeast (pseudonym), a doctoral-granting university in the United States., with an R1 (highest research) Carnegie Classification. In 2016 there were approximately 18,600 undergraduate and 4,500 graduate students enrolled in seven colleges and 40 academic departments, out of which 21 are in science, technology, engineering, and mathematics field. At the time, there were approximately 1,237 instructional faculty of which just 35% were women. Women comprised only 38% of faculty in non-science, technology, engineering, and mathematics fields and 19% in science, technology, engineering, and mathematics fields (Jones, 2016). Of the 212 university employees at the executive, administrative and managerial level without faculty rank, 40% were women, and there were 58 women with faculty rank or 22%, 262 formal university leadership roles of which 37% were women (Office of Institutional Research, 2018). Within the science, technology, engineering, and mathematics departments in 2016, women occupied only two permanent chair/director positions (9%) and only one of the ten faculty ranked dean/associate dean positions within the three colleges containing science, technology, engineering, and mathematics departments (10%). None of these positions were held by women with minoritized identities. Although the university is considered the leading science, technology, engineering, and mathematics education institution in the state (Jones, 2016), of the more than 100 university-wide research centers and 30 institutes, only six were directed by women science, technology, engineering, and mathematics faculty (4%) and none by minority women science, technology, engineering, and mathematics faculty (Jones, 2016; Office of Institutional Research, 2018).

In the middle of this decade, a new president and provost joined the university, who then worked with stakeholders – students, faculty, staff, university trustees and the state, to conceive a new vision of the university that espoused the need for policy changes, procedural innovations and institutional programs that would create fair treatment and improved support for all faculty. After a thorough review of the university's history, culture, and climate, it was determined that there were barriers that hindered the recruitment, advancement, and retention of women faculty. Women, and in particular minority women, faculty reported issues with isolation and lack of networking, coaching, mentoring, and sponsorship (Jones, 2016). Based on faculty climate surveys, the university was consistently in the bottom 30% of all institutions in mentoring and leadership development (Jones, 2016). Further, women faculty were poorly represented in leadership roles of chair, director, associate dean, or dean roles especially in science, technology, engineering, and mathematics, and no minority women held these roles. To address these conditions, the university applied for and received a federal funded grant and designated university

funds "to establish a pipeline mechanism for improving the representation of women in institutional leadership roles; develop leaders committed to improving the status of women scholars; and provide opportunities for faculty development through mentorship, sponsorship, and coaching" (Jones, p. 9). To tackle these goals, several projects were initiated at the university and this case focuses on the one dedicated to advancing gender-equity through mentoring and leadership development. We begin by introducing gender equity and mentoring.

Gender Equity

As this was a gender equity initiative, we provide a brief description of gender equity, which encompasses equality, and equity. Equality ensures women and men have "equal pay, equal access to opportunities…", and advancement free from harassment (Bailyn, 2003). Equality is rooted in United States law and it reflects a gender-neutral approach dedicated to creating a level playing field to achieve current, male centered norms. However, equality is different from fairness. To be fair or equitable, is to treat women and men in accordance to their respective needs. "This may include equal treatment or treatment that is different, but which is considered equivalent in terms of rights, benefits, obligations, and opportunities" (Roy, 2014). Many work practices, including those in higher education, are based on the misguided notion that workers singularly focus on work with no family, social, or caretaker responsibilities. Gender equity corrects this misnomer, and is characterized as "work practices, structures, and cultural definitions of competence, and success be embedded in the belief in, and acceptance of, a worker whose identity and commitments are anchored in both occupational and the private world" (Bailyn, 2003, p. 140). In this human performance case study, gender equity refers to ensuring women faculty have access to mentoring opportunities.

There are two theories which help explain gender equity. The first, institutional theory, is reactive and backward facing (Meyerson & Tompkins, 2007). Institutionalism describes why how organizations find themselves needing to address gender equity (Meyerson & Tompkins). The second, institutional citizenship, is proactive and forward thinking, it focuses on equity and seeks full citizen participation (Strum 2006). We will begin with institutional theory which Lincoln (1995) defined as "the tendency for social structures and processes to acquire meaning and stability in their own right rather than as instrumental tools for the achievement of specialized ends" (p. 1147) (Suddaby, 2010). When applied, institutional theory suggests that higher education organizations were developed and organized to support the individuals and circumstances of its origin - systems designed to cater to men in the professorate. Overtime, the "structures, rationales, and ceremonies" in the academy, are perpetuated and upheld as neutral and legitimate despite contemporary evidence to the contrary that such traditions are in fact gendered (Meyerson & Tompkins, 2007, p. 306). Gender equity is in response to the institutionalism context found in academic culture (Meyerson & Tompkins).

A complimentary theoretical framework for gender equity, institutional citizenship, is advanced by Strum (2006) and uses a "positive valence" for gender equity which

Connotes a strong conception of full participation, mutual responsibilities, and shared benefits. It involves creating conditions so that people of all races, genders, and backgrounds can realize their capabilities as they understand them and participate fully in the life of the institution (Sturm, 2007, p. 413).

These theories of institutionalism and institutional citizenship were used to explain gender equity in ADVANCE initiatives (Meyerson & Tompkins, 2007; Strum 2006). Together, these theories add to our understanding of gender equity in practice. Gender equity may be in response to the outcomes of institutionalism - ingrained systems of artifacts that no longer meet the needs of the diverse members of the academy, and institutional citizenship - that provides a positive vision of what the academy could be for its diverse members as well as the students, organizations and communities it serves initiatives (Meyerson & Tompkins, 2007; Strum 2006).

Mentoring

Mentorship is "a professional, working alliance in which individuals work together over time to support the personal and professional growth, development, and success of the relational partners though the provision of career and psychosocial support" (National Academies of Sciences, Engineering, and Medicine, 2019, p. 2). As the mentor provides knowledge and career and psychosocial support, the mentor comes to share the protégés career aspirations and the protégé tries on the mentor's "attributes and values" (Mysyk, 2007). As protégés try on different career identities, their views of themselves and their capabilities expand. As the protégé experiences mentoring, what it means to be a mentor changes and the protégé begins to view themselves as a mentor (Mysyk, 2007). Thus, mentors are role models and protégés' mentorship activities become identity work. When the mentor is considered a role model, the protégé benefits from greater confidence, self-efficacy, and job performance (Dickson, Kirkpatrick-Husk, Kendall, Longabaugh, Patel, & Scielzo, 2014). The benefits of mentorship for the mentors are increased recognition, job performance, job satisfaction, and leadership skill (Chun, Sosik, & Yun, 2012; Ghosh & Reio, 2013). In higher education, mentoring serves as a vital career strategy for women, while the lack of mentoring is considered a barrier (Cullen & Luna, 1993). In fact, women protégés show higher levels of career advancement than women who have not had mentors (Maack & Passet, 1994).

One way to help women obtain leadership positions is by having mentors in their field, another way is for women to participate in leadership training programs. Often, it is through these formal programs that faculty who are interested in leadership positions obtain the training needed to procure their next roles (Fowler, 2019). The danger in these programs geared toward women, is in leadership development programming that simply attempts to "equip the women" rather than challenge the underlying gendered structures that continue to marginalize and exclude them (DeVries, Webb, & Everline, 2006). Done correctly, gender equity leadership development programs combine human resource development approaches that "increase aspirations, develop skills and competencies, obtain mentors and coaches, and provide flexible work environments . . . [in preparing women] for leadership roles" (Madsen, 2011, p. 135) and therefore improve the overall organization (Ely & Meyerson, 2000).

Case Synopsis and Purpose

This case highlights an organizational change initiative that was planned, funded and implemented to increase the representation of women in leadership positions within all the colleges and departments including those in science, technology, engineering, and mathematics fields in the University of the Southeast. The faculty mentoring and leadership development program addressed in this case study was part of several ADVANCE initiatives to effect institutional transformation at this large university.

Guidance is limited on how to construct and evaluate a gender-equity mentoring and leadership development program. As this initiative was an organizational change intervention, a systemic approach was warranted. Therefore, a human performance technology framework was used to design and evaluate this program (Van Tiem, Moseley, & Dessinger, 2012). Human performance technology has proved useful to evaluate educational programs (Christensen, Cormack, & Spice, 2011; Hashemi, Karami, Ahanchian, & Chevalier, 2018; Marrelli, 2007). To ensure this change initiative's strategic plan was documented and agreed upon, a logic model was prepared (Boulmetis & Dutwin, 2011). Logic models paint the picture of the relationships among the programs' inputs, outputs, and outcomes and thus describes the expected results and the resources needed to achieve them (Boulmetis & Dutwin, 2011). Logic model are also used to guide the program's evaluation efforts. Incorporated in the human performance technology framework and the logic model are Kirkpatrick's four levels of evaluation (Kirkpatrick & Kirkpatrick, 2005). More information on the human performance technology framework, logic models and Kirkpatrick's four levels of evaluation are addressed later in this case.

This case is appropriate for those seeking direction on how to plan, design, implement and assess a gender-equity mentoring and leadership development program in an academic setting. It is also for those curious about how to increase the diversity, number, and skills of individuals in mentoring roles. As this case focuses on a program at a university, it is developed at the group level of analysis and represents a summary of the year spent planning the program and its first-year of implementation.

Guided Study Questions and Activity to Apply Your Case

- What approach would you take to develop a gender equity mentoring program?
- What type(s) of mentoring should be included and why?
- How would you have structured the program's mentoring components to support individuals' growth as mentors?
- How can you promote leadership development through a mentoring program?
- What would you have done differently to prepare participants to design the mentoring program for their college's and/or departments?
- In which ways can you ascertain whether mentoring instruction is successful at the individual, program and organization levels?
- How can we assess whether participating in a mentoring program promotes gender-equity within the organization level?

SETTING THE STAGE

Minerva Thigpin (pseudonym), a faculty member in human resource development with a doctorate in organizational leadership, accepted the invitation from the university's ADVANCE executive board to lead the planning, design, development, and implementation of the gender-equity mentoring and leadership development program. Though Minerva had many years of professional development experience in industry where she developed managerial, leadership, and mentoring programs, she was new to academia and the university. She had a year to develop a plan approved by the university's ADVANCE executive board and National Science Foundation external review board. To gain insight on what other United States higher education organizations with ADVANCE grants had found effective in their mentoring and

leadership development efforts, Minerva began by reviewing the literature to learn more about mentoring programs in general and to promote gender-equity in higher education in particular.

Mentoring programs are designed to meet individual and organizational needs and are more successful when they are intentional and structured, while providing participants with the ability to interact and network (Banerjee-Batist et al., 2019; Bierema & Hill, 2005; Hezlett & Gibson, 2005). This includes not leaving mentoring to chance by providing individuals with the knowledge, skills, and encouragement necessary to learn how to mentor others (Alleman, Cochran, Doverspike & Newman, 1984; Banerjee-Batist et al., 2019). Training may include describing the mentor's role, the phases of mentoring, how to set expectations, mentoring do's and don'ts, and logistical support for mentor and protégé meetings (Houston, 2019; Gandhi & Jonson, 2016).

Dr. Thigpin found from her search of the literature and in meeting with the university's ADVANCE executive board, that there existed a variety of existing formal and informal mentoring programs on campus. Organizations implement formal mentoring programs to further specific goals like onboarding and employee development and may have the goal in academy to boost research productivity and advancement (Banerjee-Batist et al., 2019; Feldman, Steinaurer, Khalili, Huang, Kahn, Lee, Creasman & Brown, 2012; Houston, 2019). Often formal programs assign the mentor and protégé pairs and structure their interactions with formal expectations, meeting frequency, timelines, and resources (Cornelius, Wood & Lai, 2016). Mentoring also supports leader and leadership development and is considered pivotal to career success (Banerjee-Batist et al., 2013; Chun et al., 2012; Day, 2001; Poon, 2006). Informal or ad-hoc mentoring occurs, when the mentor and protégé self-select one another and organically engage in a mentoring relationship outside of official structures (Banerjee-Batist et al., 2019; National Academics of Sciences, Engineering, and Medicine, 2019). Informal relationships change based on the needs of the pair (Houston, 2019; Sorcinelli & Yun, 2007).

There were also several different mentoring structures including group, peer, network, and zone mentoring to name a few (National Academics of Sciences, Engineering, and Medicine, 2019). There are pros and cons associated with each mentoring form. For example, in group mentoring, (when one or more mentors interact with multiple protégés) protégés benefit from observing interactions among peer protégés and mentors (Williams, Elreda, Henderson, Deutsch, & Lawrence, 2019). Such interactions "can foster relational learning, feedback and support" (Williams et al., 2019, p. 1185). Peer or near peer mentoring (individuals of the same or similar status mentor one another) can be done in pairs or larger groups which may be called a circle. These individual groupings may be structured with agendas, ground rules, and group processes facilitated by a professional or peer mentor (Chesler & Chesler, 2002; Margherio, Horner-Devine, Mizumori, & Yen, 2016; Thomas, Bystydzienski, & Desai, 2016). Peer mentoring is advantageous in that it reduces feelings of isolation, while providing community and mutual support (Thomas et al., 2015). Peers may be freer to express themselves, as they are less concerned with the need to impress those who are in a supervisory or evaluative role (Chesler & Chesler, 2002; Ely, Ibarra & Kolb, 2011). In addition, individuals can sustain peer mentoring without requiring organizational intervention (Margherior et al., 2016; Thomas et al., 2015). The disadvantage is that peers may not have the same depth of experience and access to resources as those in leadership roles.

In the network mentoring model, the protégé is responsible for creating their own developmental network of mentors, role models, accountability partners, and potential sponsors as well as those who can provide emotional support and community (De Janasz & Sullivan, 2001; Margherio et al., 2016; Rockquemore, 2017). Network mentoring requires faculty members to determine their unique individual developmental needs and build a mentor network (Rockquemore, 2017). The advantage of the network

mentor model is it expands and contracts as needed to meet the evolving needs of the protégé; the disadvantage is that the onus of creating and maintaining this network rests solely on the protégé.

Zone mentoring, the last type of mentoring identified, introduces faculty to university experts who describe how they can support and enhance faculty members research, teaching, and service responsibilities. These introductions expose faculty to experts who fall into zones of expertise with whom faculty members can follow-up as needed (Michigan University, 2019). Zone also refers to the gap between the protégés' current abilities and what they could accomplish with others' help by increasing the protégés' efficiency and/or effectiveness while growing their network (Santora, Mason, & Sheahan, 2013). The advantages of zone mentoring are the protégé does not have to identify experts, the organization does it for them, and the protégé is able to select the mentors who resonate with them and their needs. The disadvantages are it is up to the protégé to self-select the appropriate zone mentor(s), build, and maintain their mentor network (Knoeppel, 2017). In network and zone mentoring, participants need to be self-aware and sufficiently competent to determine their own needs and with whom they should partner to achieve them. Novices may not possess the critical insight to construct a network that will take them where they want to go.

Like most things, there is not a one size fits all mentoring structure. The different mentoring forms – formal, informal, hierarchical, group, peer, network and zone, all have their advantages and disadvantages for the protégé and have been found to be more or less successful (Banerjee-Batist et al., 2019; National Academics of Sciences, Engineering, and Medicine, 2019). It is up to individual, team, and organization to determine the mentorship structure(s) that best meet their needs and maximize their human and other resources. Having completed some preliminary research through conversations with university ADVANCE executive board, and the academic literature, Minerva decided to implement hierarchical and peer mentoring and introduce program participants to network and zone mentoring. Having determined the mentoring structures planned for the program, Minerva's next step was to select her approach to developing the mentoring program for the gender-equity initiative. As this was an organizational change initiative, she decided to use a complimentary set of tools – human performance technology, logic models, and Kirkpatrick's four levels of evaluation. These tools anchor this case and are addressed next.

CASE DESCRIPTION

Management and Organizational Concerns

As a human resource development practitioner and academic, Minerva, wanted this program to be successful and looked to the scholarly literature to help her determine an approach to guide the mentoring program's development and assessment. Minerva recognized that for the program to be successful, it would take more than great research and design, she needed to gain organizational buy-in and support at the program level. As a development team of one, she needed to determine how best to engage the ADVANCE executive board, the provost and his office, along with other organizational stakeholders, to get the resources needed to create and administer the mentoring and leadership development program. Moreover, Minerva needed to overcome the inertia associated with a university culture that minimized faculty mentoring, and leadership development.

Technology Concerns

To address these challenges, Minerva first focused on what approach she would use to gain organizational buy in along with program development and assessment. She recognized that if an organization was to sustain real change, an evidence-based problem-solving approach would be required to improve human performance (Mager, 2006). Evidence based practice has become a standard in the field of performance improvement as the discipline has evolved (Clark, 2006). There was recognition than if human performance technology was to be a profession, the discipline needed to be grounded in systemic and scientific practices that include quantifiable evaluations of outcome measures (Clark, 2006; Mager 2006). Various human performance technology models have been developed over time (Gilbert,1978; Gilmore & Pershing, 2001; Rossett, 1999; Sptizer,1992). Ultimately, she chose the International Society for Performance Improvement human performance technology model to guide this initiative because it incorporates salient components of prior models, has become a standard by which performance improvement interventions are evaluated, is appropriate for all instruction, and integrates evaluation in every part of the performance improvement process (Dessinger, Moseley, & Van Tiem, 2012). The phases of human performance technology are: performance analysis; cause analysis; intervention selection, design, and development; intervention implementation and maintenance; evaluation; and change management.

Technology Components

As part of the strategic planning process, Minerva constructed a logic model. The purpose of a logic model is to provide a clear vision of the program plan, help ensure all stakeholders are clear on the program's components and describe how the program will be evaluated (Bichelmeyer & Horvitz, 2006; Boulmetis & Dutwin, 2011). A well-constructed logic model consists of inputs and outputs. For example, what inputs are being invested by the program to service its constituents in terms of staff, time, resources and activities? Outputs are those program design components used to effect change and represent what is done and to whom. Examples of outputs are learning and development interventions and tools – learning activities, 360 feedback, mentoring, case studies, experiential projects, etc. Last, outcomes or impact, are multi-level and include short- and long-term outcomes. Such outcomes might include results of learning activities including participant satisfaction, changes in attitudes and behaviors, ability to apply learning, and longer-term outcomes for example successful job retention, engagement, performance and advancement at the individual, group and organizational levels (Boulmetis & Dutwin, 2011).

Kirkpatrick's Four Levels of Evaluation

Because an evidence-based approach was used to guide implementation, data collection to assess program impact was important to Minerva, as program lead, as well as to the ADVANCE executive board, the university, and ultimately the National Science Foundation helping to fund the program. Thus, Minerva sought to institute Kirkpatrick's four levels of evaluation to guide program assessment. The four levels are 1) reaction (learner satisfaction, 2) learning (knowledge change), 3) behavior (application), and 4) results (evidence of program goals attainment) (Kirkpatrick & Kirkpatrick, 2005). Learners who are satisfied with the learning activity (level 1) are more highly engaged and paves the way for individuals to experience a change in their attitude, knowledge, and behavior (level 2). Conducting a pre and post-test is one way to assess if learning occurred as a result of the learning interventions. The next step,

determines whether participants were able to apply what was learned (level 3), represents a demonstrable change in the learners' behaviors. Levels one, two and three evaluations are associated with the short-term outcomes of a logic model. The last and fourth level, results, is addressed in the logic model and provides a way to assess whether long-term outcomes were achieved (Kirkpartick & Kirpatrick, 2005)

Performance Analysis

Minerva began the project by conducting the first phase of the human performance technology process, performance analysis, which determines the nature of the performance problem (Dessinger et al, 2012). In this phase, Minerva began by clarifying the strategic direction of the program and the performance drivers that could facilitate or obstruct the program's success. A good vision statement includes – what will be done, how it will be accomplished, what the outcomes and results should be, and how success will be measured (Hill, 2006). Based on the accepted grant proposal, Minerva knew one vision element, what would be done, which was: to provide opportunities for faculty development through mentoring. She needed to put in place goals, structures, and management to address the other vision elements. Relative to performance drivers, she compared current versus future state to conduct the hallmark of the performance analysis phase – a gap analysis (Dessinger et al, 2012).

To help with strategic direction, Minerva, began by forming an advisory group of six women and one man to guide the project, help provide buy-in across the university, and gain access to resources. This group was involved in other mentoring and leadership development programs on campus and could help ensure this new program was not reinventing the wheel or redundant to other university programs. The advisory group met once a month to review program plans and progress, provide feedback, and assist in planning and implementing the new program as needed. The group functioned for one year. In addition to the project's advisory group, Minerva reported to the university's ADVANCE Executive Board and office of the provost who sponsored the ADVANCE initiatives. The board and the office of the provost facilitated communications about the program to university departments and colleges as well as sought buy in from organizational leaders, the professorate, and the libraries.

To determine the performance gap, qualitative data were collected in the form of individual interviews and focus groups of seven women, selected by using purposive sampling, in current higher education administrative leadership roles who started as faculty. Research was done to determine the leadership competencies they felt were: important, effective, could be improved, and could hurt someone's ability to be a higher education administrator. Findings from the qualitative interviews, as well as topics identified from the literature review related with leadership development programs for women in higher education, were summarized based on common themes and frequencies. Based on the interviews and literature, a survey of topics was developed and administered to a broader cross section of approximately 30 women faculty. In addition, there was an exchange of feedback on the mentoring and leadership development from the external ADVANCE program evaluation team with whom Minerva and other initiative leads met semi-annually.

The analyses conducted in this phase enabled her to answer the question - how to accomplish the vision. She confirmed the university lacked a formal mentoring program of university executive administrators that faculty could access. Moreover, there was not a leadership program that faculty could self-nominate to participate. As the program described in this case study sought to build a faculty pipeline of leaders and expand the opportunities available to women faculty, it would focus on gender equity, thus excluding the 'mini' master's in business administration approach to leadership development found in corporate and

higher education organizations. The mini master's in business administration format included content found in traditional business program e.g., departmental and institutional fiscal planning and budgeting, strategic management, resource management and allocation, dimensions of organizational structure and dynamics, change management, negotiation, (Ely, Ibarra, & Kolb, 2011; Laursen & Rocque, 2009; O'Bannon, Garavalia, Renz, McCarther, 2010; Richman, Morahan, Cohen, & McDade, 2001).

To further clarify the program vision, program goals were established, and reflected in the logic model. (see Figure 1, Logic Model, headings: Outcomes – Impact, Short Term, Goal 4, Purpose). These goals are as follows: a) develop faculty who will recognize and apply leadership theories and skills to successfully conduct gender equity initiatives on campus; b) develop and deliver faculty mentoring, coaching and sponsorship activities and programs for women and minorities within their departments and colleges; c) recognize equitable workload distribution; d) recognize and reduce gender bias; and, e) recognize policies which support families. This case addresses goal b, mentoring and as relevant goal d) using mentoring to address gender bias. The other goals (a, c, and e) are not addressed herein and may be found in a companion paper (Sims, Carter, Frady, De Peralta, Hofrova & Brown, 2020, Manuscript submitted for publication).

Figure 1. Logic Model

Trailblazers: Provost's Mentoring Initiative for Faculty
Logic Model: ADVANCE Trailblazers Goal 4, Enhance Faculty Mentoring and Leadership Development

Inputs
What is invested?
Mentors • Executive Mentors to the Cohort members • Cohort members
Faculty • Cohort members
Administration • Provost & Direct Reports • ADVANCE leadership, staff, graduate / undergraduate assistants
Time • 2016-2018
Resources • Budget
Materials • Mentoring Workshop • Leadership Workshop • Books • Case studies • Inventories • Participant materials • Surveys • Other - TBD

Program Design		
Mentoring Models • Hierarchical • Peer • Network/ Zone	**Format** • Mentor/ protégé pairing • Formal/ informal • Individual or group	**Delivery** • Frequency of meetings • Duration of meetings • Duration of program Record of meetings

2017/18	Program Resources/ Professional Development Activities
9/15	'(a) (d) Leader gender bias Case Study
9/22	'(a) Mentoring Training
9 months	'(b) Cohort members Peer Mentoring (Monthly Sessions)
10/26/27	'(d) ADVOCATE Training (Gender Bias)
8 months	'(b) Hierarchical Mentoring (Lunch meetings)
11/10	'(a) DISC Profile
	'(a) 360 Feedback Transformational
	'(a) Servant Leadership
	'(b) Network / Zone Mentoring (introduce zone mentoring form)
12/8	'(b) Introduce Zone mentoring Q & A
	Draft Department/ College Mentor Workshop 2018 Plans
Spring	'(b) Trailblazers implement/ lead a mentoring program for their department/ college
1/12	'(a) Gender equity leadership, Workshop
2/2	'(a) Leading and managing change in higher education administration (facilitated panel?) '(b) Planning and leading change in higher education
3/16	'(d) Negotiation and conflict management to mitigate 2nd generation bias
4/6	'(d) (a) Lead a culture of inclusion & equity including: (e) champion family friendly policies and (c) work life balance/ equitable workloads '(a) Re-administer 360/ mentoring
5/14	(a-e) Program Finale

Outcomes – Impact

Short Term	Long Term
Goal 4, Purpose Establish a pipeline mechanism for improving the representation of women in institutional leadership roles and develop leaders committed to improving the status of women scholars. **Program Goals** a. Develop faculty who will recognize and apply leadership theories and skills to successfully conduct gender equity initiatives on campus b. Develop and deliver faculty mentoring, coaching and sponsorship activities and programs for women and minorities within their departments and colleges c. Recognize equitable workload distribution d. Recognize and reduce gender bias e. Recognize policies which support families	**Faculty** • Enhance faculty mentoring and leadership development (a & b) • Increase the recruitment and retention of women and minorities (b & d) • Cultivate campus climate and institutional culture by raising awareness and reducing bias (d) • Promote equitable workload distribution (c) • Champion family friendly policies (e) **University** • Transformational change • Sustainable ongoing faculty mentoring programs

Program Evaluation

Who	What	How	Output
Cohort members	Participation rate; Satisfaction with program activities	Survey	Attendance Satisfaction Scores Interviews
Cohort members Others	Given common scenarios, Cohort members will (a) (d) identify the leadership skills needed to facilitate gender equity and mitigate gender bias (c) (e) identify and facilitate solutions to address equitable workload distributions and those which support families.	Case studies/ Pre & post leadership surveys	Gain scores
Cohort members Exe Mentor	(a) Satisfaction with hierarchical mentoring	Monthly Survey	Satisfaction Scores Interviews
Cohort members	(a) Spring 2017, Department Mentoring Plan	Plan	Dept. Mentoring Plans
Dept. Faculty	(b) Execute department mentoring participation agenda/ attendance	Documents	Attendance Agenda
Dept. Faculty	Satisfaction with mentoring	Survey/ Observation	Satisfaction Scores
Colleges	Department/ College Mentoring Plan	Plans '18/'19	Dept./ College Mentoring Plans

The program would be conducted on campus, in-person, and facilitated by Minerva, who would continue as the program lead and facilitate and instruct all but contracted (sourced from an external vendor and require project funding) sessions thus ensuring the program would stay within budget. A face-to-face on campus program would help stretch the budget as participants would not have to incur

any travel costs and not add the burden of traveling to participants already demanding academic and personal responsibilities.

Both hierarchical and peer mentoring would be included, and the program was to expose participants to various types of mentoring – group, network and zone, so participants could choose the mentoring structure(s) that best meets their individual and department and/or college's needs. Because the initiative did not want to add to faculty workload, all professional development activities would need to take place during normal business hours, and occur when undergraduate and graduate classes were not in session.

It was not enough to determine what the gap in performance was, it was also necessary to determine the cause. The cause analysis determines what is lacking in individuals and the environment that is driving the performance gap. The advisory group, faculty administrators, and the program proposal indicated there were few opportunities for tenured faculty to avail themselves of formal mentoring and networking across the university's colleges. There was a recent, one-year faculty-mentoring program initiated by the faculty senate, and the president's annual, invitation only, leadership development program. In short, faculty mentoring at the university was exclusive or "hit or miss". Further, there was no single entity responsible for mentoring and leadership development of professors aspiring to faculty ranked leadership roles. With the vision of the program – both strategic and performance improvement drivers established, the next phase of the human performance technology process, which determines the solutions appropriate to address the performance gaps follow are discussed next.

Questions

- Based on the Performance Analysis, what approach would you take to determine intervention selection, design and development?
- What do you think of Minerva's approach to establish a gender equity versus a "mini MBA" leadership development curriculum? Why or why not?

Intervention Selection, Design, and Development

Minerva's next steps were to address the findings from the gap analysis and determine appropriate solutions. Such solutions, also known as interventions, are many and varied. The interventions selected that were deemed most appropriate for this initiative were learning (instruction and a learning management system), and the human resource development interventions of personal development (mentoring), individual growth (360 degree appraisal, competencies and competency testing), and organizational growth (leadership development and career paths) (Van Tiem et al., 2012). Minerva began by focusing on personal development and learning interventions, then organizational growth.

Beginning with the end in mind, the program first sought to develop faculty through mentoring, second, enable faculty to plan mentoring programs for the departments and colleges, and third, deliver mentoring to faculty. Instruction was sought which would support this trifecta of goals. Based on feedback from the program's advisory group, Minerva decided on an experience, design, and delivery approach to mentorship. In the experience component, participants would be provided with the definition and description of mentoring, a discussion of its benefits; the role(s) of the mentor and protégé, the types of mentoring – group, network and zone; implementing a mentoring program; and, mentoring practice. To gain experience in mentoring, cohort members were to be matched in dyads as a protégé with an executive mentor and join peer mentoring groups. As mentoring is a set of knowledge, skills and behaviors, a

competency approach was used to assess participants' current and future knowledge with pre and posttests. Information on these evaluation components are discussed in detail in the evaluation phase of this case.

To accomplish the second end goal of being able to design a mentoring program, participants would be expected to create a mentoring plan during the first semester of the program for their college and/or library at the university. The intent was to inform participants, in the program's mentoring curriculum, and have them practice different mentoring approaches so participants would be able to design a program for their respective university unit. For the third goal— delivery, participants would implement their mentoring plans in the second semester. Implementing the mentoring plans would be the participants' service project for the mentoring and leadership development program. The mentoring projects were to be the vehicles through which program participants would practice leadership and further build their mentoring competencies. A lead program participant was to be responsible for each college's or library's mentoring plan. Eight leads or one per college and library were selected overall.

To address these goals, mentoring curriculum was planned for four of the five, first semester program sessions. After the half-day program kick off (session one), the next (session two) would be a custom, 1-day mentor training session with a 1-hour training session for executive mentors. The goals of this training were to: describe the types of mentoring and best practices in conducting mentoring sessions in higher education and science, technology, engineering, and mathematics fields along with mixed gender mentoring; practice one on one, peer, and network mentoring; and, discuss how to determine a unit's mentoring needs and what a successful mentoring plan at the unit level would include. During the third session, participants would practice peer mentoring using formal guides. Network mentoring (fourth session) and zone mentoring (fifth session) would round out the planned mentoring curriculum.

At the beginning of this program, participants were placed in hierarchical mentoring dyads and matched with an executive mentor- the Provost or one of his direct reports – Deans, Directors, Associate Provost etc. Minerva and the ADVANCE Executive Director made matches based on preferences identified by the protégé. These dyads would be asked to meet once a month for an hour for the program's duration. Protégés would develop mentoring goals and work with the mentor to accomplish them.

In addition to hierarchical mentoring, there were also plans for cohort members to participate in peer mentoring during the first three program sessions. As planned, cohort members would engage in peer facilitation and then placed in small groups with a rotating peer facilitator and process activities to discuss gender equity or other issues. Further, the plan was for informal group mentoring to take place during lunch. Prior to each session, lunch would be provided to participants and executive mentors were invited to attend. At their tables, an informal mix of executive mentors and program participants met over eight of nine sessions. The additional dividends protégés derived from executive mentors and guest speakers were being provided with role models and career path information that they could use to explore leadership opportunities at the university.

In addition to the mentoring curriculum, Minerva planned leadership development curriculum in which cohort members would participate. The different instructional methods described included case studies, role playing, computer simulation, reflective practices, individual and group "homework" projects, guest speakers and interactive panel discussions (DeFrank-Cole et al., 2015; Levine et al., 2015; O'Bannon, Garavalia, Renz & McCarther, 2010; Margherio et al, 2016). These learning interventions involved gaining feedback on their leadership competencies by providing 360-degree feedback, information of their communication style and how to interact with those with different styles, case studies on negotiation and conflict management to mitigate second generation bias, work-life balance, managing

change, and gender equity leadership, and other curriculum. For more information on the leadership component curriculum, associated with this initiative refer to Sims et al., 2020.

Minerva, the university's ADVANCE executive board and the program's advisory group recognized that additional resources were necessary to implement this program. Working with Minerva's college, the board was able to procure a 20-hour a week graduate research assistant (a doctoral student) who would assist with: set up the program's application dossiers, learning management system, purchase of materials, administering evaluations, invitation of guest speakers, and session implementation. In addition, the ADVANCE administrative coordinator for the university was responsible for room setup, procuring and copying instruction, distributing communications, and associated with the university's ADVANCE initiative. Now that Minerva had selected, designed and developed the interventions necessary to address the performance gaps and goals and procured personnel, she set about implementing her plans.

Intervention Implementation and Change

The fourth human performance technology phase, intervention implementation and maintenance, was where program implementation and communication planning occurred. Minerva knew that in order to realize the goals of the program, successful implementation had to occur. She would need to collaborate with members from the Provost's office, the ADVANCE executive board, and the program's advisory group, to implement this initiative. The good news was the Provost's office and the university's ADVANCE executive board owned the mentoring and leadership program, so they had "skin in the game".

In promoting the new program, the provost's office approved and distributed communications to faculty and leadership at the department/ college/ library. Members of the university's ADVANCE executive board visited each college's dean and/ or leadership team to describe the new mentoring and leadership development program and asked them to identify individuals to participate. Direct emails were sent to targeted faculty, women and minority, asking them to participate. In addition, members of the university's ADVANCE executive board, personally solicited faculty to become program participants. Finally, potential faculty participants were recruited via the communication efforts. Faculty applied to the program by submitting their vitae, their rationale for applying to the gender equity mentoring and leadership development program, and a letter of support from their department chair to the Interfolio system usually used for job applications.

The program consisted of two, one-day sessions which kicked off the program and concluded the program and seven, half-day Friday sessions, from 1 to 4 P.M., from the month of October through April during the 2017/8 academic year. Lunch and break refreshments were provided to program participants, guests and executive mentors. Minerva, the program lead, facilitated each session, and the administrative and graduate assistants coordinated and attended each session.

When implemented, 28 faculty members, from 22 of 40 departments and all seven colleges and the library, participated in the inaugural mentoring and leadership development program. As envisioned, most of the program participants were women (71%) with several men (29%). The participants described themselves as 40 to 49 years of age (57%), married (79%), white (79%), with children in the home (72%). In addition, all but one participant had a doctorate (93%), and the largest group were Associate Professors (43%). Most indicated they had extensive to very extensive mentoring experience (78%) (see Table 1).

After each session, participants completed a satisfaction survey (Kirkpatrick's level 1, reaction). Additionally, participants were invited to access a mentoring and other surveys, not addressed in this research case study, for T1 (Fall 2017) and T2 (Spring 2018) via Qualtrics, a commercial survey administration

website (Kirkpatrick's level 2, learning). Survey completion was monitored, and follow-up emails were made to those who had not completed the survey, as these assessments were available for 30 to 60-day period. As the subjects in this study were tenured faculty at a Carnegie level one research institution of higher education, Fleming, House, Hanson, Yu, Garbutt, McGee, Kroenke, Abedin, and Rubio's (2013) research scholar instrument - mentoring competency assessment self-rater, was employed. The mentoring competency assessment consists of 26 items and six subscales. Finally, during spring 2018 (n=18), program participants took part in individual in-person or virtual sessions using a semi-structured interview protocol (Kirkpatrick's level 3, behavior).

Table 1. Leadership and Mentoring Experience Mean and Frequency

	Mentoring Experience	
	T1	**T2**
Count	n=26	n=15
Mean	3.90	3.80
Standard deviation	.68	.86
Very Extensive (5)	5	4
Extensive (4)	14	4
Neither Extensive or Limited (3)	7	7
Limited (2)	0	0
Very limited (1)	0	0
Missing	2	13
Total	28	28

Evaluation

The expectation from the university's ADVANCE internal and external advisory board, as well as the ADVANCE internal and external evaluators was that this initiative needed to provide evidence on whether or not it met its goals. Thus, Minerva planned the evaluation, the fifth phase of human performance technology, with her stakeholders and opted for a robust approach to evaluation. Minerva decided upon implementing the human performance technology components of formative, summative, and confirmative, guided by the logic model, as well as to employ Kirkpatrick's four levels of evaluation. The formative evaluation was addressed during these phases – performance analysis, selections design development, and implementation and maintenance, and consisted of determining ways to improve the quality of the program as it sought to ensure the program was consistent with the university's strategic and performance plans (Van Tiem et al., 2012). Feedback on the program plans came from strategic plan designed by the stakeholders – the university's ADVANCE executive board, the program's advisory group, the external ADVANCE reviewers, and potential participants from the target audience. The summative evaluation collects feedback from program participants and includes Kirkpatrick's levels one (reaction) and two (knowledge gain) evaluation phases, which will be discussed shortly (Kirkpatrick & Kirkpatrick, 2005). When the program seeks to determine the impact of the program on participants, confirmative evaluation

is said to occur. Kirkpatrick's level 4, results, is one way to assess confirmative evaluation. As the logic model was discussed prior, we turn our attention to Kirkpatrick's four levels of evaluation.

Kirkpatrick's Level 1, Learner Satisfaction

We asked participants after each of ten program sessions to complete a satisfaction survey. The number of participants who responded ranged from a low of four to a high of 21. Due to an initial low web response rate, we provided paper surveys during class sessions and collected them immediately upon session completion. Providing hard copy surveys increased the return of the instructional satisfaction surveys. Scores were converted from a mean to a percentage. The satisfaction of the instruction ranged from a low of 76% to a high of 87%. Some scores were tied and received the same ranking (see Table 2). Based on this question, "please rate your overall satisfaction with the instruction", the mentoring instructions with the lowest to highest scores were: program finale/ mentor (others) (86.6%), network mentoring (others) (78.6%), and mentoring (self) (76%). Overall, most topics were well received with scores of 80% or better indicating participants rated this session good to very good.

Table 2. Program Instruction Satisfaction Ratings

Date	Instruction	No.	Score	Percent	Rank
9/15	Leader gender bias, case study	5	4.2/5	84%	3
9/22	Mentoring (self), custom workshop	20	3.8/5	76%	7
10/26-27	ADVOCATE Training, custom workshop	score not available			
11/10	Transformation leadership & behavior communication styles	10	5.3/7	75.7%	7
12/8	Network Mentoring (others), custom workshop	4	5.5/7	78.6%	6
1/12	Leading a culture of inclusion & equity, custom workshop	14	5.8/7	82.7%	5
2/2	Leading and managing change in higher education, case study	9	6.0/7	85.7%	2
3/16	Negotiation and conflict management to mitigate 2nd generation bias, case study	13	5.85/7	83.5%	4
4/6	Promoting and leading equitable workload, case study	11	6.0/7	85.71%	2
5/14	Program Finale/ Mentoring (others), custom workshop	17	6.06/7	86.6%	1

Note: Grayed out rows are leadership curriculum not discussed in this research

Kirkpatrick's Level 2, Learning

While all 28-program participants completed the pretest (T1), only a subset of 14 completed the post-test (T2) (see Table 3). For survey participants, the pretest (T1) mean score where 1 – not at all skills, 4 = moderately skilled, and 7 = extremely skilled, for all 26 items on the mentoring competency assessment was 5.23, and the subscales ranged from a low of 5.05, aligning expectations, and promotion professional

development (5.07) to a high of fostering independence (5.46) and maintain effective communication (5.39). At T2, the mean score for all items changes to 5.54 and the subscales ranged from the lowest score of for aligning expectations (5.18) and addressing diversity (5.18) to a high score of assessing understanding (5.95) and fostering independence (5.7).

When comparing the overall mentoring competency gained across all subscales, the average was 6% from T1 to T2. At the mentoring subscale level, participants change, from least to most, were as follows: addressing diversity (0%), aligning expectations (3%), maintaining effective communication (5%), fostering independence (5%), promoting professional development (8%), and assessing understanding (15%).

Kirkpatrick's Level 3, Behavior

To assess participants' ability to apply what they learned from the program, 18 program participants answered these questions: How would you describe mentoring before the program? Now that you have completed the program, how do you describe mentoring? and What does successful mentoring means to you? Based on analyzing their responses, we determined the program: helped refresh and expand participants' definition of mentoring, provided them with criteria by which they could determine whether mentoring was successful, and enabled participants to identify mentoring strategies.

Kirkpatrick's Level 4, Results.

Ultimately, the program's purpose was to design and implement a faculty mentoring program within their department and/or college and establish a cadre of mentors. All (100%) of the colleges and the library had a mentoring program developed. The university decided to move the mentoring function from the individual responsibility of program participants, to a task force, and ultimately transition it to the Provost's office. Hence, the participants designed mentoring programs for their units, but not all implemented them. In addition, eight out of 28 (28%) participants from the initial cohort agreed and performed as executive mentors for the next cohort

Change Management

Change management is the last phase discussed but is omnipresent in all human performance technology (Van Tiem et al., 2012). Every phase implemented in this case study clearly included change efforts that were designed to be adaptive. Data from the performance analysis drove the intervention selection design and development phase, as well as the interventions implemented. Further, the robust evaluation strategy informed the change management process by employing formative and summative, evaluation, which, enabled the program to pivot as new information became available and circumstances changed. Therefore, enabling the program administrators to reimagine the program as it was implemented.

Specific instances the program lead and stakeholders had to manage were what was planned versus what happened. For example, regarding program enrollment and participant attendance, it was difficult to get tenured faculty to participate at the desired rate of one faculty member per department. The program initially sent out a memo with reminders to women and minority tenured faculty and followed up with department chairs and deans. In the end, members of the university's ADVANCE executive board and the program director recruited through personal contacts 28 cohort members from all seven colleges and the library representing 22 out of 40 departments. We found that many of the cohort members had

Table 3. Demographic Variables, Mentoring Scale and Subscales

	T1			T2			T2 minus T1	
	Fall 2017			Spring 2018				
	N	Mean	SD	N	Mean	SD	Mean Change	Percent
Title	28	2.82	2.6	21	2.95	2.84	0.13	5%
Gender	28	n/a		21	n/a		n/a	
Age	28	2.93	.66	21	1.71	0.46	-1.22	-42%
Race/ Ethnicity	28	5.57	1.10	21	5.71	0.96	.014	3%
To what extent have you mentored others?	26	2.08	0.68	15	2.2	0.86	0.12	6%
Mentoring All (1-26)	24	5.23	0.79	14	5.54	0.49	0.31	6%
Maintaining effective communication (1-6)	24	5.39	0.74	14	5.64	0.54	0.25	5%
Aligning expectation (7-11)	24	5.05	1.05	14	5.18	0.66	0.13	3%
Assessing understanding (12-14)	24	5.19	1.18	14	5.95	0.81	0.76	15%
Fostering independence (15-19)	24	5.46	0.97	14	5.71	0.80	0.25	5%
Addressing diversity (20-21)	24	5.16	1.05	14	5.18	0.99	0.02	0%
Promoting professional development (22-26)	24	5.07	1.06	14	5.5	0.61	0.43	8%

other obligations, several were not able to attend all the sessions as requested. To reduce the workload of participating in a mentoring and leadership development program, we asked their department chairs to provide them with a course release during their program participation. Very few cohort members received release time, so their program participation was on top of their other teaching, research and service responsibilities.

Another big change we managed was not having program participants implement mentoring in their department or college during the second semester as planned. Program participants wanted additional targeted training on executing a mentoring plan, and asked for and were provided a second, half-day, custom mentoring session by an external mentoring expert. Program participants did not feel that they could develop a college mentoring plan in just one semester, so we agreed to push back the delivery of the mentoring plan to the end of the second semester of the program. In the morning of the last session, the lead program participant from each college presented their plan for implementing mentoring within their department and or college.

Current Challenges Facing the Organization

In summary, this case is appropriate for those seeking guidance on how to plan, design, implement and assess a gender equity mentoring and leadership development program, and how to facilitate mentoring in a complex organization. As this case focuses on a program at a university, it is at the group level of analysis and is a summary of the year planning the program and its first-year implementation.

There were several challenges the organization faced in implementing a gender-equity mentoring and leadership development program with the biggest one was being overly ambitious. It is likely the program was too aggressive in the amount of program content we wanted to address, the outcomes expected from

participants, and the amount of effort associated with administering and facilitating this program. First, participants expressed "whiplash" at bouncing back and forth between mentoring and leadership topics within and across nine sessions. They wanted to focus on mentoring and leadership but not both at the same time. As a result, in the second year of the program we focused solely on experiencing mentoring – hierarchical and peer. We did not address designing and implementing a mentoring program until the last program session.

In hindsight, the program was too ambitious in its initial goals – to provide mentoring as well as design and deliver mentoring for departments and colleges. During the performance analysis phase, instead of taking the goal as a fait accompli, Minerva should have pushed back and collected feedback on the feasibility of initiating the program laid out in the proposal document. This was reasonable approach since the individuals who designed the program did not have a background in mentoring and leadership development, so they had no idea whether their programs goals were SMART – specific, measurable, attainable, realistic and time bound (Rubin, 2002). Also, in the intervention, selection and design phase, the project would have benefited from conducting a piloting in one or two departments/ colleges before rolling out the initiative across the university. These steps would have provided valuable feedback and helped ensure the initiative was accomplishable as designed.

Second, we thought we could rectify mentoring inequities in one year. We expected busy faculty to learn and plan a mentoring program in one semester and implement it in the next semester. Program participants expressed that our expectations were unrealistic and asked for a full year with additional mentoring instruction to develop mentoring plans for their colleges. Lack of faculty release time contributed to faculty not being able to devote the time necessary to develop and conduct the planned mentoring implementation in their university unit. Getting faculty release time to participate in the mentoring and leadership project continues to be an ongoing issue. We're hoping moving up faculty recruitment to the Spring will enable faculty to be proactive with these negotiations before their schedules are fixed for the fall. We also want to formalize the credit faculty get for service by participating in this program and conducting mentoring and leadership gender-equity projects.

Despite the release time issues, to their credit, most of the college leads subsequently joined a task force led by members of the university's ADVANCE executive board to coordinate and draft a coherent mentoring strategy across all colleges. The task force's goal was to institutionalize mentoring and it was agreed that the Office of the Provost for Faculty Affairs would take responsibility for mentoring. This approach would ensure that there were adequate resources and administration to support mentoring as well as build in mentorship accountability at the executive level for each college. Moreover, we propose ultimately to have a dedicated paid coordinator to administer mentoring across the colleges. Further, it was proposed to provide an annual award for mentorship excellence at the university level to raise the profile of mentoring so mentoring becomes more embedded and rewarded within university faculty culture.

The last big challenge from the program was the much more than anticipated amount of time it took to administer and facilitate the program. The program added a co-lead in the second year of the program to help balance the time commitment. In the third year, the program created a third co-lead to be an understudy to prepare them to facilitate the program for next year's cohort. We are also developing a train the trainer guide so someone without a formal background in leadership can facilitate and administer the program. Thus, the university plans to institutionalize the program and conduct it annually. We consider this a success.

This initiative was designed and conducted in the field of higher education. This case was informed by programs within and outside of academia, moreover, mentoring occurs across industries; thus it is likely organizations in other industries would benefit from this mentoring and leadership development case study especially those which focus on gender equity (Banerjee-Batist et al., 2019; DeFrank-Cole et al., 2016; Ely et al., 2011; etc.).

SOLUTIONS AND RECOMMENDATIONS

This case provides a blue print human resource development practitioners can follow to implement a gender equity-mentoring and leadership development program. The curricula in this program introduced a variety of mentoring models and provided practice in hierarchical, group and peer mentoring. Though planned, this program was not able to provide participants with practice performing career mentoring of others. This program's evaluation was guided by human performance technology, logic models, and Kirkpatrick's four levels and reflects a robust mixed method evaluation approach, went well beyond standard participant satisfaction ratings and provided demonstrable proof knowledge was gained and attitudes and behavior enacted. In closing, this intervention was derived out of national and organizational need, for gender-equity in career advancement. We hope this case inspires practitioners and researchers to consider using the human performance technology framework, logic models, and Kirkpatrick's four levels of evaluation to guide the implementation and assessment of mentoring development programs to bring about meaningful change and transform the leadership landscape to one of gender-equity in higher education and workplaces everywhere.

ACKNOWLEDGMENT

Partial support for this work was provided by the National Science Foundation's ADVANCE NSF project -1629934. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.

REFERENCES

Alleman, E., Cochran, J., Doverspike, J., & Newman, I. (1984). Enriching mentoring relationships. *The Personnel and Guidance Journal*, *62*(6), 329–332. doi:10.1111/j.2164-4918.1984.tb00217.x

Bailyn, L. (2003). Academic careers and gender equity: Lessons learned from MIT 1. *Gender, Work and Organization*, *10*(2), 137–153. doi:10.1111/1468-0432.00008

Ballenger, J. (2010). Women's Access to Higher Education Leadership: Cultural and Structural Barriers. Forum on Public Policy Online, 2010(5).

Banerjee-Batist, R., Reio, T. G. Jr, & Rocco, T. S. (2019). Mentoring functions and outcomes: An integrative literature review of sociocultural factors and individual differences. *Human Resource Development Review*, *18*(1), 114–162. doi:10.1177/1534484318810267

Bichelmeyer, B. A., & Horvitz, B. S. (2006). Comprehensive performance evaluation: Using logic models to develop a theory-based approach for evaluation of human performance technology interventions. In J. A. Pershing (Ed.), *Handbook of Human Performance Technology* (pp. 1165–1189). San Francisco, CA: Pfeiffer-Wiley & Sons, Inc.

Bierema, L. L., & Hill, J. R. (2005). Virtual mentoring and HRD. *Advances in Developing Human Resources*, *7*(4), 556–568. doi:10.1177/1523422305279688

Boulmetis, J., & Dutwin, P. (2011). *ABCs of evaluation: Timeless techniques for program and project managers*. San Francisco, CA: Jossey-Bass.

Chesler, N. C., & Chesler, M. A. (2002). Gender-informed mentoring strategies for women engineering scholars: On establishing a caring community. *Journal of Engineering Education*, *91*(1), 49–55. doi:10.1002/j.2168-9830.2002.tb00672.x

Christensen, C., Cormack, E., & Spice, B. (2011). Evaluating leadership development in an academic program. *Performance Improvement*, *50*(1), 9–16. doi:10.1002/pfi.20188

Chun, J. U., Sosik, J. J., & Yun, N. Y. (2012). A longitudinal study of mentor and protégé outcomes in formal mentoring relationships. *Journal of Organizational Behavior*, *33*(8), 1071–1094. doi:10.1002/job.1781

Clark, R. C. (2006). Evidence-based practice and professionalization of human performance technology. Handbook of Human Performance Technology, 873-898.

Cullen, D. L., & Luna, G. (1993). Women mentoring in academe: Addressing the gender gap in higher education. *Gender and Education*, *5*(2), 125–137. doi:10.1080/0954025930050201

De Janasz, S. C., Sullivan, S. E., & Whiting, V. (2003). Mentor networks and career success: Lessons for turbulent times. *The Academy of Management Perspectives*, *17*(4), 78–91. doi:10.5465/ame.2003.11851850

De Vries, J., Webb, C., & Eveline, J. (2006). Mentoring for gender equality and organisational change. *Employee Relations*, *28*(6), 573–587. doi:10.1108/01425450610704506

DeFrank-Cole, L., Latimer, M., Neidermeyer, P. E., & Wheatly, M. G. (2016). Understanding " why" one university's women's leadership development strategies are so effective. *Advancing Women in Leadership Journal*, *36*, 26–35.

Dessinger, J. C., Moseley, J. L., & Van Tiem, D. M. (2012). Performance improvement/HPT model: Guiding the process. *Performance Improvement*, *51*(3), 10–17. doi:10.1002/pfi.20251

Dickson, J., Kirkpatrick-Husk, K., Kendall, D., Longabaugh, J., Patel, A., & Scielzo, S. (2014). Untangling protégé self-reports of mentoring functions: Further meta-analytic understanding. *Journal of Career Development*, *41*(4), 263–281. doi:10.1177/0894845313498302

Directorate-General. (2016). *She Figures 2015: Gender in Research and Innovation.* Luxembourg: European Commission. doi:10.2777/744106

Ely, R. J., Ibarra, H., & Kolb, D. M. (2011). Taking gender into account: Theory and design for women's leadership development programs. *Academy of Management Learning & Education*, *10*(3), 474–493. doi:10.5465/amle.2010.0046

Ely, R. J., & Meyerson, D. E. (2000). Advancing gender equity in organizations: The challenge and importance of maintaining a gender narrative. *Organization*, *7*(4), 589–608. doi:10.1177/135050840074005

Feldman, M. D., Steinauer, J. E., Khalili, M., Huang, L., Kahn, J. S., Lee, K. A., ... Brown, J. S. (2012). A mentor development program for clinical translational science faculty leads to sustained, improved confidence in mentoring skills. *Clinical and Translational Science*, *5*(4), 362–367. doi:10.1111/j.1752-8062.2012.00419.x PMID:22883616

Fleming, M., House, S., Hanson, V. S., Yu, L., Garbutt, J., McGee, R., ... Rubio, D. M. (2013). The mentoring competency assessment: Validation of a new instrument to evaluate skills of research mentors. *Academic Medicine*, *88*(7), 1002–1008. doi:10.1097/ACM.0b013e318295e298 PMID:23702534

Fowler, C. A. (2019). *Nevertheless, She Persists: Women Leadership in Higher Education* (Doctoral dissertation). Ohio University.

Gilbert, T. F. (1978). *Human competence: Engineering worthy performance*. New York, NY: McGraw-Hill.

Gilmore, E. R., & Pershing, J. (2001). *Don't miss! Identify all causes of that performance gap: A review of literature supporting a refinements of Wile's HPT model.* Paper presented at the annual meeting of the International Society for Performance Improvement, San Francisco, CA.

Hashemi, N., Karami, M., Ahanchian, M. Z., & Chevalier, R. (2018). Applying human performance technology for performance improvement in Afghanistan high schools. *Performance Improvement*, *57*(3), 34–45. doi:10.1002/pfi.21765

Hezlett, S. A., & Gibson, S. K. (2007). Linking mentoring and social capital: Implications for career and organization development. *Advances in Developing Human Resources*, *9*(3), 384–411. doi:10.1177/1523422307304102

Houston, M. J. (2019). Faculty mentoring programs at academic institutions: A systematic literature review and suggestions for future mentoring programs. *International Journal of Engineering Technologies and Management Research*, *6*(10), 24–30. doi:10.5281/zenodo.3497478

Jones, B. (2016). ADVANCE Proposal to the National Science Foundation (note for anonymity purposes, this title was modified).

Kirkpatrick, D. L., & Kirkpatrick, J. D. (2005). *Transferring learning to behavior: Using the four levels to improve performance* (1st ed.). San Francisco, CA: Berrett-Koehler.

Knoeppel, R. (2017). Zone Mentoring in the College of Education. Presentation to the Trailblazers Mentoring and Leadership Development, Clemson, SC.

Laursen, S., & Rocque, B. (2009). Faculty development for institutional change: Lessons from an ADVANCE project. *Change: The Magazine of Higher Learning*, *41*(2), 18–26. doi:10.3200/CHNG.41.2.18-26

Levine, R. B., González-Fernández, M., Bodurtha, J., Skarupski, K. A., & Fivush, B. (2015). Implementation and evaluation of the Johns Hopkins University School of Medicine leadership program for women faculty. *Journal of Women's Health*, *24*(5), 360–366. doi:10.1089/jwh.2014.5092 PMID:25871739

Lincoln, J. R. (1995). Book review—Walter W. Powell & Paul DiMaggio (Eds.): The new institutionalism in organizational research. Social Forces, 73, 1147-1148.

Maack, M. N., & Passet, J. E. (1994). *Aspirations and mentoring in an academic environment*. Westport, CT: Greenwood Press.

Madsen, S. (2011). Women and leadership in higher education: Current realities, challenges, and future directions. *Advances in Developing Human Resources*, *14*(2), 131–139. doi:10.1177/1523422311436299

Madsen, S. R. (2012). Women and leadership in higher education: Learning and advancement in leadership programs. *Advances in Developing Human Resources*, *14*(1), 3–10. doi:10.1177/1523422311429668

Mager, R. F. (2006) Foreword to the Second Edition. Handbook of Human Performance Technology, xxxvii-xliv.

Margherio, C., Horner-Devine, M. C., Mizumori, S. J., & Yen, J. W. (2016). Learning to thrive: Building diverse scientists' access to community and resources through the BRAINS Program. *CBE Life Sciences Education*, *15*(3ar49), 1–12. doi:10.1187/cbe.16-01-0058 PMID:27587858

Marrelli, A. F. (2007). Collecting data through case studies. *Performance Improvement*, *46*(7), 39–44. doi:10.1002/pfi.148

Meyerson, D., & Tompkins, M. (2007). Tempered radicals as institutional change agents: The case of advancing gender equity at the University of Michigan. *Harvard Journal of Law & Gender*, *30*, 303–322.

Michigan University, College of Literature, Science and the Arts. (n.d.). *Career Advising (Mentoring), Zone mentoring/advising*. Retrieved December 13, 2019: from https://lsa.umich.edu/lsa/faculty-staff/academic-affairs/career-advising--mentoring-.html

Mysyk, N. F. (2007). Woman, manager, mentor: The development of women mentors. *International Journal of the Humanities*, *5*(1), 51–59. doi:10.18848/1447-9508/CGP/v05i01/58232

National Academies of Sciences, Engineering, and Medicine. (2019). *The Science of Effective Mentorship in STEMM.* Washington, DC: The National Academies Press. doi:0.17226/25568

O'Bannon, D. J., Garavalia, L., Renz, D. O., & McCarther, S. M. (2010). Successful leadership development for women STEM faculty. *Leadership and Management in Engineering*, *10*(4), 167–173. doi:10.1061/(ASCE)LM.1943-5630.0000080

Office of Institutional Research. (2018). *Fact Sheet 2017.* Clemson: Clemson University. Retrieved from Office of Institutional Research, Data and Reports: http://www.clemson.edu/institutional-effectiveness/documents/oir/minis/F17FactSheet.pdf

Richman, R. C., Morahan, P. S., Cohen, D. W., & McDade, S. A. (2001). Advancing women and closing the leadership gap: The Executive Leadership in Academic Medicine (ELAM) program experience. *Journal of Women's Health & Gender-Based Medicine*, *10*(3), 271–277. doi:10.1089/152460901300140022 PMID:11389787

Rockquemore, K. A. (2017). Building a network of mentors after you receive tenure. *Inside Higher Education*. https://www.insidehighered.com/advice/2017/10/25/building-network-mentorsafter-you-receive-tenure-essay

Rossett, A. (1999). Analysis for human performance technology. In *Handbook of Human Performance Technology* (2nd ed., pp. 139–162). San Francisco, CA: Jossey-Bass/ Pfeiffer.

Roy, K. (2014). Why we need gender equity now. *Forbes Women.* Retrieved December 18, 2019, from https://www.forbes.com/sites/ellevate/2017/09/14/why-we-need-gender-equity-now/#72be1f4c77a2

Santora, K. A., Mason, E. J., & Sheahan, T. C. (2013). A Model for Progressive Mentoring in Science and Engineering Education and Research. *Innovative Higher Education*, *38*(5), 427–440. doi:10.100710755-013-9255-2

Sims, C. F., DePeralta, H., & Brown, S. (2020). Furthering women faculty in leadership roles – A human performance technology intervention research case study. Manuscript submitted for publication, Department of Human Resource Development, Clemson University, Clemson, SC.

Sorcinelli, M. D., & Yun, J. (2007). From mentor to mentoring networks: Mentoring in the new academy. *Change: The Magazine of Higher Learning*, *39*(6), 58–61. doi:10.3200/CHNG.39.6.58-C4

Spitzer, D. (1992). The design and development of effective interventions. In Handbook of human performance technology: A comprehensive guide for analyzing and solving performance problems in organizations (pp. 114-129). San Francisco, CA: Jossey-Bass.

Sturm, S. (2006). The architecture of inclusion: Advancing workplace equity in higher education. *Harvard Journal of Law and Gender*, *29*, 248–334.

Sturm. (2007). Conclusion to responses the architecture of inclusion: Interdisciplinary insights on pursuing institutional citizenship. *Harvard Journal of Law and Gender*, *3*, 409-424.

Suddaby, R. (2010). Challenges for institutional theory. *Journal of Management Inquiry*, *19*(1), 14–20. doi:10.1177/1056492609347564

Thomas, N., Bystydzienski, J., & Desai, A. (2014). Changing institutional culture through peer mentoring of women STEM faculty. *Innovative Higher Education*, *40*(2), 143–157. doi:10.100710755-014-9300-9

U.S. National Science Foundation. (2009). *ADVANCE: Increasing the Participation and Advancement of Women in Academic Science and Engineering Careers (ADVANCE) Program Solicitation*. NSF 12-584. https://www.nsf.gov/pubs/2012/nsf12584/nsf12584.htm

Van Tiem, D. M., Moseley, J. L., & Dessinger, J. C. (2012). *Fundamentals of Performance Improvement* (3rd ed.). San Francisco, CA: Pfeiffer, Wiley & Sons Inc.

Williams, J. L., Molloy Elreda, L., Henderson, L. J., Deutsch, N. L., & Lawrence, E. C. (2019). Dyadic connections in the context of group mentoring: A social network approach. *Journal of Community Psychology*, *47*(5), 1184–1196. doi:10.1002/jcop.22180 PMID:30852850

APPENDIX: CLASSROOM CASE STUDY QUESTIONS

1. Compare and contrast the traditional and contemporary definitions of mentorship:
   a. Traditional mentorship - a one on one relationship where someone in a more senior role provides guidance to someone with less experience
   b. Contemporary mentorship is "a professional, working alliance in which individuals work together over time to support the personal and professional growth, development, and success of the relational partners though the provision of career and psychosocial support" (National Academies of Sciences, Engineering, and Medicine, 2019, p. 2).

What is common and different between these two definitions of mentoring?

2. Describe the different types of mentoring structures (hierarchical, group, peer, network and zone). What type of mentoring have you experienced personally? What type of mentoring is used in your organization?
3. Based on the different mentoring structures (hierarchical, group, peer, network and zone), select a mentoring type and describe why that type is more closely aligned with traditional or contemporary definitions of mentorship?
4. Mentorship can be used to achieve a variety of purposes. Using the items listed under Mentorship Strategies and Outcomes, place a check in one of these columns: individual, team or organization. In small groups, compare your responses with others in your group. Based on the case, provide a rationale for why you placed the item in a specific category.
5. Based on this case, please provide arguments why mentorship was appropriate as an organizational change intervention.

Sample answers to Question 4

Individual (a, b, c, d); team (e, f, g, h, I, j, k); organization (l, m, n, o, p, q, r,s)

Table 4.

Mentorship Strategies and Outcomes	Individual	Team	Organization
Career support (a)			
One on one interchange (d)			
Performance management (g)			
Boost productivity and effectiveness (j)			
Career development (m)			
Achievement of strategic goals (p)			
Organizational development (s)			
Networking (b)			
Orientation and on-boarding (e)			
Knowledge and skill transfer (h)			
Group development (k)			
Knowledge management (n)			
Enhance reputation, recruitment and retention (q)			
Emotional/ psychosocial support (c)			
Formal guidance/ feedback (f)			
Cost effective (i)			
Culturalization (l)			
Organizational change (o)			
360 communication (r)			

Chapter 8
Storytelling:
An African Leadership Journey of Performance Improvement Innovation

Lucy Surhyel Newman
Independent Researcher, Nigeria

EXECUTIVE SUMMARY

This case study presents an insight into an African leadership journey over a period of two decades within a professional storytelling format, from 1999 to 2019. It provides an overview of the subject's application of germinal and emerging theoretical concepts in performance improvement innovation, as a female executive of African descent and a working mother. For context, the chapter presents the case study subject's leadership trajectory from early life, with insights to her personal orientation on related issues via an interview with the subject, testimonials, and organizational outcomes of the case study subject's leadership styles. The chapter closes with emerging challenges facing performance innovation practice in Africa, solutions and recommendations for further action, leveraging the case study subject's experience as a performance improvement practitioner. Although the case study presents an African experience, the principles can be explored across cultural and environmental settings, based on this self-application narrative

INTRODUCTION

Tibetan Buddhist monks excel at concentration. They tell a traditional tale about focus called 'The Lion's Gaze', which says; When you throw a ball to a dog, it chases the ball. But when you throw a ball to a lion, it keeps its gaze on you. When we tell a story, our Lion's gaze is one thing – connecting with our audience. (Murray Nossel, 2018. pp.1)

This chapter titled *Storytelling: An African Leadership Journey of Performance Improvement*, presents insights into the leadership journey of a female executive of African descent and a working mother, over a period of two decades from 1999 to 2019. The chapter's 'lion gaze' is to demonstrate practical

DOI: 10.4018/978-1-7998-3673-5.ch008

application of Transformational Leadership and other Performance Improvement Innovations, over a two decades window into the case study subject's leadership journey as a female executive. The unique aspect about this chapter is that the author narrates the case study subject's personal application of concepts and standards to her individual career, as narrated here-in, using a third person professional story telling methodology.

In terms of structure, this chapter starts with an executive summary which provides a broad purpose of the chapter, followed by an introduction which gives a perspective to the chapter by specifically stating the chapter's objectives. For more context, the introduction is followed by a background which gives broad definitions and discussions, incorporating some review of related literature within which the chapter situates concepts. Having set the boundaries via the abstract, introduction and background, the main focus of the chapter discusses issues as applicable to the case, controversies on the subject and problems observed. The chapter then naturally closes with solutions and recommendations for consideration and action for aspired levels of improvement in practice.

The author hopes by presenting the chapter using third person professional storytelling narrative to present the case study's pursuit of meaningful impact and contribution within her sphere of influence as a leader at home, at work and in society, the 'lion gaze' of readers will be that *employees, executives, professional career coaches and emerging performance improvement professionals will find the case study inspiring in planning how to personally apply some of the concepts in their continued aspiration for performance improvement innovation.*

BACKGROUND

Leaders don't move mountains with mountains of data. They do it by giving their audiences a piece of their heart. (Carmine Gallo, 2016. pp.213)

This chapter is a case study on an individual case study subject, using a third person professional story telling format. As such, this background section will start with an overview of the case study subject's early life, education, work life and an interview with the case study subject. Thus, giving the reader an opportunity to strike a personal connection with the case study subject's situation.

Early Life and Education

The subject of this case study was born into an African mixed family of nine [9] siblings. Her Wikipedia profile indicates that she completed sixth grade [called primary level in most of Africa] at Shehu Garbai Primary School and the twelfth grade [called secondary education in most of Africa], at Federal Government College, Kaduna. Figure1 titled *The Case Subject's Leadership Journey* in this chapter, provides a schematic of the case study subject's educational and work progression from the completion of her undergraduate studies to the beginning of her career break to explore new areas, in 2019. As indicated in Figure 1, for her high school or what is referred to in some countries as high school education, she attended the Ahmadu Bello University in Zaria's School of Basic Studies and then proceeded for her undergraduate and postgraduate programs at the Ahmadu Bello University Zaria, in Nigeria. For a tertiary degree, she attended University of Phoenix Arizona, in the United States of America. With her academic journey giving her various areas of focus from financial management at undergraduate level,

international business at master's level and the leadership and performance all within the broader area of business administration, she found performance improvement easy to adapt. Theoretical constructs such as Transformational Leadership, Systems Theory and Adult Learning Theory obtained from her tertiary degree, provided a framing for her leadership journey. Her mixed family and extended family context within the African society, helped her appreciate the Kaufman Mega Thinking concept.

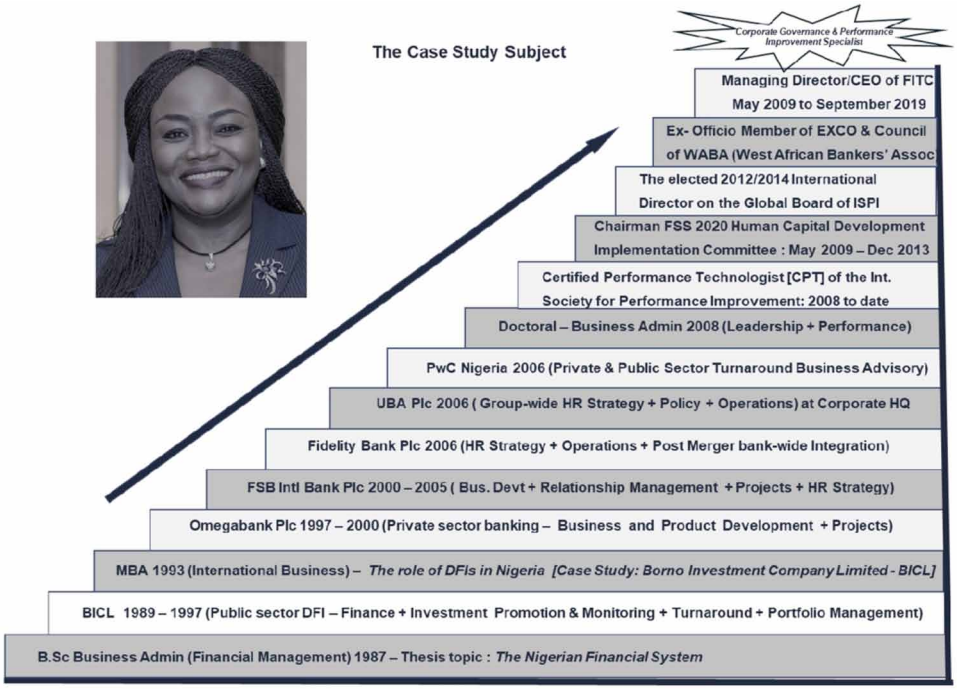
Work Life

In terms of experience and skills, the case study subject has over three decades of industry work and consulting experience that include a State-owned Development Finance Institution in Nigeria, four Nigerian Commercial Banks, one of the '*Global Big four*' Consulting Firms, and the Financial Institutions Training Center. Her experience in Banking and Finance indicates Private and Public Sector Financial Services, as her main professional domain. Prominent amongst which is Development Finance, Banking Strategy, Product Development, Branch Management, Post-Merger and Major Capital Restructuring Integration, appreciation of the role of the Regulator, more specifically the Central Bank and other Regulators within a Financial System. She has over the course of her career played Bank Staff roles, Consultant to Banks and Regulators, as well as Institutional Capacity Improvement Specialist within a Financial System. Her areas of work and consulting experience include Strategy Conceptualization & Implementation, Organizational Diagnostics, Design and Development, Executive Selection, Coaching and Development for Performance. Her work has also included Design & Deployment of Corporate Governance Systems, as well as Director Development, Individual and Systemic Performance Improvement in Stable, Pre and Post Major Capital Restructuring Transactions such as Acquisitions and Mergers, as well as Corporate Turnaround Situations. Most of these areas are within aspirations for corporate and systemic improvement, from entry to the board level. Now on transition to Fifth phase of her professional journey, the case study subject took a career break in September 2019, to launch out in 2020 as an Independent Non-Executive Director on a few Multinational Boards as well as continue practicing as an Independent Performance Improvement Consultant, Policy Advisor and Business Owner.

In terms of client diversity and breadth of experience, the case study subject has consulted for firms across the Financial Services Sector, Regulators in Banking, Insurance, Capital Market, as well as Regulators in Aviation and Health Sectors; International Pharmaceuticals; Conglomerates; Professional Networks & Associations; a Major State Government in Nigeria; Transformation of a former National Fertilizer Company; Private & Public Sector Oil & Gas Entities; Sub Regional Institutions; and two Nigerian Electricity Distribution Companies. Her professional profile therefore, presents a hybrid of Development Finance, Private Sector Banking, Regulation, Consulting and Academic orientation. These exposures have deepened her appreciation of systems theory, as a concept that has multi leveled applicability from individual to corporate, to industry, sector, country, region and global. Her appreciation of systems theory has also enhanced her stakeholder dimensioning capability, which she has found helpful in partnering to deliver improvement opportunities as applicable to the 10 Standards of Performance Improvement and Transformational Leadership.

This background section of the chapter has so far attempted to present the case study subject's professional orientation and leadership journey. The following section will explore underlining theoretical concepts that have helped shaped her leadership perspectives as a performance improvement innovation practitioner, in a developing world.

Figure 1. The case subject's leadership journey



According to Collins (2002) as cited in Newman (2011), "We have learned that the enduring great companies of the 21st century will need to have radically different structures, strategies, practices and mechanisms than in the 20th century, yet the fundamental concepts will become even more important as a framework within which to design the organization of the future" (p.xxi).

Wren's (1994) *Evolutions of Management* as cited in Newman (2008) says;

Within the practices of the past, are lessons of history for tomorrow; a flow of events and ideas that link yesterday, today and tomorrow in a continuous stream. People occupy but one point in this stream of time; and can see the distant past with a high degree of clarity, but as we approach the present, our perspective becomes less clear. The future must be a projection and a tenuous one at best. New ideas, subtle shifts in themes, and emerging environmental events all bring new directions to evolving management thought (p. 427).

In a similar dimension, Fulmer & Goldsmith (2001), in their book *The Leadership Investment* which drew data from the 1998-1999 research studies involving best practice practitioners and 35 organizational sponsors, said; "smart CEOs are making strategic investments in leadership development to ensure that their key executives produce consistent and positive results" (p.2).

Newman (2015), is a case study titled *Branding Beyond Logo and Colors: Case Study of FITC's Evidence Based Transformation.* It presented this case study subject's former organization's evidence-based application of International Society for Performance improvement's 10 Standards of Performance Improvement and theoretical insights from the author's doctoral dissertation to preposition the organization, a special purpose not for profit professional services organization in Africa. The referenced case study

in Newman (2015), provided a five -year snippet into the *Storytelling: An African Leadership Journey in Performance Improvement Innovation* case study subject's first half of a high impact leadership from 2009 to 2014 and there-in, enabled the reader draw personal connections with interventions articulated in the organization. Some of the organizational impacts of the current case study as shared here-in, have their roots in some of the outcomes reported in the Newman (2015) case study. This chapter, titled *Storytelling: An African Leadership Journey in Performance Improvement Innovation* therefore provides a 'behind the scenes' view of the leader that led the organization reported in the Newman (2015) case study, now with a longer-term perspective of two decades from 1999 to 2019, focusing on the leader herself, as the case study subject.

Underlying Theoretical Frameworks and Concepts

The case study subject has found it easy to think in terms of systems, impact and outcomes over the course of her career and especially in the field of performance improvement, based on an appreciation of some theoretical frameworks and concepts that she became aware of at undergraduate, post graduate and tertiary degree levels of education, as well as various executive programs and further developments within the professional network of the International Society for Performance Improvement. The case study subject's progressive application of germinal theories and related concepts are as presented in Figure 2, titled Theoretical Frameworks, Concept and Technology Filters Applicable to the Case Study, in this chapter.

Newman (2015), citing Newman (2008) in terms of theoretical frameworks, listed (a) Bertalanffy's [1972] General Systems Theory within the context of Khun's [1974] model and (b) The Adult Learning Theory [1970] as extended by Speck [1996]. The general systems theory and the adult learning theory, are foundational theories that have been instrumental to the case study subject's leadership orientation.

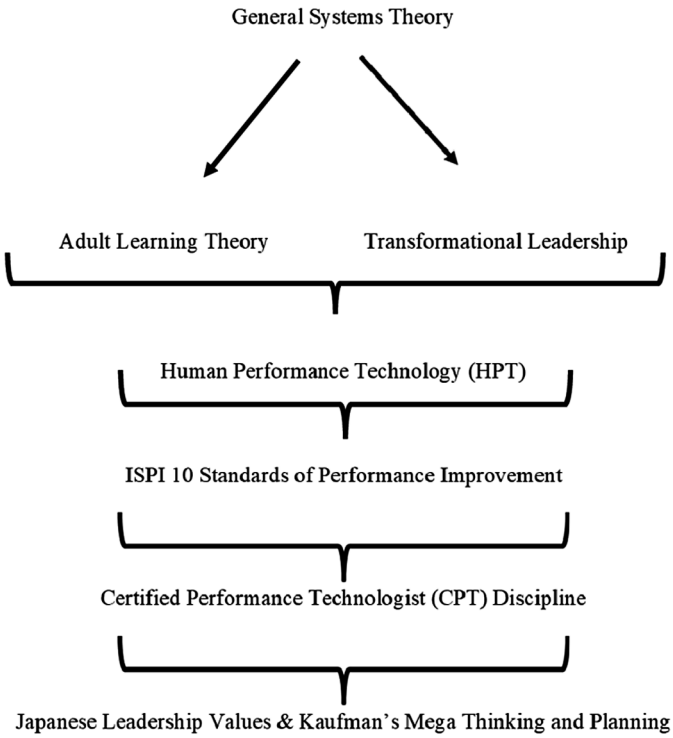
Newman (2008) in discussing the General Systems Theory as foundational to performance and impact, said "Bertalanffy's (1972) General Systems Theory took a holistic view of organizations, and defined a system as a set of elements standing in interrelation among themselves and the environment. …..in furtherance to the general systems theory perspective, Kuhn (1974) affirmed that a common element of all systems is that knowing one part of a system enables knowledge about another part, and thus systems can be either controlled or uncontrolled. In controlled systems, changes are responses to changes in information. Kuhn referred to this as the detector, selector, and effector functions of the system. The detector is concerned with the communication of information between systems. The rules that influence decisions in the system are defined as the selector, whilst the manner of crystallizing transactions between systems is the effector. Khun's model stresses that the role of decision is to move a system towards equilibrium" (P.19). This understanding of Khun's extension of the germinal general systems theory, was helpful to the subject of the case study, in defining her positioning within her organizations, the industry, the system and her professional networks, for her contribution to the profession and society, while learning and growing professionally and personally.

The case study subject has found the systems theory helpful in dimensioning existing internal and external stakeholders, potential internal and external stakeholder, as well as potential partners to her tasks, roles, projects, organizations and industry. With these skills, she found it easier to transition into transformational leadership, mega thinking and the four of the ten standards of performance improvement, in an optimally collaborative manner. Thus, enhancing sense of engagement and ownership of innovations. With this understanding, stakeholder categorization and customized stakeholder engage-

ment by stakeholder cluster. For effective appreciation of Mega planning and Transformation within Performance Improvement, an appreciation of Systems Theory will enhance appreciation of the need for harmony within teams, across teams, units and departments to make a wholesome organization and across organizations to make a sector within a country and globally. The case study subject got a grasp of this and was able to project her role into the whole at the unit, department and organizational levels. When she became a chief executive, she applied same to project the role of her organization into the industry, sector, nation and content in finance and related sectors.

Newman (2008), with reference to the Adult Learning Theory, said "an employee learning and development concept" relevant to the field of performance, is the Knowles (1970) Theory of Andragogy (adult learning theory) which indicated that (a) adult learners should be involved in planning and evaluating their learning; (b) adults appreciate past experience, and even mistakes provide basis for learning activities; (c) adult learning materials should have immediate relevance to their job or personal life; and (d) adult learners prefer problem-centered rather than content-oriented learning. Speck (1996) leveraged on propositions of the Adult Learning theory and gave critical factors for effective adult learning as (a) the need to structure the learning in a way that allows support from peers, (b) the importance of eliminating any feeling of fear of being judged in adult learners during learning, (c) the need to allow adult learners to demonstrate learning and receive regular constructive feedback, (d) the importance of creating opportunities for small-group activities to enable adult learners to share and reflect on their experiences, and (e) the need to accommodate diversity, facilitate learning, and providing coaching opportunities" (p. 20).

Figure 2. Theoretical frameworks, concept and technology filters applicable to the case study



The case study subject, recognized her role as a leader, working with adults in their job roles at various work places and in diverse professions that make up the entire organization, which are in themselves systems, even as their industries, sectors, economies are also multi-layered systems. She also recognized herself as an adult life learner in the process. Therefore, she sought to not just pass on knowledge at every engagement, but enquire and learn as a team member, with accountability for team outcomes. Therefore, she chose to always have the adult learning theory and principles in her own plans for learning, how she develops learning opportunities for her team, her organization and organization's clients, as well as how she engages her own personal and organization's stakeholders, in terms of accountability for her roles as well as plans for the future, in a very collaborative, engaging and inclusive manner, for the required consensus for performance, based on co-ownership and stake. Additional conceptual filters to the case subject's perspectives are Transformational Leadership Philosophy and Kaufman's Mega Planning and Thinking, all presented in the schematic in Figure 2 within this chapter.

Newman (2008), in setting transitions from germinal theories on the subject of performance improvement, said "from the intellectual reawakening of the industrial revolution era that saw the emergence of scholars like David McCallum (as cited in Wren, 1994), Frederick Taylor (as cited in Stoner, 1995), the Hawthorne Studies (as cited in Wren), Elton Mayo (as cited in Wren), and Gilbreth (as cited in Chyung, 2005), employee performance management has been a source of concern to leadership of organizations. Chyung, in a recent study, traced human performance technology from Taylor's scientific management theory of 1911 to Thomas Gilbert's Behavior Engineering Model of 1978, and indicated that although Frederick Taylor and Thomas Gilbert worked many years apart, there appear to be astounding similarities between their work in terms of systematically analyzing and engineering human behavior to produce desirable performance outcomes" p.17. In the case study subject's view, this perspective as presented, aligns with the current space of the international society for performance improvement and the foundational works of Thomas Gilbert, as applicable to the practice of Human Performance Technology as exists, in present day performance improvement space.

Therefore, the subject of the case felt a great sense of professional accomplishment on the global stage as a global leader, when she was nominated to receive the Thomas F Gilbert award from the ISPI at the 2019 International Conference in New Orleans, the United State of America. She has thought that she had attained her ultimate height at ISPI, when she represented the membership of the International Society for Performance Improvement, outside the United States of America, when she was elected the International Director on the global Board of the International Society for Performance Improvement and served one tenure, from 2012 to 2014. The Thomas F Gilbert Award of 2019 opened another progressive layer in her life journey, as a performance improvement practitioner! At the award ceremony held at the 2019 Annual Conference of the International Society for Performance Improvement in New Orleans, she said the award was to her, a major compliment and call for higher service. Therefore, she pledged to carry the Thomas F. Gilbert Distinguished Professional Achievement Award, with all the dignity it deserves, in honor of Dr. Gilbert, the acclaimed 'father of Human Performance Technology', whose works she has found helpful and also in honor of all past recipients of the award, many of whom had over the years, become her friends, mentors and coaches.

In terms of underlying theoretical concepts, the case study subject also found the Kaufman [2006, p.139-154] listing of three basic essentials of achieving sustained success, very helpful. The three essentials were listed as; (1) a societal value -added frame of mind, (2) a shared determination and agreement on where to head and why, as well as (3) use and consistent application of pragmatic and basic tools. With this context as derived upon her joining the International Society for Performance Improvement, as an

International Member in 2001 and attending her first International Conference a few years thereafter, she was confident that she had found a very helpful tool and quickly adapted the 10 Standards for Performance Improvement as a mantra and deployment methodology, leading to her attaining the Certified Performance Technologist status, in February 2008.

With full grasp of issues in her personal and professional space in Nigeria to shape her sense of contribution to society, based on her learnings as a global leader whilst on her doctoral program at the University of Phoenix Arizona, the subject of the case study also found the following Kaufman's 10 questions for mega thinking and planning for optimal social impact, very useful in shaping her leadership trajectory given her environment as Nigeria and larger Africa, relative to needs in her professional space, personal family context, and her own aspirations of becoming an influential and high impact leader, serving humanity. Her role over the last 10 years of her career as Managing Director and Chief Executive Officer of the Financial Institutions Training Center especially, she was able to leverage the organization's platform and mandate to put the 10 Kaufman questions for Mega Planning and Thinking, into actual scenarios where she led colleagues and members of her former employer's organization in developing valuable relationships with its over 1570 stakeholder organizations within the Nigerian Financial Services Sector and beyond.

An Interview with the Subject

This interview with the case study subject narrates her perspectives on performance improvement, her culture, balancing home and work as a female working mother of African descent, living and working in Africa, as well as insights into some challenges she has experienced and how she addressed those challenges. Does that mean the subject was perfect in all areas? Certainly not. The interview reveals a lot, in the following discussions with the case study subject.

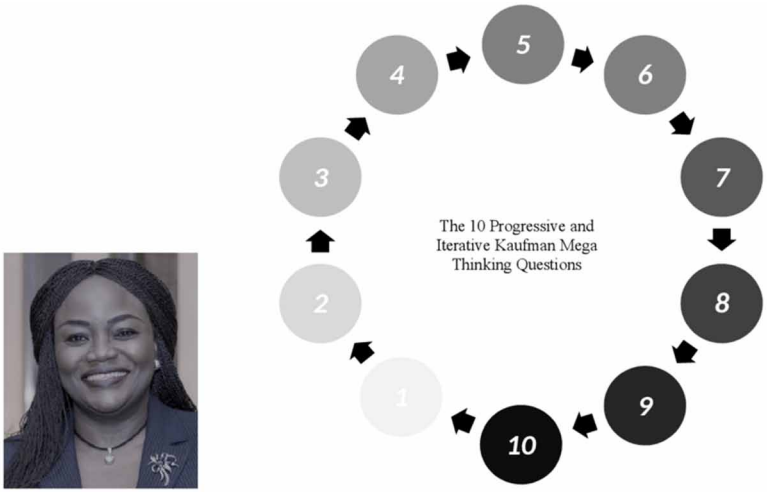
Newman (2011) cited Charan (2009) statement in the book *Leadership in the era of economic uncertainty: new rule for getting the right things done in difficult times,* where the author listed six essential leadership traits for hard times to include;

1. Honesty and credibility
2. The ability to inspire
3. Realism tempered with optimism
4. Real time connection with reality
5. Managing with intensity and
6. Boldness in building for the future (p.24-26).

These six traits resonated with the case study subject's personal leadership style and core values, complimented by her faith. Based on various interviews granted in the past and especially Newman (2018), the case study subject sees herself as a transformational leader in a difficult environment and wanted to distinguish herself from peers, by making optimal impact within her space. She saw her role as the Chief Executive Officer of a special purpose organization within the system, as a mission to the system and not a job role. This mindset, gave her great inspiration to look beyond the actors and the institutions or the dynamism within the system, to her quest for contribution and creating a legacy, with all players owning and participating in that legacy as it emerged.

As was indicated in Figure 3 which presented *Theoretical Frameworks, Concept and Technology Filters Applicable to the Case Study,* the case study subject has also found the 10 Kaufman progressive and iterative questions for Mega Thinking as depicted in Figure 3 titled *Subject's Iterative Application of the 10 Kaufman Questions for Mega Planning and Thinking* useful for reflection at each key milestone in her career. She also found most of her learning within the 10 questions, in her aspirations for impact and legacy as a leader. So, far, she has not accepted any job offer or stayed in a role beyond 6 months, if she cannot affirm these 10 questions.

Figure 3. Subject's iterative application of the 10 kaufman questions for mega planning and thinking



To sum up, Mega thinking and planning is about defining a shared success, achieving it, and being able to prove it. It is not a focus on one's organization alone, but a focus on society now and in the future. It is about adding value to all stakeholders. It is responsible, responsive and ethical value add for all. (Roger Kaufman, 2006. pp.151).

The 10 progressive and iterative Kaufman Mega Thinking questions as numbered in an interactive and continuous manner shown in Figure 3 and listed below, are:

Question 1: Do you care about your success?
Question 2: Do you care about societal well-being and value-added?
Question 3: Do you care about your organization's success?
Question 4: Do you care about the usefulness of what your organization delivers to its outside clients and society?
Question 5: Do you care about the quality of what you deliver to clients?
Question 6: Do you care about the quality of that which gets produced by your organization?
Question 7: Do you care about operational efficiency and compliance?
Question 8: Do you care about the availability and quality of resources?
Question 9: Do you care whether your organization meets its objectives?

Question 10: Are you concerned with the value or worth of what you did and how you did it (Kaufman, 2006, pp. 139-154)

Once one answers question 10, it is advisable to build on results attained by considering extended results. Thus, returning to question 1 and the iteration continues. The case study subject is of the view that such an orientation of continued iteration, is essential to continuous improvement and note celebrating successes too early. With these guiding questions at each career milestone, the case study subject usually further refines and realigns new purpose to her personal leadership brand at functional and organizational levels. Her personal core values usually find expression from this process and it enables her thing long terms in terms of contribution and legacy than transactional view to her tasks, team and organization.

In terms of Transformational Leadership, Newman (2011) further said "the term 'transform' implies major changes in the form, nature, function and/or potential of some phenomenon; applied to leadership, it specifies general ends to be pursued although it is largely mute with respect to means. The concept of transformational leadership was initially introduced by leadership expert and presidential biographer James MacGregor Burns. According to Burns [1978] as cited in Newman (2011, pp. 3-17), transformational leadership can be seen when "leaders and followers make each other to advance to a higher level of moral and motivation." Through the strength of their vision and personality, transformational leaders are able to inspire followers to change expectations, perceptions and motivations to work towards common goals. Later, researcher Bernard M. Bass expanded upon Burns' original ideas to develop what is today referred to as Bass' Transformational Leadership Theory. According to Bass, transformational leadership can be defined based on the impact that it has on followers. Transformational leaders, Bass suggested, garner trust, respect and admiration from their followers". Many of the subject's former bosses and mentors, colleagues and leaders of her immediate past employer's partner organizations and networks have defined her as a transformational leader, at her personal website, http://www.drlsnewman.com.

The Interview

The interview in this chapter therefore, addresses the case study subject's journey of performance improvement, how she has handled cultural perceptions, balanced work and home as a female executive, as well as how she has handled challenges and perceptions at home and abroad.

Performance Improvement

Question: How did you first know about performance improvement as a practice?

Response: I first got to know about performance improvement in the mid-1990s. My role then, was Manager, Product Development and Management, at a commercial bank in Nigeria. I had functional responsibility for product innovation and management, bank wide. I have always been a driven person, so I was always on the lookout for means of driving performance objectively, as well as developing my team.

Question: When did you start applying the principles and how have things turned out for you?

Response: I started using performance tracking matrices quite early in my career, first for myself and then for teams that I led. However, in terms of my relationship with the International Society for Performance Improvesment, it was around 2001 when I was assigned to a Human Resources Development functional area, based on a project that sought to use psychometric and best fit to

place staff in roles, in order to innovate and drive passion per for performance, that I really went out of the norm to seek ways of adding value to the add bottom-line value within the human resource function, that I went searching for a professional network online and found the International Society for Performance improvement. Once found, I quickly joined as an International Member in 2001 and started exploring various tools and methodologies for my work, as obtained from the website at first, and then from my first conference attendance thereafter.

Question: How have things turned out for you in your career, using performance improvement innovation?

Response: Things have been wonderful. One can almost draw a parallel in my career progression before and after my discovery of Human Performance Technology and the 10 standards of Performance Improvement! When I saw the 10 Standards of Performance Improvement, I went to my direct supervisor who was the Group Head of the Human Resources Department as at that time at the bank and got consent to adjust my job description, so that I could carry out my tasks as projects with a time line of the annual financial year, using the 10 standards for Performance Improvement, in order to show bottom-line value. By appraisal time, all I needed to report was project outcome, which always got me accolades and commendations. I was subsequently, able to get my entire team at the Training Centre obtain approval for the new way of carrying out our tasks as projects. This adjustment made it easy for us to transition to a quasi-cost centre, from our former cost centre status, because we started generating revenue to cover our own operational cost at the bank's Training Centre, which was within the Group Human Resources Department. That has never happened before! Because of that innovation, we even started extending our trainings to other banks at a fee. Thus, subsidizing our operational costs. The 10 Standards of Performance Improvement have since been my mantra and the way I approach all tasks, roles, projects and employers. By the close of the calendar year 2007, I had used the standards severally. As such, I had many case studies which made it easy for me to apply for certification. I required five cases demonstrating the 10 standards, confirmed by the client. However, because I had converted by tasks to projects, and the user departments as well as my supervisor as my clients, I had so many cases for submission, even though I had never attended any certification preparatory training! I got the certified early 2008.

Culture

Question: You are of African descent, born and brought up in Africa. How has your culture shaped, motivated and supported your performance as a leader in Performance Improvement?

Response: My culture's sense of community and responsibility for others, resonates with the Kaufman mega concept for me. My family background of seeking the good in others, being comfortable in my femininity and having the liberty to express my opinion as a female irrespective of a subverted cultural orientation for women enabled my expressive yet nurturing view to work, worker and workplace. As a granddaughter of a woman of good social standing in her community at her time, who got her two sons educated, I am blessed to have the required enlightened family background to aspire as a female and live above the known northern cultural limitations, as sometimes applicable to my gender. So, despite all life challenges so far, I have been blessed with the constructive nuclear and extended support system, to thrive. I am also a chronically optimistic person of faith. So, that adds a lot to my perspectives on room for continued improvement and search for the next level of contribution and impact, I think.

Question: What major culture shifts have you seen that benefit women leaders and executives generally?

Response: Female leaders are increasingly seeing themselves at par with male peers in terms of skill and competence. More women leaders are now having greater confidence in the value of skills they bring, as well as knowing that they don't have to be like a man to be effective. There are more networks and platforms as well as tools that support women leaders to manage their life cycle stages, without letting that impede their value add to the larger team or organization, or system. This is an inspiring time in human history, for women leadership development and optimization.

Balancing Work and Home

Question: How do you nurture and maintain your energy and resilience?

Response: I use meditation as well as the art of silence and reflection, for renewal. I also listen to my body and literarily 'shut down' or 'go below the radar', to rest, when my body needs it. Healthy living by eating healthy, exercising, getting full body deep tissue massages periodically, managing jet lag and traveling, smart also help. I often pick tips from Cable News Network [CNN]'s Business Traveler and Vital Signs programs, which have been highly enlightening, so I have learned a lot.

In terms of life as a female with domestic and child care responsibilities, I coach the children to get independent very early in life, such that as they grew, my time with them became more of quality time for discussing life issues and learning new skills as well as traveling, rather than me picking after them. In terms of internet-based parenting tools, I have found Skype and WhatsApp instant messaging with voice messaging, very helpful.

Lastly, positive thinking; cup half full than half empty living, engaging and sharing with my children so that they can support me, as well as purposeful giving and being involved in charities, have been helpful inspiring.

Challenges and Perceptions

Question: How do you tackle and dispel certain perceptions? For instance: "She is a mother of children and so not totally focused on her work?

Response: Doing my fair share of responsibilities while on a team, or as individual responsibility, always. Not expecting any favors or different set of rules, making it known if I have family issues, yet keep my deliverables or negotiate roles or times, have been helpful. If need be, taking my youngest child along with color pens and a scrap book while I work. I have taken my youngest child to Board retreats and training sessions over weekends in different locations where need be, from ages 7 – 12. As a family, we like traveling and exploring cultures as well as experience shopping on tours. As such, taking the children along is always a bonus for them and we usually invest in sight-seeing and learning during such trips. Based on these arrangements, I have taken them along with me to Calabar, Port Harcourt and Abuja within Nigeria. Internationally, I have taken them along on business trips to Accra in Ghana severally, Nairobi in Kenya, Addis Ababa in Ethiopia, Dubai and Doha in the United Emirates, as well as Reno and New York on International Conferences of the International Society for Performance Improvement. This way, I get around to delivering on tasks at work, learning and also giving the children a perspective on global citizenship via travel opportunities for learning and exposure to other cultures.

Question: Can women have it all?

Response: Yes sometimes, but not always; 'having it all' is fleeting, because life happens. As such, things should be viewed in the medium to long term, and definitely not in the short run. Having it all, is over the long term and it takes work, life learning, give and take, luck and a lot of inner circle support over rough seasons.

Question: What are the observable challenges, on your leadership journey?

Response: Dealing with perceptions and prejudices. This is universal and occurs within families, cultures, professions, countries and globally. I have experienced racial discrimination internationally on doctoral program, at conferences, on executive programs and even on airline on transcontinental flights! I have seen that in global professional groups. On the domestic scene, perceptions and prejudices exist in terms of gender, tribe and religion. However, I have noticed that once I don't allow these perceptions limit me but rather, I confidently make my contributions and add value, I usually get overwhelming inclusive response!

For this mindset, I must thank my late father! While a child, our father a professional nurse who studied in the United Kingdom in the early 1960s, made us to understand that beneath the skin, humans are all same in terms of the human anatomy, blood grouping and internal organ functions. He made us to see all races like different flowers is huge garden called earth – all plants of various colors, each unique and beautiful that make up a wonderful garden. That perspective did a lot to my view about all persons being basically, human beings, just in different colored packages, known as skin color. We all have similar basic aspirations and concerns. This view helped shape my view as a global leader who thrives in multicultural settings.

There is also the issue on perception of others about a financially empowered career woman – most Africa men are domineering and egocentric. An educated and financially empowered woman is often perceived as a threat and she can as such, be a target of undue stigmatization and aggressive male behavior at home, at work and in society, generally. However, society is changing and some men are becoming comfortable in double income families for instance. Some are beginning to like intelligent, engaging and financially independent women. Sadly, some remain traditional and believe in fixed stereotypes for the female gender. This change, will need to be gradual and the women leaders will need to exercise higher levels of emotional intelligence and wisdom, to thrive and continually succeed in an inclusive and more collaborative manner within women support groups and professional networks, as well as supportive extended family base.

MAIN FOCUS OF THE CHAPTER

As was indicated in the abstract section of this chapter, this case study presents an insight into an African leadership journey over a period of two decades within a professional storytelling format, from the case study subject's early life with insights to germinal theories and emerging concepts that have influences her personal orientation on performance improvement innovation related issues via an interview. Thus, providing a rich contextual background to this section, the main focus of the chapter, which will seek to discuss the issues applicable to historical context on performance improvement practice in Africa, challenges facing performance improvement innovation practice within Africa. This section then ends on a

high note on the outcomes of the case study subject's personal application of performance improvement innovation principles, despite the observable challenges flagged and how the outcomes were attained.

Newman (2019) reported that the increasing focus on Africa as a preferred destination for global commerce and investment, is steeped in the continent's potential for economic transformation and growth, which to a large extent, has remain largely unexplored. The World Bank, in the latest edition of its Africa's Pulse, also alluded to this, where it confirmed that Sub-Saharan Africa (excluding South Africa), grew in 2012 at 5.8 per cent as against developing country average growth rate of 4.9 per cent. Half a decade later on April 18 2018, the statement was that Sub-Saharan Africa's growth was projected to reach 3.1 percent in 2018, and to average 3.6 percent over the period 2019 to 2020, says Africa's Pulse, a bi-annual analysis of the state of African economies conducted by the World Bank. Growth in Sub-Saharan Africa was estimated at 2.3 percent for 2018, down from 2.5 percent in 2017. Economic growth remains below population growth for the fourth consecutive year, and although regional growth is expected to rebound to 2.8 percent in 2019, it will remain below three percent, since 2015. What happened? From 4.9 percent in 2012 to tipping in 2015 at 2.5 per cent and now 2.3 per cent? With the projected impact of the Corona Virus Disease 2019 (also known as COVID-19), Africa's projections for 2020 are likely to be much lower than 2019.

The Historical Context on Performance Improvement Practice in Africa

According to the International Society for Performance Improvement's 10 Person Task Force on International Expansion, its July 2008 Proposal for West Africa and the then International Society for Performance Improvement's third guiding principle of its strategic plan, was "*foster diversity and inclusion*", while the fourth guiding principle was "*maintain a global mindset*". The Society's situation as at August 2007 indicated that:

- The society's total membership had remained relatively stable over the past decade [4000 in financial year 1996; 3750 in financial year 2007] but conference attendance had stabilized 25% below pre 9/11 numbers.
- Membership data by country and regional summary including three months' past due membership as at August 2007, indicated 4060 members from 59 countries. Out of this, 3753 or 92.4% were from the United States and Canada, while 106 [2.6%], 80 [1.97%], and 47[1.16%] were from Europe, Asia and Africa respectively. The rest of the membership, being from the Caribbean [5], Central America [8], the Middle East [14], and Oceana [36].

The Board of the International Society for Performance improvement had as at 2008, taken two major decisions in furtherance to its strategic guiding principles three and four mentioned from its September 2007 meeting. The decisions were:

1. Establishing an International Task Force to directly engage current/potential international customers in order to provide insights and recommendations for viable options. The International Task Force was mandated to review the society's Internationalization efforts as at that time and make recommendations to the board on potential future courses of action.
2. Dedication of one director position on the Board of society for candidates outside the United States and Canada, as a step towards attaining diversity and inclusion in the society's leadership.

The case study subject identified with the International Task Force initiative, because in addition to about 3 predecessors from Europe, she served on the Task Force and by virtue of Principle 4 as implemented, she got elected to serve on the society's Board as International Director from 2012 – 2014. As such, she made history as the first member that got elected onto the Global Board from Africa. Over that period, she represented members in over 48 countries outside the United States of America at that time. In this role and by her personal decision and at own expense, she attended Europe, Middle East and Africa's Conferences in Prague and Tiblisi, as International Director and made presentations at the conferences. While on the society's Board, she was the Board Liaison on the; Awards of Excellence Committee, the T. F. Gilbert Distinguished Professional Achievement Committee, the Honorary Life Member Award Committee and the Emerging Professionals Committee. During this time, she got two advocates for society – The Central Bank of Nigeria and the Nigerian Deposit Insurance Corporation as well as engaged Nigerian professionals to me more active in the society. Nigeria had over that time, in a particular year, recorded the largest attendees numbering 17. The case study subject's mantra in all her works since joining society in 2001, is the 10 Standards of Performance Improvement and Human Performance Technology for her employers' clients and employers.

The Challenges of Performance Improvement Practice in Africa

Sell, Y. & Vielmetter, G. (2014) in their book *Leadership 2030: The Six Megatrends You Need to Understand to Lead Your Company into the Future*, identified that six megatrends as; [1] Globalization 2.0 as a new economic world order whereby power shifts to fast developing markets in Asia, especially China and away from what happened in globalization 1.0, where power was from the 'old' economies of the West to the east. As such, middle class will emerge in such growing economies; (2) Environmental crises in terms of critical natural resources becoming scarcer and climate change becoming more threatening as a result of human activities; (3) Individualization and value pluralism, thus growing influence in emerging markets will drive increasingly individualistic attitudes in more parts of the world; (3)The digital era, where living and working in digital technology becomes the norm, with digital platforms shifting power from organizations to 'digital natives'; (4) Demographic change as a result of rapidly aging world population, there will be pressures on social structures and welfare systems, thus sparking war on talents and balancing needs of diverse workforce; and (6) Technological convergence where scientific progress in nano and bio technology will transform many aspects of life and living. Thus, new products and pressure of research and development capabilities. (p. 13&14). The continent of Africa is as such, a new frontier as an active participant in globalization 2.0 as predicted.

Given this background, the case study subject's view in terms of challenges facing performance improvement innovation in Africa, are still many. Despite upswing in developmental indices of many African countries, many jurisdictions in Africa have continued to present various degrees of performance improvement opportunities, across various sectors. Therefore, her observations indicate the following:

- Insufficient awareness about the International Society for Performance Improvement and Human Performance Technology within the region, especially outside Nigeria
- Inaccurate membership records of existing members
- Pending registration as a professional body in Nigeria and the region
- Inadequate understanding of Human Performance Technology and Performance Improvement practice within existing membership.

1. **Insufficient Awareness about International Society for Performance Improvement and Human Performance Technology in Africa:** The case study subject has been informed by some advocates that she brought to the society, that the society's offerings and themes are not applicable to some continental peculiarities in Africa. Both of the two advocates and sponsors that she got to sign up in 2012, are no longer active and one of them in particular, gave this feedback.
2. **A Culture of sub Optimal Commitment on Medium to Long Interventions and Projects:** The dynamisms in the political space, short termism culture and high tension within the private and public sectors in most jurisdictions of the African content, tend not to appreciate the 3-5 average gestion required for systemic impact of most performance improvement interventions proposed. The case study subject was able to demonstrate the outcomes as shared, because she already had the skills, had the cooperation of the organization's Board, had the power of her office, she had 10 years in office and being a consultant herself, had relative control of methodologies deployed.
3. **Technical Nature of Human Performance Technology and Performance Improvement at first Glance:** Most executives in Africa have short term instantaneous appetite for interventions. Most Performance Improvement consultants present interventions in a very technical and academic manner, thus not attractive to executives and policy makers. Publications on subject also do not help matters.
4. **Inadequate Number of Certified Performance Technologists in Africa**: There are less than 20 certified performance technologists in the whole of Africa, if one excludes those on multilateral projects as short-term consultants in Africa. This number is too few to gather the required momentum required to make a reasonable impact. Meanwhile, there are many other professional associations and professionals of other fields, but those with end to end Human Performance Technology skills for the likely impacts, are very few.

Case Study Subject's Application of Principles and Concepts in Roles: 1999 to 2019

The case study subject has over the course of her career and based on outcomes in various roles, earned the reputation of being a results-focused person with proven success in aligning strategy, structure, people, policies and systems to optimize individual and organizational performance through practice, consulting, research and capacity building. She has had several board experiences and continues to contribute as a performance improvement and governance systems specialist, delivering innovations within a transformational leadership mindset, her country Nigeria, wider Africa and beyond. She has several publications and honors to her credit and has applied the principles as presented in Figure 2, titled *Theoretical Frameworks, Concept and Technology Filters Applicable to the Case Study,* in the following manner, over the past two decades of her career, with inspiring outcomes.

The Period 2001 – 2006: Functional Roles within 3 Nigerian Banks of Varying Size and Ownership

From 2001 to 2006, the case study subject's application of human performance technology and the 10 standards of performance improvement, were restricted to structuring of her role job description and key

performance indicators to be project based and her approach to implementing her roles to reflect first to the ninth of the 10 standards of performance improvement, with her bosses having responsibility for the tenth standards, which is her annual appraisal evaluations. This has always earned her the accolades of her bosses, with various other roles and opportunities being given her almost at each appraisal cycle. The roles that the case study subject occupied within this period, from three different employers that were all commercial banks in Nigeria and statements from three former bosses are as listed below:

- **May 1997 – October 2003:** Manager, Treasury Marketing
- **November 2000 – July 2003:** Manager, Marketing and Business Development
- **July 2003 – December 2005:** Head, Human Resources Development
- **January 2006 – April 2006:** Head, Human Resources Development/Deputy Head of Human Resources
- **April 2006- June 2006:** Head, Talent and Performance Management
- **June 2006 – June 2006:** Head, Career and Reward Management

The case study subject applied the 10 Standards in her roles as listed from May 1997 to 2006, in staff roles, in the following formats:

Standard 1: Focus on Results or Outcomes – Obtain the budget for the year within broad strategy phase
Standard 2: Take a Systemic View – use the organization's strategy to identify overlaps across functions
Standard 3: Add Value – identify, negotiate and agree aspirations with identified stakeholders [bosses]
Standard 4: Work in Partnership with Clients and Stakeholders – create a cross functional project team
Standard 5: Determine Need or Opportunity – jointly review past performance and areas of improvement
Standard 6: Determine Cause – Identify cases of missed targets and addresses the causes collectively
Standard 7: Design Solutions including Implementation and Evaluation – Co design and obtain approvals
Standard 8: Ensure Solutions' Conformity and Feasibility – always run a pilot to test [both compliance and viability] with stakeholders, before going live.
Standard 9: Implement Solutions – ensure effective prelaunch engagement of stakeholders with go live
Standard 10: Evaluate Results and Impact – assess and share outcomes from quick wins and millstones, with room for learning and adjustments. If these milestones align with appraisal seasons, it works great for all across functional roles and teams. Stakeholders also appreciate the opportunity of making assessments. At close of assessment, next planning season kick starts (ISPI.com, 2020; drlsnewman.com, 2020)..

Testimonials of Former Bosses in Functional Roles From 1997 – 2006 as Obtained in 2019

Testimonial 1

She was one of our key Managers at the bank from 1997 to 2000. She was Manager of Treasury Marketing responsible for directing a team of Officers engaged in developing, bringing to market & managing innovative banking products for our local & international markets, hiring, supervising & managing the performance of product specialists bank wide & working as part of the larger Strategy Group for the bank. She reported directly through the office of the Group Head & Vice President of Strategic Planning,

who reported to my office as Chief Executive Officer. She was a focused, results oriented & brilliant Manager, who led her team effectively & creatively. Lucy was courageous in mapping new frontiers & products such as our flagship Owena Women Investment Scheme for Entrepreneurs Banking Product, a gender-based banking product and HOME LINK Account, a product empowering Nigerians in the diaspora to build up assets back home in Nigeria. She was personable & friendly in her relations. She was well liked across functions. I had no doubt that Lucy would succeed eminently in a broader management career & I am quite pleased with the brilliant accomplishments that she has achieved over time. She has more ground to cover & I would recommend her unreservedly for broader responsibility.

Testimonial 2

I met her in 1997 when she was employed as Manager, Treasury Marketing in the Treasury and International Banking Network of the bank. I was then the Vice-president of the Treasury and International Banking Network. Her responsibility was to lead marketing activities to generate deposit for the bank. She interacted with both junior and senior members of the bank to identify performance issues; analyze such issues to unravel performance impediments and then designed appropriate interventions to improve treasury-marketing performance. A case in point was the development of various deposit mobilization and quality assurance products namely Quality Is Money Assurance, Owena Women Investment Scheme for Entrepreneurs, CATCH THEM YOUNG a product aimed at young savers and HOME LINK ACCOUNT, when she was Leader of the New Product Development team. She also played lead role in the SALES CANVASSERS SCHEME, which was a program designed to employ and train young graduates on retail selling of financial products. She developed the performance metrics to track the performance of more than 100 Sales Canvassers nationwide. The efforts resulted in 75% improvement in performance within a year. She was also a key member of the team that developed the bank's international money transfer service. HomeAccess Money Transfer Product. The product focused on transfer of foreign exchange to Nigeria by Nigerians in the United States of America and the United Kingdom. She in year 2000 as reputable, visionary, loyal, creative, open-minded, adaptable, detail-oriented Manager with team leadership quality and boundless enthusiasm.

Testimonial 3

Sometime in the year 2000, the Managing Director and Chief Executive of the then FSB International Bank Plc called me to his office and presented me with a product paper titled FSB Partnership Account and informed me that the author wanted to join the bank's Treasury Team. She was the author of the product paper, referenced by the Chief Executive. This tendency summarizes her personality: innovation and task driven personality. Indeed, we were happy to hire her and she distinguished herself in her new job. A few years later when an internal reorganization took place within the Bank, she moved to a fitting role where creativity was desperately required – Human Resource Management where again, she distinguished herself in the Bank and the industry. She is a hardworking, creative and task driven individual. I happened to later move to Central Bank of Nigeria, a major stakeholder in the Financial Institutions Training Center and at the time of her being hired as the Managing Director and Chief Ex-

ecutive Officer, I told the then Chairman that they made the best hire. She has expectedly transformed the Financial Institutions Training Center.

Testimonial 4

She is a multi-talented person whom I had the privilege to work with at FSB International Bank. At that time, she was responsible for training and development in the Human Resources Department, and she brought to bear, her business experience in the implementation of her work. She is very strategic, result oriented, calm, attentive to details and has excellent inter personal skills. Lucy is a well-rounded person who has been on the two sides of business and this provides her with insights on the challenges faced by organizations. Her success is well deserved, and I wish her the best in all her endeavors.

The Period 2006 - 2019: Advisory Performance Improvement Consultant and Organizational Leader

From 2006 to 2019, the case study subject's application of human performance technology and the 10 standards of performance improvement, were in business advisory performance improvement consulting roles with a 'global big four firm' based in Nigeria but with project opportunity in collaboration with the then United Kingdom firm, based in London on two major projects that time, from 2006 to 2009. It was within these recent almost 14 years of the case study subject's career, that she found full expression of her skills in human performance technology and certified performance technologist discipline. The roles that the case study subject occupied within this period, from two different employers within the advisory profession, are as listed below:

- **August 2006 – December 2007:** Senior Consultant, Business Advisory Performance Improvement Practice of a *'Global Big Four Firm'*
- **January 2008 – April 2009:** Principal Consultant, Business Advisory Performance Improvement Practice of a *'Global Big Four'* Firm
- **May 2009 – August 2019:** Managing Director/Chief Executive Officer of a special purpose non-profit professional services organization offering training, consulting and research services.

From 2009 to 2019, the case study subject had a decade long tenure with her immediate past employer, as managing director and chief executive officer, with responsibility for leading the organization, leading thought leadership for the Nigerian Financial Services Sector, as well as directing delivery of projects in training, consulting and research for the organization's clients and stakeholder base. She also led the transformation of her employer organization, and the case study of this transformation, have so far been published twice in different peer reviewed publications as referenced in this case study. The case study subject applied the 10 Standards in her roles as listed from August 2006 to 2019, in performance improvement consulting, in the following formats:

Standard 1: Focus on Results or Outcomes – Scope envisioned project outcome with stakeholder/client.
Standard 2: Take a Systemic View – use the organization's strategy/industry benchmark/internal survey
Standard 3: Add Value – identify, negotiate and agree aspirations with identified stakeholders

Standard 4: Work in Partnership with Clients and Stakeholders – create an inclusive project team
Standard 5: Determine Need or Opportunity – jointly review past performance and areas of improvement
Standard 6: Determine Cause – Identify of errors from past interventions and collectively address all
Standard 7: Design Solutions including Implementation and Evaluation – Co design and obtain approvals
Standard 8: Ensure Solutions' Conformity and Feasibility – always run a pilot to test [both compliance and viability] with stakeholders, before going live.
Standard 9: Implement Solutions – ensure effective prelaunch engagement of stakeholders with go live
Standard 10: Evaluate Results and Impact – assess and share outcomes from quick wins and millstones, with room for learning and adjustments. Plan projects with milestones for engagement on evaluation outcomes. If these milestones are pre-agreed as part of project plan and align with appraisal seasons, it works great for all across functional roles, teams and corporate wide projects. Stakeholders also appreciate the opportunity of making assessments. At close of assessment, next planning season kick starts or another project opportunity is negotiated in line with standard 1 again. A 360-degree survey on project at standard 2 and repeated at standard 10 to show a before and after situation always works with an engaged client (ISPI.com, 2020; drlsnewman.com, 2020)..

Testimonials of Former Bosses Within Advisory Roles From 2006 – 2009 as Obtained in 2019

Testimonial 1

She is a very intelligent and brilliant person of profound soft and technical skills. Her approaches to getting things done at work for her employer and for her employer's clients entail a profoundly collaborative, innovative and high impact orientation. Her broad experience and teachable personality endear her to colleagues, bosses, peers, clients and professional networks. These have been clearly demonstrated in all that the Financial Institutions Training Center has so far been able to achieve, under her leadership. She drives performance by recognizing high value traditional issues, while assessing the system for impact and therein via engagement, negotiating a future that takes all along as stakeholders, in the new environment. This style of leadership has endeared her to her predecessors, leaders of organizations in the system, her colleagues and respective boards. She has successfully expanded the organization's brand in Africa and beyond. She is potentially a high value leader and asset to any system she gets to commit to, as she has done to the Nigerian Financial system and beyond, which is visible from organization's expanding footprints in Africa, especially. I wish her well, as she closes on her 10-year tenure at Financial Institutions Training Center.

Testimonial 2

I have known her for 10 years now. For the first five years, she and I worked together in my role as Chairman of the Board of the Financial Institutions Training Center, by virtue of my portfolio as Deputy Governor (Financial System Stability) at the Central Bank of Nigeria from 2009 to 2014. From the standpoint of this relationship, I have been impressed by Lucy's style of leadership and sterling intelligence, laced with exceptional emotional intelligence and vision, demonstrated in her highly successful tenure as Managing Director and Chief Executive Officer of the Financial Institutions Training Center, which

serves the entire Nigerian Financial Services Sector. She successfully built on the progressive successes of past leaders to turn the organization into a well-run, value-added contributor to the Nigerian Financial Services Sector. She also has increasingly done so across sub Saharan Africa, striking strategic collaborations with multilateral organizations, including the International Finance Corporation, which has had various collaborations with the organization from Board Leadership and Corporate Governance Trainings for the Financial System to Workshops on Moveable Assets Financing, from 2011 to date. Under her leadership, the Financial Institutions Training Center has achieved quantum improvements in the institution's three main Key Performance Indicators: number of training participants, net-worth of organization and its brand perception as demonstrated by several international and domestic recognitions, and partnerships with premium global organizations. I can only wish her well into the future. A dynamic and innovative leader with a balanced personality, she will add superior value to whatever she sets herself to do, after her tenure at the Financial Institutions Training Center.

Case Study Subject's Personal and Organizational Outcomes: 1999 to 2019

Personal outcomes of the case study subject's increasing application of performance improvement innovation over the past 2 decades within theoretical frameworks, concepts and technologies as shown in Figure 2, can be inferred from the following:

1. Accelerated career progression from 2001 to 2019, with tangible contributions to employers and employers' clients
2. Ability to there-in eave legacies in various roles played, that have outlived the time spent in various roles
3. Increasing responsibilities at the global big four firm, from 2006 to 2009. For instance, responsibilities for major project roles as a project manager and as a leader of project workstreams that had implementation support components of increasing complexity, as well as cross line of service, internal firm projects and cross firm engagements.
4. Numerous personal honors received by third parties
5. Ability to develop very profound lifelong friendships with predecessors, bosses and colleagues while learning and contributing in an inclusive and wholesome manner
6. Immense and increasingly recognized personal brand goodwill beyond industry and country

Some recent organizational outcomes of the case study subject's leadership journey in application of performance improvement innovation as visible especially in her immediate past role as a Managing Director and Chief Executive Officer of a special purpose not for profit professional services firm from 2009 to 2019, include;

1. Staffing - Maintained a good staff mix with ratio of about 38 to 40% female permamnement staff ratio, 14 to 16.5% ratio of permanent staff to project based subject matter experts, called associates who were by subject matter area, location and jurisdiction. In terms of demographics, there have been deliberate interventions to ensure diversity of generations within the workplace, as well as qualification and experiences of staff. As a result of all the interventions, staff turnover has been on the decline from a high 27.42% staff turnover per annum in 2004, to a record low of 1.79% in 2018, thus an average staff turnover rate of 11.87% over a period of 15 years, from 2004 to 2018.

2. Multiple high profile international, continental and sub regional and national awards to the organization, based on service quality and peer benchmarking; the first time ever, which include 2 West Africa Sub Regional, 2 Continental, 1 global and 2 national awards franchises of the coveted Great Place to Work Awards. All of the listed awards, from 2012 to 2019, first time ever and based on service quality and leadership development practices of the organization.
3. The Organization developed capacity to execute log duration hand holding consulting projects with implementation support, with its staff leading. As at 2009, most of its projects were short duration projects. Now the organization's consulting team delivers 18 - 36 months long duration handholding projects, with some retainerships lasting 8 - 11 years as transformation implementation support projects, with defined milestones.
4. The organization became a coveted brand to international high-profile brands for partnership – Association of Chartered Certified Accountants (ACCA), International Society for Performance Improvement (ISPI), International Finance Corporation (IFC), African Corporate Governance Network (ACGN), etc. The organization also parades very well researched and innovative products that are timely and leverage emerging technologies.
5. The organization's continental footprints as at the close of her tenure, indicated that its services were patronized by operators within the financial services sectors and especially, banking industries in Togo, Ghana, Liberia, Sierra Leone, Uganda, Tanzania, Cote d' Ivoire, Mozambique, and Ethiopia.
6. The organization continued to creatively add value to the system via valuable policy impacting evidence based publications and thought leadership support to conferences, seminars and strategic retreats of stakeholder organizations within the Nigerian and West African Subregion as well as Africa, via the Africa Corporate Governance Network [ACGN], Bank Directors' Association of Nigeria [BDAN] and the West African Bankers' Association [WABA].
7. There were 2 peer reviewed publications of the organization's transformation over the first past five years of the case study subject's tenure, as [a] From Idea to Reality: The FITC Story. A case study published in People First Magazine Vol.7 No. 1(17-22). Chartered Institute of Personnel Management of Nigeria [CIPMN] 2018 and [b] Branding Beyond Logo and Colors: A case study of FITCs evidence-based transformation. Being Chapter 13 of the book, J. Stefaniak (Ed.) (2015) Cases on Human Performance Improvement Technologies. Hershey, PA: IGI Publishing.
8. The organization's long held aspiration for a permanent site made great advancements in 10 years. The organization had in the past, lost permanent site project lands in Abeokuta and Abuja, both in Nigeria. Now, the reverse is the case. In 2011, it obtained Layout approval of the Lekki Campus in Lagos. In 2013, the organization obtained its fencing approval. The virgin land was cleared and fenced from 2013-2017. It also secured approval for an adjacent crescent within the layout, to be named after the organization, as well as completed its corporate social responsibility donation of the estate layout main gate. The case study subject has been commended for ensuring that the organization not only took procession of the land, but established a visible presence. A peer mentor project was also identified for the organization, via a relationship with Kenya School of Monetary Economics [KSMS], from 2017.
9. The organization purchased, renovated and moved into a visibly branded Head Office Complex in Yaba area of Lagos metropolis that is accessible and equipped as a modern work environment that has continued to be appreciated by visiting international partner organizations. As at May 2009 when the case study subject resumed as the Chief Executive, the organization was occupying

the 2-5th floors of the Shippers' Towers building in Apapa area of Lagos. It was a public agency building that had depreciated due to lack of maintenance, over the period 1997 when the organization established the lease. It was at 2009 after the case study's resumption, that she presented the business case to the organization's board and thereafter, obtained approval of the Board to source for, acquire, renovate and move into the company's present address at Yaba, with supervision of the 2008/2010 Board. The organization then moved into its present office location at Yaba, in July 2010. This movement was at the organization's personal cost, 100% funded from its money market investments. As at the case study subject's departure from office, the organization's money market funds had grown to over 135% of what it was before it invested in acquiring a new head office and developments at the new site.

SOLUTIONS AND RECOMMENDATIONS

According to the African Union, it has adopted a Transformation Blueprint called Agenda 2063, a plan for transforming Africa into the global powerhouse of the future. It is a strategic framework for delivering on Africa's goal for inclusive and sustainable development. The Agenda 2063 is a concrete manifestation of the Pan – African drive for unity, self -determination, freedom, progress and collective prosperity pursued under Pan – Africanism and African Renaissance.

In view of the continental context in terms of Africa's Agenda 2063 aspirations and other continental developments as applicable to Asia, Europe and the Americas to name a few as emerging, the case study subject's leadership journey in the field of Performance Improvement and observations from this chapter and as emerging in the Performance Improvement Innovation and Human Performance Technology space, solutions and recommendations to the challenges are:

1. Aspiring performance improvement practitioners need to take an inventory of their current skills as well as project likely skill requirements within their space over the next one to two decades nationally, regionally and globally.
2. Identify germinal and emerging theoretical constructs that are of interest to them and start to always seek progressive alignment as they emerge as leaders, in their chosen area of aspired practice.
3. Consider potential areas the leaders would like to give back and impact society, in constructive and wholesome way
4. Seek potential stakeholders in the space they have identified, then start to engage and network early, in order to identify those, they would like to learn from, so that mentorship relationships can emerge naturally over the years, in mutually beneficial manner that makes impact for wider society
5. Identify those that are further lower in skills in the area, so that as they get mentored, they in turn, invest in others by passing down their learning and in the process, not only internalizing the benefits of coaching, but they themselves, coaching others
6. Publish, publish and publish, in collaboration with mentors and in peer reviewed journals and publications. By so doing, they are investing in new knowledge in their area and contributing to the knowledge pool while learning in the process.
7. Invest in participating in professional networking events by contributing martials, volunteering, and making presentations in order to get feedback for improvement
8. Engage peers, keep tract of each other, celebrate each other's milestones and learn as peers.

9. Ensure individual leadership brand credibility by keeping to promises within professional networks and seeking the common good, always
10. Always facilitate the process of obtaining feedback from collaborations, for sufficient learning and knowledge management

This case study, *Storytelling: An African Leadership Journey of Performance Improvement*, sought to present insights into the case study subject's leadership journey in performance improvement, over a period of two decades. The case study provided the subject's application of germinal theoretical frameworks, concepts and innovations in pursuit of her aspirations for meaningful impact and contribution as an African performance improvement practitioner. Using a professional storytelling narrative, the case study provided additional '*behind the scenes*' context to the case study subject's leadership journey, discipline and outcomes of such practices, using an interview with the case study subject and testimonials, from 6 former supervisors from 5 previous employers, in multiple roles from 1997 to 2019. Even though the case study subject was born in Nigeria, undertook most of her studies except her doctoral degree within Nigeria with most of her working life within Nigeria, she has by virtue of her immediate past two employers, worked in situations with multi-leveled collaborations across Africa and beyond, namely;

1. In her role on two major projects at the global big four firm, engaged and worked with colleagues from the firm in the United Kingdom and also worked with colleagues from the Kenyan firm on internal human resources team within the then Africa Central Region of the firm, as coach to the internal human resources team in Nigeria
2. In her role on the Governing Council of West African Bankers' Association [WABA] from May 4, 2009 to August 2, 2019 – Gambia, Ghana, Liberia, Cote'd Ivoire
3. In her role as Managing Director and Chief Executive Officer of Financial Institutions Training Centre at the African Corporate Governance Network [ACGN] from January 2012 to August 2, 2019 – Nairobi, Ethiopia, Cote'd Ivoire, Ghana, Namibia, South Africa, Tanzania
4. In her role as International Director on Global Board of the International Society for Performance Improvement – various cities the United States, Prague in the Chez Republic, Tbilisi, in Georgia as well as engaged and related with members in over 48 countries outside the United States online and at various conferenced in Europe, Middle East and Africa as well as the United States, from 2012 – 2014.

FUTURE RESEARCH DIRECTIONS

Even though the case study presents an experience of a Nigerian, because of the various exposures of the case study subject across Africa, it is an African experience which practical application of the principles can be explored across cultural and environmental settings, because the subject had always had the mindset of a global leader with cross cultural views. However, in view of a growing global need of effective Performance Improvement Innovation Practices, future research directions could include a meta-analysis of similar case studies from different continents, in order to derive themes and patterns of issues, challenges and experiences in application of the principles and underlying concepts.

CONCLUSION

'Transformation requires the application of tried and tested standards for performance, a cocktail of systemic diagnostics and psychometric assessments of leadership. There is also the need for a committed change champion that is able to constructively and truthfully paint a mental picture of an aspired state, inspire all stakeholders to inclusively stay the course, with the needed energy level and buy-in. (Dr. Lucy Surhyel Newman, CPT).

This chapter presented a case study titled *Storytelling: An African Leadership Journey of Performance Improvement*, with insights into the leadership journey of a female executive of African descent and a working mother, over a period of two decades. It sought to demonstrate practical application of Performance Improvement Innovation with broad impact in society. The International Society for Performance Improvement's 10 Standards for Performance Improvement are usually applied to projects. The unique aspect about this case study, is that the author has narrated personal application of the concepts and standards to her individual career as narrated here-in, using a third person professional story telling methodology. By this, the author hopes that employees, executives, professional career coaches and emerging performance improvement professionals will find the case study inspiring in planning how to personally apply some of the concepts to their job roles and career plans, as a means of simplifying application of the principles to other projects, based on this self-application narrative. The case study subject has here-in demonstrated that it is possible if consistently and systematically applied over the medium to long term, with sterling outcomes

REFERENCES

African Union. (2019). *Agenda2063*. Retrieved September 29, 2019 from https://au.int/en/documents/20141012/key-documents-agenda2063

Burns, J. M. (1978). *Leadership*. Harper & Row.

Charan, R. (2009). *Leadership in the era of economic uncertainty: New rules for getting the right things done in difficult times*. New York: McGraw Hill. doi:10.1177/0974173920090529

Fulmer, R. M., & Goldsmith, M. (2001). *The leadership investment: How the world's best organizations gain strategic advantage through leadership development*. New York: Amacom.

Gallo, C. (2016). The Storyteller's Secret: How TED Speakers and Inspirational Leaders Turn Their Passion into Performance. London: St. Martin's Press.

International Society for Performance Improvement. (2019). *Mission, Vision, Guiding Principles*. Retrieved August 22, 2014 from https://ispi.org/ISPI/Our_Society/About_ISPI/Mission_Vision/ISPI/About_ISPI/MIssion_Vision.aspx?hkey=ae6821d4-a210-4ab4-9f3e-fc81ebae69a4

International Society for Performance Improvement. (2020). *10 standards*. Retrieved from: https://ispi.org/page/10Standards

Kaufman, R. (2006). Mega Planning and Thinking: Defining and Achieving Measurable Success. In Handbook of Human Performance Technology (3rd ed.; pp. 139 – 154). San Francisco, CA. Pfeiffer.

Newman, L. S (2008). *Effects of Employee Performance Management Systems on Employee Learning and Development*. Doctorate in Business Administration (DBA) submitted to the University of Phoenix, Arizona. USA. ProQuest UMI.

Newman, L. S. (2011). Transformational Leadership; A Leadership approach for changing Times. *FITC Journal of Banking and Finance*, *11*(1), 3–17.

Newman, L. S. (2015). Branding Beyond Logo and Colors: A case study of FITC's evidence-based transformation. In J. Stefaniak (Ed.), Cases on Human Performance Improvement Technologies (pp. 308 – 343). Hershey, PA: IGI Publishing.

Newman, L. S. (2018). Footprints of an Amazon: A Review of Dr Newman's Tenure. *FITC Financial Sector Pinnacle Magazine*, *19*(7), 6–8.

Newman, L.S. (2019). Leveraging Corporate Governance for Economic Development: Imperatives for Governments and Regulators in Sub Saharan Africa. *The Director*, *22*(2), 37-48.

Nossel, M. (2018). *Powered by Storytelling: Excavate, Craft and Present Stories to Transform Business Communication*. New York: McGraw-Hill Books.

Sell, Y., & Vielmetter, G. (2014). Leadership 2030: The Six Megatrends You Need to Understand to Lead Your Company into the Future. American Management Association.

Wikipedia. (2019a). *International Society for Performance Improvement*. Retrieved August 19, 2019. From https://en.wikipedia.org/wiki/International_Society_for_Performance_Improvement

Wikipedia. (2019b). *Human Performance Technology*. Retrieved August 19, 2019 from https://en.wikipedia.org/wiki/Human_performance_technology

Wikipedia. (2019c). *Lucy Surhyel Newman*. Retrieved August 19, 2019 from https://en.wikipedia.org/wiki/Lucy_Surhyel_Newman

Wikipedia. (2019d). *Thomas Gilbert (Engineer).* Retrieved July 31, 2019 from https://en.wikipedia.org/wiki/Thomas_Gilbert_(engineer)

KEY TERMS AND DEFINITIONS

10 Standards of Performance Improvement: According to the International Society for Performance Improvement (ISPI, 2020), as obtained from the society's website, "our approach and our 10 Standards of Performance Improvement are universal. They can be applied to any individual, group, organization, industry, or sector and can be used to create meaningful results for any performance challenge or opportunity."

Africa: Africa is the world's second largest and second most-populous continent, being behind Asia in both categories. It covers 6% of Earth's total surface area and 20% of its land area. With 1.2 billion people as of 2016, it accounts for about 16% of the world's human population. The continent is surrounded by the Mediterranean Sea to the north, the Isthmus of Suez and the Red Sea to the northeast, the Indian Ocean to the southeast and the Atlantic Ocean to the west. It contains 54 fully recognised sovereign states (countries), nine territories and two de facto independent states with limited or no recognition. The majority of the continent and its countries are in the Northern Hemisphere, with a substantial portion and number of countries in the Southern Hemisphere. Africa's average population is the youngest amongst all the continents; the median age in 2012 was 19.7, when the worldwide median age was 30.4. Algeria is Africa's largest country by area, and Nigeria is its largest by population.

African Union: In May 1963, 32 Heads of independent African States met in Addis Ababa Ethiopia to sign the Charter creating Africa's first post-independence continental institution, The African Union (AU) is a continental body consisting of the 55 member states that make up the countries of the African Continent. It was officially launched in 2002 as a successor to the Organization of African Unity (OAU, 1963-1999).

Agenda2063: It is Africa's blueprint and master plan for transforming Africa into the global powerhouse of the future. It is the continent's strategic framework that aims to deliver on its goal for inclusive and sustainable development and is a concrete manifestation of the pan-African drive for unity, self-determination, freedom, progress and collective prosperity pursued under Pan-Africanism and African Renaissance. The genesis of Agenda 2063 was the realisation by African leaders that there was a need to refocus and reprioritise Africa's agenda from the struggle against apartheid and the attainment of political independence for the continent which had been the focus of The Organisation of African Unity (OAU), the precursor of the African Union; and instead to prioritise inclusive social and economic development, continental and regional integration, democratic governance and peace and security amongst other issues aimed at repositioning Africa to becoming a dominant player in the global arena. As an affirmation of their commitment to support Africa's new path for attaining inclusive and sustainable economic growth and development African heads of state and government signed the 50th Anniversary Solemn Declaration during the Golden Jubilee celebrations of the formation of the OAU /AU in May 2013. The declaration marked the re-dedication of Africa towards the attainment of the Pan African Vision of An integrated, prosperous and peaceful Africa, driven by its own citizens, representing a dynamic force in the international arena and Agenda 2063 is the concrete manifestation of how the continent intends to achieve this vision within a 50 year period from 2013 to 2063.

Certified Performance Technologist Discipline: According to the International Society for Performance Improvement, the Certified Performance Technologist (CPT) certification was established in2002, to help practitioners distinguish themselves in the performance improvement industry. This proficiency-based certification involves practitioners documenting examples of their work based on a set of standards, criteria, and code of ethics. Applications are rigorously reviewed by peers who evaluate how the work submitted has produced results through a systematic, measurable process. Those who earn their certification demonstrate their dedication to the field by keeping up with continuing education requirements, which is required to re-certify every three years. This certification is in demand by organizations hiring for specific expertise from individuals who have proven they know how to get results. It is therefore, apt to infer that the Certified Performance Technologist designation, is awarded by the International Society for Performance Improvement, to individuals whose work demonstrates their ability to get results by systematically identifying and removing barriers to performance.

Human Performance Technology: According to Wikipedia, the International Society for Performance Improvement (ISPI) defines Human Performance Technology as: "a systematic approach to improving productivity and competence, uses a set of methods and procedures—and a strategy for solving problems—for realizing opportunities related to the performance of people. More specific, it is a process of selection, analysis, design, development, implementation, and evaluation of programs to most cost-effectively influence human behavior and accomplishment. It is a systematic combination of three fundamental processes: performance analysis, cause analysis, and intervention selection, and can be applied to individuals, small groups, and large organizations" (ISPI, 2012). A simpler definition of Human Performance Technology is a systematic approach to improving individual and organizational performance (Pershing, 2006). A common misunderstanding of the word technology with regards to Human Performance Technology, is that it relates to information technologies. In Human Performance Technology, the term *technology*, refers to the specialized aspects of the field of Human Performance. Technology: the application of scientific knowledge for practical purposes, especially in industry, as a branch of knowledge dealing with engineering or applied science. In terms of origins of Human Performance Technology, Wikipedia further explained that the field also referred to as Performance Improvement, emerged from the fields of educational technology and instructional technology in the 1950s and 1960s. In the post war period, application of the Instructional Systems Design (ISD) model was not consistently returning the desired improvements to organizational performance. This led the emergence of Human Performance Technology as a separate field from Instructional Systems Design, in the late 1960s to early 1970s when the National Society for Programmed Instruction was renamed the National Society for Performance and Instruction (NSPI) and then again to the International Society for Performance Improvement (ISPI) in 1995. (Chyung, 2008) indicated that Human Performance Technology evolved as a systemic and systematic approach to address complex types of performance issues and to assist in the proper diagnosis and implementation of solutions to close performance gaps among individuals. The origins of HPT can be primarily traced back to the work of Thomas Gilbert, Geary Rummler, Karen Brethower, Roger Kaufman, Bob Mager, Donald Tosti, Lloyd Homme and Joe Harless. They (Gilbert and Rummler in particular) were the pioneers of the field.

Nigeria: Nigeria, officially the Federal Republic of Nigeria, is a country in West Africa, bordering Niger in the north, Chad in the northeast, Cameroon in the east, and Benin in the west. Its coast in the south is located on the Gulf of Guinea in the Atlantic Ocean. The federation comprises 36 states and 1 Federal Capital Territory, where the capital, Abuja, is located. The constitution defines Nigeria as a democratic secular state. Nigeria has been home to a number of ancient and indigenous kingdoms and states over the millennia. The modern state originated from British colonial rule beginning in the 19th century, and took its present territorial shape with the merging of the Southern Nigeria Protectorate and Northern Nigeria Protectorate in 1914. The British set up administrative and legal structures while practising indirect rule through traditional chiefdoms. Nigeria became a formally independent federation in 1960. It experienced a civil war from 1967 to 1970. It thereafter alternated between democratically elected civilian governments and military dictatorships until it achieved a stable democracy in

1999, with the 2011 presidential election considered the first to be reasonably free and fair. Nigeria is often referred to as the "Giant of Africa", owing to its large population and economy. With 186 million inhabitants, Nigeria is the most populous country in Africa and the seventh most populous country in the world. Nigeria has the third-largest youth population in the world, after India and China, with more than 90 million of its population under age 18. The country is viewed as a multinational state as it is inhabited by 250 ethnic groups, of which the three largest are the Hausa, Igbo and Yoruba; these ethnic groups speak over 500 different native languages and are identified with a wide variety of cultures. The official language of Nigeria is Nigerian English, chosen to facilitate linguistic unity at the national level. Nigeria is the world's 20th largest economy as of 2015, worth more than $500 billion and $1 trillion in terms of nominal GDP and purchasing power parity respectively. It overtook South Africa to become Africa's largest economy in 2014.

APPENDIX: SAMPLE QUESTIONS

1. Please identify and list the case study theoretical concepts that shaped the case study subject's leadership journey
2. The case study subject described how she applied the 10 standards of performance improvement to roles as defined in her job description. Please create a sample basic job description and also convert that into a project-based version applying the 10 standards of performance improvement.
3. What skills and values did the case study subject find useful in shaping her leadership style as a female leader of African descent in a global world for optimal impact?
4. Please list the outcomes of the case study subject's impact as an African leader and working mother.
5. Kindly share how the case study subject applied the 10 standards of performance improvement in at least 2 to 3 roles between 1997 and 2019. Do you think these practicable in your scenario? Please provide reasons and an example, to support your view.

Chapter 9
The Use of Companion Applications to Support Instructor-Led Training

Stephanie R. Johnson
PACCAR, USA

EXECUTIVE SUMMARY

This case study reflects on the use of a mobile training companion application to overcome limitations of supporting a level-three evaluation of the participants following a face-to-face training course. A level-three evaluation determines how well a person that attended training is able to transfer the information they learned to their job. The rapid adoption of smartphones enables the creation of solutions not previously considered viable in this industry, which has typically used either a traditional web-based training strategy or a traditional face-to-face training strategy to meet its training objectives. This solution is especially important because the training attendees work individually and each person covers a different territory than another, making it even more difficult to measure transfer.

ORGANIZATION BACKGROUND

The manufacturer for this case study is a global technology leader in the design, manufacture and customer support of premium light-, medium- and heavy-duty trucks under the several well-known nameplates. The company also designs and manufactures advanced diesel engines, provides financial services, information technology, and distributes truck parts related to its principal business.

One nameplate builds premium commercial vehicles for sale in the U.S., Canada, Mexico and Australia and for export throughout the world. Another nameplate designs, manufactures and distributes premium commercial vehicles in the US and Canada. The final nameplate manufactures trucks in the Netherlands, Belgium, Brazil and the United Kingdom for sale throughout Western and Eastern Europe, and for export to Asia, Africa, North and South America.

DOI: 10.4018/978-1-7998-3673-5.ch009

The manufacturer delivers its products and services to customers worldwide through an extensive dealer network of 2,200 locations. Globally, the company sells the company's products in more than 100 countries and is expanding its dealer network in Asia and throughout the world. Approximately half of the revenues and profits are generated outside the United States.

The aftermarket parts division operates a network of parts distribution centers offering aftermarket support to their nameplate dealers and customers around the world. Aftermarket support includes customer call centers operating 24 hours a day throughout the year and technologically advanced systems to enhance inventory control and expedite order processing.

Their financial services provide finance, lease, and insurance services to dealers and customers in 24 countries including a portfolio of more than 180,000 trucks and trailers and total assets in excess of US$13 billion. The group includes a major full-service truck leasing company in North America, with a fleet of 38,000 vehicles. Total revenue for the manufacturer was US$23 billion in 2018 (Class 8 Truck Manufacturer, 2019).

SETTING THE STAGE

This case study represents the work done to support aftermarket part and service training for a large transportation manufacturer with a franchised dealer network geographically spread throughout North America. There are many divisions within this manufacturing company located throughout the world. This project affected only locations in Canada, Mexico, and the United States. The division in question specifically deals with what is referred to as "aftersales" or aftermarket product. To further explain, there are several divisions responsible for engineering, designing, and ultimately, manufacturing large transportation vehicles, also known as Class 8 trucks. Class 8 trucks weigh 33,000 pounds or more. Once these trucks are manufactured, they are transferred to the franchised dealer network to sell to the end customer. As the truck is initially sold, everything on it is considered original equipment. Anything that would then have to be purchased to support the truck throughout its lifecycle (for example, oil and an oil filter for an oil change) is considered aftersales or aftermarket parts and service. These products are available to the end customers through any dealer franchise in the network, currently more than 800 locations in North America. The division in this case study supplies the dealer franchises with the aftermarket parts necessary to keep the Class 8 trucks on the road transporting goods and services.

Quite simply, there are many opportunities for learning within the franchised dealer network. Each franchise could develop a training plan to teach their dealership employees about the features and benefits of each aftermarket part and then execute it. However, the franchises have come to rely on the original equipment manufacturer (otherwise known as the Class 8 truck manufacturer), specifically the "aftersales" division, to provide training to the dealers, as a way to reduce cost and avoid duplication of effort. The dealers can then use the resources they may have previously used on developing training elsewhere in their business. This is typically reflected in online training opportunities offered through the manufacturer's Learning Management System (LMS) and printed supplemental technical publications, but periodically, throughout the year, the aftersales division offers face-to-face training courses for franchised dealer participants. The Learning Management System enables dealership employees to log into the virtual learning courses any time they would like (24/7/365) to review courses on sales, dealership management, or product information. These courses are targeted toward the entire dealership network, so in many cases, they do not enable the dealership employee to learn details about a product in a niche

market. This information is only available at the face-to-face training events. Therefore, the dealership must invest in the travel expenses to enroll their employees in one of these face-to-face courses. Dealership management, hence, requested that the manufacturer develop a way to ensure that the dealership investment in face-to-face training was well-spent.

Since the face-to-face training courses are the only offering not tied to the Learning Management System, the built-in metrics cannot be used to calculate the dealer return on investment. There are reasons for this, they include difficulty in standardizing the experience of the face-to-face events, especially regarding instructors, products, and processes. For example, one of the objectives of the face-to-face learning events is to cultivate personal relationships between dealers and regional product representatives for various aftermarket components. In this case, attending face-to-face training is preferred, as the work environment is highly relationship-based and the workforce perceives that interaction with new product and manufacturing representatives is necessary for business success. Given that the regional representatives differ from region to region, there has been difficulty matching the training script between regions. Another reason for this is the difference in product utilization between the regions, and the possible service opportunities regarding failure modes and their frequencies. For example, the manufactured vehicle that supports the northern Canadian provinces will be set up quite differently than a regional vehicle supporting the southern United States. The dealers and the regional product representatives need to collaborate on which products are most important to their customers, which diversifies the product mix and further impacts the standardization of curricula. Finally, the service processes likely to be encountered in different regions may also differ significantly. For example, differences in temperature and driving conditions may require service work on the radiator, but one region may be more likely to see problems that accompany extreme cold versus excessive heat, a problem in the other region.

Another aspect to take into consideration is the collection of physical marketing assets and service bulletins distributed during training. Physical marketing collateral is less desirable than digital reference materials for dealership employees with confined office space and/or large territories. The sheer volume and weight of the material makes transporting it to the customer cumbersome. However, digital content is not as easy to share with customers who are used to glossy, high-resolution brochures as a takeaway from a sales encounter. (See Figure 1.) Service personnel appear to still prefer physical assets due to the lack of access to computer terminals in the existing service bays. For example, if a service technician is servicing a vehicle for a 100,000-mile check-up and determines that the truck requires new brake drums, the technician must use a brochure to help the customer decide which brake drum application is best for him/her. There is no computer available for this type of use within the service area.

The distribution of Class 8 trucks and their aftermarket products extend across North America. Offerings and materials required for the regions differ. Consideration of the return on investment must be taken into account when making decisions related to materials, course-type offerings, and other opportunities for education and support for dealerships and customers.

CASE DESCRIPTION

Providing aftersales training to employees of a franchised dealer network can be difficult. The solution must overcome physical distance between locations, brand-specific support, and language barriers. It must create an environment that provides appropriate information, access to product, and subject matter expertise in all topics of aftersales support. It requires substantial investment from both the manufacturer

Figure 1. Physical collateral versus digital

and the dealership franchise. Much of this has been overcome by providing online training to the dealers through a secure learning management system (LMS) accessed through the secure manufacturer portal. The learning management system chosen by the manufacturer uses a shareable content object reference model (SCORM) logic engine to provide courses to the users based on prior performance. For instance, a learner cannot access new training courses unless they have mastered the older, pre-requisite courses. The web-based training courses are provided to the dealers 365/24/7 using the SCORM-compliant format that tracks progress and mastery for each dealer individually. The individual scores are also aggregated into an average dealership score, called the Parts Challenge, which is measured by the manufacturer monthly. The metric is computed by determining how many courses were released during the month, how many dealers are available to be trained within a specific franchise, and finally, how many of those available dealers successfully completed their training. (See Figure 2.) Failure to meet the training metric for the year precludes dealerships from winning manufacturer awards for the previous fiscal year. One example of such an award is "Dealer (Franchise) of the Year."

There are times, however, when the web-based training courses are not the best option for learning, especially if the web-based lesson was conceived as an extension of a larger scale learning opportunity (Montrieux, et. al., 2015, pp. 178). One option is to provide a subscription to a printed collection of technical articles that describe the features and benefits of specific products and cross-reference vehicle makes and models with available options. These training assets are amassed at the dealership and provide a collection of reference, especially for vehicles manufactured prior to the learning management system. The technical information that can be conveyed within the publication can be superior to a web-based approach; for example, complex diagrams and tables can stretch across a two-page layout to minimize the eye fatigue that can accompany excessive scrolling (See Figure 3.) on a computer screen (Tseng, 2014). These technical publications are assigned to specific dealership employees and mastery of these materials is also measured by tests that are presented within the Learning Management System and aggregated as part of the dealer training metric.

Figure 2. Sample of parts challenge metrics

Parts Challenge Dealer Rankings

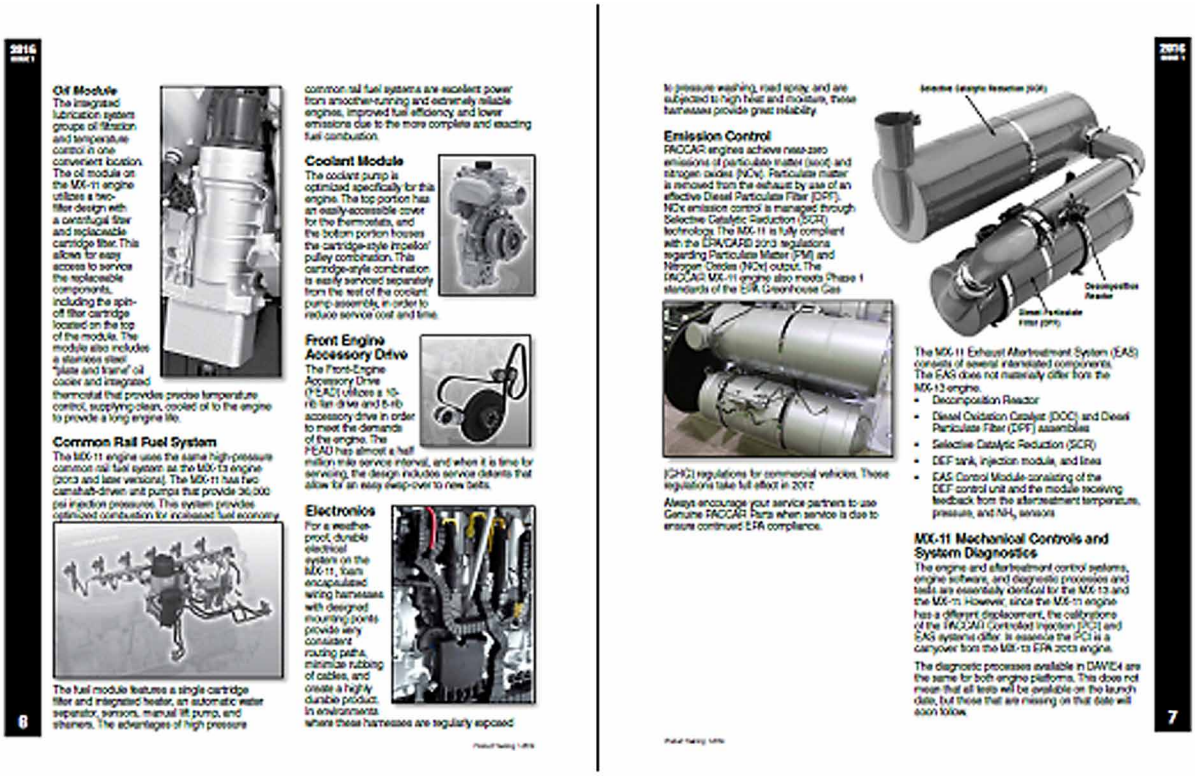
Code	Points Possible	Goal Points	Points Earned	% Complete	% to Goal	Met Goal
B326	106	95	106	100	111.58	Yes
T061	147	132	147	100	111.36	Yes
S025	147	132	147	100	111.36	Yes
W009	79	71	79	100	111.27	Yes
B325	326	293	326	100	111.26	Yes
T425	346	311	346	100	111.25	Yes
M461	188	169	188	100	111.24	Yes
I134	308	277	308	100	111.19	Yes
K960	438	394	438	100	111.17	Yes
E011	657	591	657	100	111.17	Yes
P266	41	37	3	7.32	8.11	
C975	414	373	30	7.25	8.04	
K009	227	204	15	6.61	7.35	
C977	82	74	3	3.66	4.05	
C444	535	482	16	2.99	3.32	
K015	226	203	5	2.21	2.46	
K800	171	154	3	1.75	1.95	
S060	438	394	3	0.68	0.76	
K205	65	59	0	0	0	
L502	65	59	0	0	0	
L501	449	404	0	0	0	
S061	188	169	0	0	0	
G194	79	71	0	0	0	
U001	65	59	0	0	0	
G370	188	169	0	0	0	
356	148373	133540	99738			94

Technology Concerns

Just four short years ago, most members of the target audience used a basic cell phone in their daily operations. These employees relied on a cell phone signal to conduct business; any interruption to the cell signal and the opportunity to work was greatly diminished. The adoption of the smartphone, with its Internet access and computing ability, enables the employees to continue working when cell phone signals are weak. The employees can either use an application downloaded onto the phone or connect to Wi-Fi networks to continue their work.

Of course, the smartphone being used is only as good as the mobile network that it connects to. In the United States, 4G network availability has increased from a range of 70.05% (Sprint) – 86.23% (Verizon) (Fitchard, 2016.) to a range of 89.5% (Sprint) – 94.8% (Verizon; Fitchard, 2019). This metric shows the proportion of time "Opensignal users" have a long term evolution (LTE) connection available to them on each operator's network. "Opensignal users" represent a collective amount of smartphone users, regardless of the network they are connecting to. It is a measure of how often users can access a 4G network rather than a measure of geographic or population coverage (Fitchard, 2019). In Canada, 4G network

Figure 3. Sample technical publication.



availability has increased from a range of 70.38% (Bell) – 80.25% (Rogers; Fitchard, 2016) to a range of 87.9% (Rogers) – 90.1% (Telus). By area, Verizon's 4G LTE network covers 69.62% of the United States (excluding Alaska) and AT&T's 3G network covers 70.43% of the United States. In comparison, the three main carriers in Canada only cover 28.8% or less of Canada by area (Telus 28.8%, Bell 28.8%, Rogers 19.9%). However, "nearly half the population of Canada lives in just the eight largest cities," meaning strong coverage there would account for a high coverage percentage by population (Clark, 2018).

Given the changes and advancements in the mobile network capacity, it was decided that this might be the time to consider a mobile solution.

Technology Components

Multiple requests have been made to the manufacturer's training manager to provide evidence of student mastery, and ultimately information to support return-on-investment (ROI) for both the aftermarket product manufacturer and the franchise owners. This can easily be calculated for the training assets tied to the Learning Management System. This is not so easily determined for the face-to-face training courses, given the diversity of requirements and qualities as described in the previous section of the case study. However, Management of Dealer Franchises and aftermarket product manufacturers, as well as the Class 8 truck manufacturer, support the efforts to provide proof that investment in face-to-face training events helps dealership employees to meet their assigned metrics and transfer knowledge, gained through training, directly to work situations.

Determining how to support instructor-led, product-driven curriculum with digital references, without recreating, hijacking, or interfering with the web-based training strategy (at the manufacturer) became the focus of the project.

First, it was recognized that a strength of the learning management system strategy is the standardization of the content for all audiences and the ability for playback 365/24/7. A learning management system serves up appropriate content to the learner by granting access to a finite set courses based on job role, mastery level, or location. For example, the course assigned to an aftermarket salesperson would be different than the course assigned to the aftermarket manager. However, all aftermarket salespersons see the same standardized course. Another example is based on mastery level. The learning management system will not unlock new content unless the older, pre-requisite content has been mastered. Two new employees will follow the same course progression, but one of those employees may advance through the material at a faster rate than the other employee. Also, the learning management system allows for localized content; specific course content is subtitled with either Spanish or French Canadian language to ensure mastery for dealership employees for which English is not their first language. The information is standardized; the language is not. Finally, the learning management system is available through a secure portal on the internet. Many dealer franchises are open during non-traditional hours, with some being open all day, every day. Because our economies are dependent on the flow of goods, it is important that Class 8 trucks transport goods and services throughout the day and night. The dealer franchises serving the end customer must meet their customer's needs. Therefore, they can be staffed in the middle of the night, and the employees on third shift during a holiday need the same access to training as an employee working first shift, mid-week. The learning management system provides that level of access to the courses.

Second, it was recognized that the aftermarket parts and service training provided by the Class 8 truck manufacturer required the harmonization of educational information from multiple internal and external sources to describe the necessary feature and benefit information or service process to be trained. This meant combining educational assets in various formats to include, but not limited to .doc, .ppt, .pub, .swf, .mp4, and .pdf. This was especially important, because the educational assets are from various and diverse sources. For example, when creating training material for a class introducing new powertrain components, the engineering division provided technical prints, whereas the marketing department provided high-resolution pictures in a publishing format. Other material was gathered from the service department, which included audio to help with troubleshooting procedures. While authoring content that creates SCORM-compliant material is relatively easy for web-based training, face-to-face trainers must make allowances to include various formats in a training course to make them appear to be seamless. Many times this means that a trainer has to be technically savvy enough to ensure that the presentation slides are able to play the content on the available computer, through a projector onto an appropriately-sized screen with audio output devices, such as overhead speakers, and ensure that the lighting in the room does not detract from the learner's experience.

Third, it was discussed that the dealers needed an incentive to complete the additional mastery requirements, because this was something that was not previously required. According to Northrup (2018),

Training designs that incorporate Morstain and Smart's (1974) six motivational factors for adult learners may expect positive training transfer. Trainers who understand Knowles et al.'s (2005) six assumptions of the adult learner and include activities such as mentorship and the use of the motivational factors will help propel the learner from one who is learning to one who retains learning. Moreover, a work

environment that includes supervisory and peer support, transfer partnerships between the trainee, trainer, and manager, and the opportunity for the trainee to use their skills are all critical to enhancing transfer of training.

In addition, Petrovic-Dzerdz (2019) stated that "applying gamification principles to motivate students to repeatedly engage with online tests, even if they are open-book and unsupervised, could be an effective option for supporting student learning, especially in content-heavy courses." Gamification is really a new option for this industry. Employees who are new to smartphones do not necessarily expect the introduction of game-playing elements into the mobile training companion application, but point-scoring and competition with others has been widely accepted. This technique may improve learning outcomes for the trainees and encourage engagement with the mobile training companion application.

Finally, it was determined that access to the information gathered from the solution must be available to multiple layers of the business to include training managers from the Class 8 truck manufacturer, aftermarket product manufacturers, dealer franchises, and the dealers, themselves.

Management and Organizational Concerns

There were three major concerns from management at the outset of this project: lack of expertise, lack of metrics, and return on investment.

First, the truck manufacturer's aftermarket division has internal information technology support, but this support it reserved for desktop / laptop support, application support, and connectivity. They do provide access to mobile phones required to do business, but they typically do not provide any phone application support, except security measures. Also, the Class 8 truck manufacturer does have a dedicated internal information technology division, but that division did not necessarily have the expertise necessary to develop a mobile application as a companion application to the learning management system, especially given that the learning management system was outsourced to a third-party supplier.

Second, there was concern that there were no defined metrics to measure adoption and mastery for users of the companion application. Because training has consistently been metric-driven, and a lack of adoption of a new solution would not initially affect the ability for a dealer to will an award at year-end, there was concern about voluntary adoption. This concern was not unfounded, though the ramifications will be discussed later in this case study. To better alleviate this concern, the decision was made to include a requirement to pull registrant information from the learning management system and push completion information to it, so that appropriate metrics could be developed and incorporated at a later time.

Finally, the Class 8 truck manufacturer is fiscally conservative. It is important that any investment shows a return, both to the dealership and to the manufacturer itself. The dealerships were looking to ensure that the capital expenditure on their part was worth it, due to the sales personnel gaining more product knowledge and relationship-building at the face-to-face events. The truck manufacturer's after-sales division was looking for an increase in sales orders from the dealerships, due to an increase in the dealer's ability to both make a sale and match product to meet customer need. The truck manufacturer was ultimately looking for a proposal that could realize a return on investment with a modest uptick in sales, attributed to face-to-face training attendance, especially regional events that included targeted sales training.

CURRENT CHALLENGES FACING THE ORGANIZATION

The United States economy is currently viewed as a challenge facing the Class 8 truck manufacturer.

"NABE Outlook Survey panelists believe the U.S. economy will continue to expand into 2020, but they anticipate GDP growth will fall below 2% next year for the first time since 2016," said NABE President Constance Hunter, CBE, chief economist, KPMG (NABE, 2019).

One of the reasons for this is the state of trade negotiations with China. United States export losses to China during this trade war are estimated at about $30 billion. China's import losses to the United States have also seen a drop in the amount of $54 billion (Roberts, 2019). The uncertainty in this market has affected the automotive industry, including heavy trucks, due to global expansion of the manufacture of aftermarket parts, some of which are sourced in China.

An increase of tariffs on goods essential to the manufacture of trucks have sparked a pullback in budget from the Class 8 truck manufacturer (Lynch & Paletta, 2018). Imported aluminum has an imposed tariff of 10 percent, while foreign-made steel incurs a 25 percent tariff. Although there are steel and aluminum resources available within the United States, increased fees on existing contracts and contract renegotiation do affect available capital budget.

Lastly, the Class 8 truck market is cyclic in nature. When profits are up, truck sales tend to increase. When profits are down, fleets and other owners' groups tend to hold onto their trucks for a longer period of time. While this tends to pull profits away from the truck manufacturing divisions, the aftersales division may see an increase in profits, due to an increased need for parts and service on an aging vehicle fleet.

'In the first quarter of 2018, the world was awash in manufacturing good news," he said, adding tariffs quickly started to suppress that growth. "Tariffs have been the driver in slowing down the entire global economy….' Tariffs and a looming trade war raise the risk of an economic recession, and Vieth noted that an industrial recession is already underway in the U.S., which has led to a freight recession across all segments (Cannon, 2019).

All of these challenges support the need for a solution to ensure that the face-to-face training investment for both the Class 8 truck manufacturer and the dealer groups is wisely spent.

SOLUTIONS AND RECOMMENDATIONS

In the past several years the adoption of smartphones has increased more than threefold. According to statista.com, in 2010, the United States smartphone penetration in the mobile phone market was twenty-seven percent (27%). The current estimate for 2019 is that the percentage will increase to around ninety percent (90.4%). It is this increased rate of adoption that enabled the consideration of a solution that would rely on mobile technology platform to connect the information to the dealership employee and subsequently pass the results to the manufacturer.

Therefore, the decision was made to develop a face-to-face training mobile companion application to accompany dealers on the job and transfer assessment data to the Learning Management System to support a single record repository. This was necessary, because given that dealer franchise training met-

rics are reviewed on a monthly basis, there must be a single point of truth for individual dealer scores. Since the learning management system was already collecting dealer scores for the web-based course completions, it made sense to also include scores from the mobile training companion application into the employee records. In this way, the dealer franchise metric calculation report would only need to pull training data from a single source.

This solution required several different phases to come to fruition. These phases included the development of the mobile application for multiple platforms, the development of the integration solution between the mobile application and the existing learning management system, participation in security audits and cloud computing clearance through partnership with IT, the development of internal processes to manage the administration of the application, and the development of face-to-face training content for the mobile application to present to the dealership employee.

To develop the best possible mobile training application, the Class 8 truck manufacturer put the project out through a request for proposal (RFP) process. The training manager and the purchasing department vetted the eight project submissions and awarded the project to an existing vendor that was currently under a nondisclosure agreement. The training manager worked with a supplier to develop a wireframe of application. A wireframe is "an image or set of images which displays the functional elements of a website or page, typically used for planning a site's structure and functionality" (Oxford Press. (2019). Wireframe. Retrieved September 14, 2019, from https://www.lexico.com/en/definition/wireframe.) In terms of a mobile application, a wireframe operates the same as it does for web design. An iterative process was used to complete the wireframe and then vet the concept for both Android and Apple platforms. This is important because, according to Chau & Reith (2019), Android and Apple platforms accounted for "99.8% of the operating system market share for smartphones shipped worldwide in 2017 and 100% of the operating system market share last year." The phone's operating system is the software that, in effect, makes the phone "smart" and provides its computer-like functionality.

Partway through the process, it was realized that a significant percentage of the target audience still did not own a smartphone, so a browser-based application was also developed and became the access point for the administrators. Digital file extensions available in the app were initially limited to word processing files, presentation slides, and marketing files (including file extensions .doc, .ppt, .pub and .pdf), but eventually audio files of actual classroom recordings were included. It should be noted that the vendor supplying the learning management system did not respond to the request for proposal (RFP) process; they preferred to continue with their niche of expertise and were contracted for the integration project only. This is important because there ended up being three parties integral to the success of the project. The Class 8 truck manufacturer, the mobile training companion application developer, and the learning management system provider. All of these entities had to learn to work together to communicate needs to get the work done without violating any non-disclosure agreements (NDA) or disclosing intellectual property unnecessary to the project.

The training manager directed integration activities between application developers, the vendor project manager, and the learning management system provider. Processes were developed to pull registration information from the learning management system regarding enrollment data to the mobile training companion application and then further processes were developed to push the training results information back to the learning management system. Additionally, auxiliary processes were developed to manage how enrolled students would be removed if their employment status changed during their training experience and how to re-enroll students who had not successfully completed the training exercises.

Next, the training manager and the application developers/project manager worked with the Class 8 truck manufacturer's information technology (IT) team to execute cloud-computing clearance and security audits. This phase of the project was initially disregarded due to the application developer having an existing non-disclosure agreement with the Class 8 truck manufacturer; however, it was determined that the clearance and audits were needed, due to an update to the information technology forms and processes that occurred after initial clearance had been granted to the application developer.

Next, the training manager developed internal processes to manage administration of the mobile application. The training manager took responsibility for uploading and designing the content interactions that the dealership employees would have in their interface with the mobile application. The training event specialists who comprised the balance of the training manager's team became responsible for day-to-day administration of the application. Any administration concerns that could not be addressed by the training team at the Class 8 truck manufacturer were escalated to the application development team for Tier 1 support and beyond. Tier 1 support includes application support that can be addressed by a support analyst with general knowledge of the application. An example of Tier 1 support includes helping a user to reset a forgotten password. Tier 2 support and beyond included application requiring a specialist's intervention and may lead to a patch, bug fix, or new version. An example of Tier 2 support includes patching the application to fix an issue created by an upgrade to a phone's operating system.

Finally, the training team worked in conjunction with aftermarket product manufacturers to collect digital marketing assets and develop appropriate questions for the dealership employees enrolled in face-to-face training courses. The questions mimicked a level-three evaluation (Kirkpatrick & Kirkpatrick, 2016) approach, where the application would begin sending questions to the face-to-face training participant two- to four-weeks after the course had completed. The questions described real-life, on-the-job questions that a dealership employee would expect to encounter in the course of their day-to-day work when dealing with a customer and measured the employee's ability to transfer the skills he learned in training to real-life. For example, "Mr. Smith owns an XXX-model cement mixer equipped with a XXX-model engine. He left a message for you that he is due to replace his brake shoes this month, based on his preventative maintenance cycle. Which product should you recommend?" The response given to the fictitious Mr. Smith would be judged against the criteria learned in the face-to-face training course regarding new brake components for cement-mixer applications. The dealership employee would receive up to 35 questions as a part of their test and had the ability to access to the digital assets describing the features and benefits of the products within the mobile application. The dealership employee would have four attempts to pass the test. The attempts combined both subject mastery and timing elements as an attempt. Therefore, the dealership employee had to master eighty percent (80%) of the questions within a sixty (60) minute window to pass the test. All attempts were aggregated into a final cut score. These scores were published within the learning management system on a Leaderboard to increase the competitive aspect of the training and support gamification of the application. Gamification is "the process of adding games or gamelike elements to something (such as a task) so as to encourage participation (Merriam-Webster, 2020.)." A Leaderboard is a gamification element that encourages competition between users by visually depicting individual point totals in numerical order from greatest to least. It was envisioned that eventually the dealership employees would be able to win prizes by placing at the top of the Leaderboard for specific training courses. At the time of this publication, this has not yet been implemented, as initial adoption of the application was still in process.

Evaluation came in the form of log-in and completion per instructor-led students, number of first- and second-tier support calls; and management anecdotes. First, we evaluated the solution by counting how many dealership employees attended the face-to-face training versus how many logged into the mobile training companion application. Next, we measured how many of the dealership employees, who had logged into the mobile training companion application, successfully completed the evaluation. Thirdly, we reviewed the log of the support calls, noting that most of the calls were relating to password reset activities. Finally, we approached the dealer franchise managers to determine if they felt that the mobile training companion application helped them to justify the expense of sending their employees to face-to-face training and collected their anecdotal evidence. Initial evaluation of the mobile training companion application has been favorable, but there is certainly room for improvement.

FUTURE TRENDS

The solution, while considered a success, has ample opportunities for improvement, especially regarding its launch. The launch of the mobile companion application solution was impacted by two main factors. One factor was the security requirements of Wi-Fi networks the trainees connected to. The second factor was the trainees' lack of knowledge about downloading applications to their phone. This underscores the importance of increasing involvement with various Information Technology (IT) functions, to increase the level of learner adoption.

The adoption rate was not as strong as we would have liked, but this was more a product of information technology (IT) restrictions than of lack of desire for the functionality. This was reflected in the number of first-level support calls requesting download support and password resets. Although there had been sufficient marketing and knowledge of the mobile training application launch among the dealership employees working within the aftermarket teams, this had not been translated across to the dealership employees working on the dealer information technology (IT) teams. Unfortunately, this resulted in a lot of re-work for certain dealership employees who were subjected to more stringent IT security restrictions than those of the Class 8 truck manufacturer.

For those who embraced the product, they could rate their progress against all other dealer trainees by utilizing the Leaderboard view within the application and the learning management system. This was especially apparent between certain dealer franchises who have healthy competitions between employees of differing dealer locations. Several employees who had initially passed the first test attempt, re-took the test to improve their cut scores by either increasing the correct answers or decreasing their total response time.

Management appeared to be happy, given the anecdotal evidence, to have a way to determine whether or not the trainees were able to recall training information four weeks after the face-to-face course using the level-three evaluation questions. In an email from an executive of a multi-franchise dealer group, the executive stated that s/he was more willing to invest in face-to-face training opportunities for employees who could prove they learned the material using the mobile training companion application (J. Doe, personal communication, September 30, 2018). It is difficult to determine how much of the aftermarket training affected the recognized increased sales, but even a nominal affect would be beneficial to the students (and in turn the dealerships) in terms of market share and margin. The Class 8 truck manufacturer does not have direct access to each dealer franchise's general ledger. However, the Class 8 truck manufacturer recorded increased parts sales of $510 million to the dealer franchises in 2018. This should

translate to increased inventory turns, increased sales, and increased profits for the dealer franchises because it would be unlikely that the increase would be due to the franchises buying and holding excessive inventory. The part that is difficult to determine is the specific pricing margins per dealer franchise and their individual contribution to the increase in the manufacturer's market share.

This strategy is under consideration at other divisions within the Class 8 truck manufacturer. Specifically, the Service Training Managers would like to see its adoption after face-to-face hands-on training events, especially regarding product changes required as a result of government regulation. It is also being considered as a way to supplement a modular approach to refresher training, for employees geographically dispersed globally requiring soft skills to complete their job requirements. For example, the testing within the mobile application can be designed to replicate an exchange between a dealer and an aftermarket product representative, or a Class 8 truck manufacturer representative to help the dealership employee resolve an end-customer concern regarding warranty or unscheduled service. The dealership employee may have the appropriate technical information to troubleshoot the end-customer's concern, but the manner by which they address the end-customer and/or the product representatives can make or break the situation. In one case, a dealership employee was unable to convey that a customer's truck would not be ready when promised because they did not have the parts on-hand to complete the repair. The customer came to collect the truck and was dismayed to find that it would be unavailable to transport goods for another full day. This constituted additional loss of revenue for the customer and frustration with the dealer franchise. Unfortunately, the shipment delay was caused by a major weather event and the part would not be available through normal channels for another week. The dealership employee had called every available part retailer in a 200-mile radius to find the part. He was going to personally drive several hours to get the part in order to complete the repair the following day, instead of having the customer wait the additional week. Think of how different the situation would have been, if the dealership employee had better knowledge of how to communicate this type of information to his customer.

The inclusion of video files is also under consideration. After the success of posting the audio files as a review mechanism for some of the longer courses, the use of video files is also being considered. This appears to be a more technically difficult solution, as there are more components to consider in the capture of the video assets, thus making the video capture solution more expensive to produce. It has yet to be determined if using video files to support content review would be more beneficial to the student in terms of adoption and mastery to compensate for the added expense.

CONCLUSION

The most important conclusion is that there needed to be better alignment between the IT function and the Training function at launch. As previously discussed, better understanding of the IT requirements of the dealer franchises would have mitigated much of the re-work required after launch. Many of the dealer franchises have tighter security standards on mobile applications, due to the perceived distraction of employees engaged in the use of social media applications. Working with the individual IT teams at the dealer franchises prior to launch to develop a more robust application installation protocol would have been more time-consuming up-front but may have alleviated many of the problems after the fact.

Some consideration of screen size should be considered for all graphical user interface (GUI) development for learning applications. The adoption rate of the smartphone only addresses the use of devices operating an Android or iOS platform. It does not address the typical screen size of the device

being used. Although the designed GUI worked well for users of phones with oversized screens, users of phones with smaller screens sizes had difficulty reviewing some of the marketing material, because the available real estate involved.

A broader range of digital assets could be considered from the beginning of the project. It is acknowledged that project team had to revisit the list of included file extensions that would be supported mid-project. It was determined that the benefit gained from a wider array of supported file types greatly outweighed the minimal outlay required to fund the programming effort.

Dealer training metrics need to be updated and heavily communicated at the time of launch. The dealer training metrics prior to the launch of the mobile training companion application were defined as dealer participation in face-to-face courses and web-based training courses. It should have been updated and marketed that the scores associated with the mobile training companion application evaluations would also be included. This may have increased initial participation with the mobile training companion application, if dealers knew that zero-scores would be incorporated into the monthly dealer franchise cut score. Not meeting the metrics caused dealers to miss being considered for specific dealer awards.

Although for early adopters it appeared that the gamification element of the Leaderboard was an incentive, requiring participants of face-to-face training to complete the exercises in the companion application and including those scores in the dealer training metric would force a higher level of adoption. The gamification element / Leaderboard could be used as a fun way to reward the best-scoring dealership employees, although the ability to win individual prizes is not considered as prestigious as winning a manufacturer award. Making this change would ensure that all training managers had access to the training results of every employee they invested in for training, instead of those savvy enough to download and navigate the application. This would also incentivize the dealer information technology (IT) teams to participate in the development of the aforementioned installation protocol.

Finally, the questions and testing fed to trainees from the application need to be written in a more simulation-based format to better replicate communication between the dealer personnel and the end customers. Although this was done to some extent, there were opportunities to better regionalize the material, which would have supported a better outcome for the dealership employees. For example, recall the previous example, “Mr. Smith owns an XXX-model cement mixer equipped with an XXX-model engine. He left a message for you that he is due to replace his brake shoes this month, based on his preventative maintenance cycle. Which product should you recommend?” We could instead place Mr. Smith’s cement truck in a locale best known to certain regions (e.g. Phoenix versus Toronto) and then further refine the expected answer using the dealer code. It would then look something more like “Mr. Smith owns an XXX-model cement mixer equipped with an ISX-13 model engine. He left a message for you that he is due to replace his brake shoes this month, based on his fleet’s maintenance cycle. Which brake shoe is specified for the maintenance procedure, as part of the market basket on file at your K500 location?” This would ensure that dealership employee is able to best respond to their specific customer needs. This functionality would most likely require additional programming, but that does not mean that the investment is not something that should be greatly considered in the future.

REFERENCES

Cannon, J. (2019). *2020 projected to be 'a tough year" for trucking*. Retrieved December 16, 2019 from https://www.ccjdigital.com/2020-trucking-industry-forecast/

Chau, M., & Reith, R. (2019). *Smartphone Market Share*. Retrieved September 14, 2019 from https://www.idc.com/promo/smartphone-market-share/os

Clark, S. (2018). *Rogers Coverage Map: How it Compares*. Retrieved December 16, 2019, from https://www.whistleout.ca/CellPhones/Guides/rogers-coverage-map

Class 8 Truck Manufacturer. (2019). *About Us*. Retrieved December 14, 2019 from https://www.paccar.com/about-us/get-to-know-paccar/

Fitchard, K. (2016). *State of Mobile Networks: Canada (January 2016).* Retrieved December 13, 2019, from https://www.opensignal.com/reports/2016/01/canada/state-of-the-mobile-network

Fitchard, K. (2016). *USA Mobile Network Experience Report July 2019*. Retrieved December 13, 2019, from https://www.opensignal.com/reports/2019/07/usa/mobile-network-experience

Fitchard, K. (2019). *CANADA Mobile Network Experience Report August 2019*. Retrieved December 13, 2019, from https://www.opensignal.com/reports/2019/08/canada/mobile-network-experience

Fitchard, K. (2019). *USA Mobile Network Experience Report July 2019*. Retrieved December 13, 2019, from https://www.opensignal.com/reports/2019/07/usa/mobile-network-experience

Holst, A. (2018). *Smartphone penetration rate as share of the population in the United States from 2010 to 2021*s*. Retrieved July 14, 2019, from https://www.statista.com/statistics/201183/forecast-of-smartphone-penetration-in-the-us/

Kirkpatrick, J. D., & Kirkpatrick, W. K. (2016). *Kirkpatrick's four levels of training evaluation*. Alexandria, VA: ATD Press.

Lynch, D. J., & Paletta, D. (2018). *Trump announces steel and aluminum tariffs Thursday over objections from advisers and Republicans*. Retrieved December 16, 2019, from https://www.washingtonpost.com/news/business/wp/2018/03/01/white-house-planning-major-announcement-thursday-on-steel-and-aluminum-imports/

Merriam-Webster. (2020). *Gamification*. Retrieved January 6, 2020, from https://www.merriam-webster.com/dictionary/gamification

Montrieux, H., Vangestel, S., Raes, A., Matthys, P., & Schellens, T. (2015). Blending face-to-face higher education with web-based lectures: Comparing different didactical application scenarios. *Journal of Educational Technology & Society*, *18*(1), 170–182.

National Association for Business Economics. (2019). *NABE Outlook Survey – October 2019*. Retrieved December 16, 2019, from https://www.nabe.com/NABE/Surveys/Outlook_Surveys/October_2019_Outlook_Survey_Summary.aspx

Northup, J. (2018). *Strategies to Develop Skills for Positive Training Transfer.* Adult Higher Education Alliance, Paper presented at the Annual Meeting of the Adult Higher Education Alliance, Orlando, FL.

Oxford Press. (2019). *Wireframe*. Retrieved September 14, 2019, from https://www.lexico.com/en/definition/wireframe

Petrovic-Dzerdz, M. (2019). Gamifying Online Tests to Promote Retrieval-Based Learning. *International Review of Research in Open and Distributed Learning*, *20*(2), 25–43. doi:10.19173/irrodl.v20i2.3812

Roberts, K. (2019). *U.S. Export Losses to China at $30 Billion, As Temporary Trade War Truce Announced*. Retrieved December 16, 2019, from https://www.forbes.com/sites/kenroberts/2019/12/16/us-export-losses-to-china-at-30-billion-as-temporary-trade-war-truce-announced/#61cf9c941125

Tseng, M. C. (2014). Computer Vision Syndrome for Non-native Speaking Students: What are the Problems with Online Reading? *Journal of Interactive Learning Research, 25*(4), 551-567. Retrieved July 14, 2019 from https://www.learntechlib.org/primary/p/48050/

KEY TERMS AND DEFINITIONS

Adoption Rate: A measure of how quickly participants utilize an available innovation.

Aftermarket: An adjective referring to replacement or spare parts for motor vehicles.

Application: A program that runs on a computer.

Class 8 Truck: A truck that has a gross vehicle weight of more than 33,000 pounds, typically used for vocational purposes.

Dealership Employee: An individual that works for a franchise of the distribution network of a certain Class 8 truck manufacturer.

Learning Management System: A computerized application that administers a training program for its owner, this includes training access, certification, delivery, and record documentation.

Nondisclosure Agreements: A legal contract between at least two parties that outlines confidential material, knowledge, or information that the parties wish to share with one another for certain purposes, but wish to restrict access to.

Return on Investment: A calculation that a business uses to determine the benefit of making a monetary investment in something versus net profit.

SCORM: Shareable Content Object Reference Model is a collection of standards and specifications for web-based electronic educational technology.

Smartphone: A phone that also offers computing capability in conjunction with telephonic capability.

Wireframe: A conceptual document that contains the specifics of an application, including features, functionality, and look and feel of the proposed interface.

APPENDIX

Questions

1. What other budget-conscious solutions might you suggest to measure:
   a. Participation in face-to-face training events?
   b. Knowledge transfer from face-to-face training events to the job?
2. How might you encourage adoption of a new innovation, such as the mobile training companion application?
3. How might you encourage integration of operations and support functions, such as sales and technology teams, in the adoption of a new Human Performance Technology (HPT) initiative, such as training?

Suggested Responses to Questions

1. What other budget-conscious solutions might you suggest to measure:
   a. Participation in face-to-face training events?
      i. Other solutions might be: using a free survey application to evaluate face-to-face training to Level 1; utilize existing learning management systems to also facilitate and manage attendance metrics for face-to-face training; and, focus group responses through free meeting applications.
   b. Knowledge transfer from face-to-face training events to the job?
      i. Other solutions might be: using a free survey application to evaluate face-to-face training to Level 2; utilize existing learning management systems to also facilitate and manage testing for face-to-face training; and, supervisor checklists.
2. How might you encourage adoption of a new innovation, such as the mobile training companion application?
   a. Develop a communication plan for operations, technology, and any other affected team. Develop a marketing plan for the new innovation. Give prizes for early adoption. Create a meaningful metric to track and reward adoption. Publish metrics in a meaningful timeframe to a highly visible place.
3. How might you encourage integration of operations and support functions, such as sales and technology teams, in the adoption of a new Human Performance Technology (HPT) initiative, such as training?
   a. Establish the "WIIFM" (What's In It For Me) early in the process by including the diverse groups in the development of the requirements. Assign development of the component parts of the solution across the included groups. Check in often with the diverse teams to track progress. Use an agile-like methodology to encourage frequent updates to the requirements to ensure that all team needs are met. Validate the availability for technology included in any solution.

Chapter 10
Cultural Communications of Mainland United States-Based Organizations and Their Hawaiian Workforces:
A Case Study of Their Unique Nature

Erik S. Wright
https://orcid.org/0000-0002-3864-0279
Missouri Southern State University, USA

Rose Baker
https://orcid.org/0000-0003-2191-0436
University of North Texas, USA

EXECUTIVE SUMMARY

The Hawaiian Islands are a diverse melting pot of people, cultures, and languages that make doing business in the state a unique challenge for organizations based on the mainland United States. While Hawaii is indeed the 50th state in the union, culturally they are more closely aligned with Asia and other Polynesian cultures than the United States as a whole. Doing business in Hawaii can often feel as though one is doing business in a foreign country, a place where one only partially speaks the language. Understanding these cultural differences and shaping communication styles to align with the cultural values of the Hawaiian sub-culture is essential to success for any organization planning to start operations in Hawaii. Through a process of cultural analysis, organizations can more effectively manage change within their operations and engage their Hawaiian workforces with great success.

DOI: 10.4018/978-1-7998-3673-5.ch010

ORGANIZATION BACKGROUND: ORGANIZATIONS AND CULTURE

Hawaii, the 50th state in the United States, is geographically located in the Pacific Ocean about 2,000 miles from the union's nearest continental state, California, in North America. Made up of more than 100 islands, there are eight main islands of Hawaii: Hawaii, Maui, Oahu, Kahoolawe, Lanai, Molokai, Kauai and Niihau (Rubin, n.d.). The people of Hawaii have ancestral roots from many different geographic origins and have arrived at different times throughout Hawaii's existence. As such, the cultural foundations of Hawaii are based in long-standing traditions and have created a Hawaiian subculture. Communication with and within this subculture pose unique challenges to mainland United States based organizations and to the Hawaiian workforces with whom the organizations interact.

Organizations face a multitude of challenges in the modern global environment. From mergers and acquisitions to new flash markets being developed, the landscape for most organizations change on a semi-routine basis. In an increasingly global marketplace, organizations are faced with new and pressing challenges that they may not have had to confront in the past. With the invention of the internet and the increased ability for people to venture out from their native lands, organizations have had to learn to deal with new challenges from the convergence of different cultures. Understanding these differences is key to the success of organizations who have more than a regional footprint. Multi-National corporations have often been the testing grounds of cultural diversity programs in organizations and many have managed to navigate the cultural differences that exist. For many United States based organizations, that do not have an international footprint, this concept is indeed foreign to them as they primarily have dealt with western culture and ideals.

This case study is designed to take an in-depth look into the cultural differences that organizations need to understand when doing business with locations that have substantially different cultures than their own. Whereas this case study will focus primarily on regional or national culture, the concepts presented are applicable to the organizational culture, as well, as each organization is heavily influenced by regional and national cultures. Organizations that have satellite facilities in geographically and culturally different areas, even within the same country, need to understand the basic principles of culture. The case study begins by reviewing the Cultural Dimensions that have been developed by renowned Social Scientist Geert Hofstede. These dimensions will be key to our understanding of the cultures we will discuss. These dimensions will be used to evaluate the unique relationships between mainland United States organizations and their Hawaiian workforces. Finally, solutions and recommendations for organizational communication strategies based on the cultural analysis are offered.

SETTING THE STAGE: WHAT IS CULTURE

Culture is a topic that has fascinated researchers for centuries. Cultural research can be found dating back to Montesquieu and Herder in the 18th century to Tocqueville in the 19th century, to Webber in the early 20th century (Bailey & Clegg, 2007). Modern researchers such as Dr. Geert Hofstede and Michael Minkov have revolutionized the cultural research field. In his book, *Culture's Consequences*, published in 1980, Hofstede defines culture as "collective programming of the mind" (p. 13). This suggests that the root of culture is much more than one person or family, but holds true to a much larger population. Cultures are perceived to be different when their ways of life are significantly different (Adler & Gunderson, 2008). Hofstede held that each culture could be defined by their views on certain cultural

indicators. His original research studied four separate dimensions of culture: Power Distance, Uncertainty Avoidance, Individualism and Masculinity. Later research collaborations between Hofstede and fellow researchers Michael Bond and Michel Minkov revealed two additional dimensions which were labeled Long Term vs. Short Term Orientation and Indulgence vs. Restraint (Minkov, 2011). To better understand the foundations of culture, one needs to have a clear understanding of each cultural dimension as it will be used to evaluate the Hawaiian subculture.

Power Distance

Hofstede's first dimension of culture is listed as Power Distance. This can be defined as how each culture deals with social inequality, including its relationship with authority (Minkov, 2011). In organizations, this often manifests itself as the distance between the front-line worker and the executive management team. Different cultures have much different views on where the worker fits into the equation. Is the boss right because they are the boss (high power distance) or are they right only when they are correct (low power distance)? (Adler & Gundersen, 2008) In many countries, one can easily identify where the broader population lands on the power distance spectrum.

Using data gained from 116,000 individual surveys from the world-wide employee base of IBM (Minkov, 2011), Hofstede was able to create the Power Distance Index, which gave each country studied a score. The Power Distance score would indicate the level of power distance between the front-line worker and upper management. The Philippines, for example, is a very high-power distance country rated at 94 on the scale, whereas Austria was rated at only 11, which represents a very low power distance (Hofstede, 1980, p. 77). In a high-power distance society, questioning the decisions of managers is often not tolerated and would be looked upon poorly from peers. High power distance cultures also put a strong emphasis on job titles and ranking status (Adler & Gundersen, 2008, p. 49). In contrast, a low power distance society would expect that there be more inclusion in the decision making and the status of an individual's position would be less important (Adler & Gundersen, 2008, p. 49). For an organization to be successful operating in a culture different than its own, there has to be a strong understanding of the levels of authority between the top and bottom members that is expected in the local culture.

Uncertainty Avoidance

The second dimension that Hofstede notes is uncertainty avoidance. In *Cultures Consequences*, Hofstede (1980) laments: "Extreme uncertainty creates intolerable anxiety, and human society has developed ways to cope with the inherent uncertainty of our living on the brink of an uncertain future" (p. 111). Through technology (human tools), laws (rules and social norms), and religion, cultures collectively deal with uncertainty in different ways (Hofstede, 1980, p. 111). Over time, different cultures have developed an appetite for higher risk while some cultures have held on to ideas of lower risk, preferring not to rock the boat.

Like the Power Distance Index previously discussed, Hofstede created an Uncertainty Avoidance Index to similarly display his findings. Countries that had a high uncertainty avoidance index score, such as Greece, Portugal, Belgium, and Japan, were much more likely to prefer to take the safe road while countries such as Singapore, Denmark, Sweden, and Hong Kong were much more likely to be open to risk (Hofstede, 1980, p. 122). Organizations must understand that a culture's toleration of risk will play a crucial role in that organization's ability to affect change within the organization. Cultures with

high uncertainty avoidance will be more resistant to constant change, prefer employment stability, be less likely to want to work for a foreign manager, and be less receptive to competition in the workforce (Hofstede, 1980, p.123).

Individualism vs. Collectivism

Individualism is Hofstede's third cultural dimension, and one that can be seen as a crucial area that organizations must understand. A culture's preference toward the individual (individualism) or the group (collectivism) is a key piece of information for an organization. Individualistic societies are often more focused on "what is good for me" and collectivist societies are more concerned about the greater good. A classic quote from Star Trek character Spock in the movie, *Star Trek: The Wrath of Kahn* (1982) captures the essence of collectivism perfectly. He states: "Logic clearly dictates that the needs of the many outweigh the needs of the few" (Meyer, 1982). A disconnect between communication styles of an individualistic culture to that of a collectivist culture can derail change efforts and provide substantial headaches for an organization.

Hofstede's Individualism Index identifies the countries that are more often tilted toward an individualistic or collectivist mindset. The United States ranks the highest in individualism and is followed closely by Australia, Canada, and Great Britain whereas Venezuela, Colombia, Pakistan, and Peru are listed as the most collectivist societies (Hofstede, 1980, p. 158).

Masculinity

The fourth cultural dimension in Hofstede's original research deals the social implications of a culture's acceptance of traditional male or female qualities (Minkov, 2011). Hofstede's Masculinity Index shows that countries that are high on the masculinity index have a stronger preference for achievement, heroism, assertiveness, and rewards for success whereas lower masculinity cultures value cooperation, modesty, and caring for the weak (Hofstede Insights, n.d.). Countries such as Japan, Austria, Venezuela, and Italy have very high masculinity indexes whereas countries like Sweden, Norway, Netherlands, and Denmark have very low scores. Understanding these values can aid organizations to better direct their communication styles, goals, and directives to better align with the predominate masculinity value of the local culture.

Long Term vs. Short Term Orientation

In 1991, while working with fellow researcher Michael Bond, Hofstede introduced a fifth dimension of culture when their research discovered through an analysis of the Chinese Value Survey that one additional dimension Long Term vs. Short Term Orientation was present and not accounted for in Hofstede's original work (Hofstede, Hofstede, & Minkov, 2010, pp. 37-38). The new dimension was defined as:

Long-term orientation stands for the fostering of virtues oriented toward future rewards – in particular, perseverance and thrift. Its opposite pole, short-term orientation, stands for the fostering of virtues related to the past and present – in particular, respect for tradition, preservation of "face," and fulfilling social obligations. (Hofstede, Hofstede, & Minkov, 2010, p. 240).

The scores obtained from the Chinese Value Survey listed 23 countries and ranked them from the highest Long-Term oriented country (China) to the least long-term oriented (Pakistan) with the United States ranking number 17 on the list (Hofstede, Hofstede, & Minkov, 2010, p. 240). Organizations can utilize this information to provide a more constructive dialogue that meets the goals of the local population's orientation toward time.

Indulgence vs. Restraint

The final dimension to Hofstede's model was added in 2010 to Hofstede's third edition of *Cultures and Organizations: Software of the Mind* after research using the World Values Survey from Michael Minkov showed that there was a unique dimension relating to happiness (Minkov, 2011). Minkov called the dimension indulgence vs. restraint and Hofstede defined this as:

Indulgence stands for a tendency to allow relatively free gratification of basic and natural human desires related to enjoying life and having fun. Its opposite pole, restraint, reflects a conviction that such gratification needs to be curbed and regulated by strict social norms. (Hofstede, Hofstede, & Minkov, 2011, p. 281).

Organizations who understand the level of indulgence a culture has will be able to provide appropriate enticements to their local population to achieve desired change results.

Now that the foundation has been established for which culture can be defined, presented is a more detailed look into the uses of these concepts in reviewing the issues that exist within organizations that are based on the United States mainland but who have operations on the Hawaiian Islands.

CASE DESCRIPTION

Hawaiian Subculture

At this point it is natural to wonder why Hawaii would be culturally different that the United States. It is a state and operates under the same rules that every other United States' state does and has the same governing structure that the other 49 states use. It is now to examine the concept of subcultures. Hofstede (1980) defines culture as the word used to describe an entire society whereas subculture is used to describe groups within societies (p. 13). The United States and even each state can be broken up into a multitude of subcultures. Local governance has been a staple of American democracy, and this has allowed for ethnic, social, and religious sub-groups to develop localized cultural norms that have persisted over time (Lieske,1993). These subcultures can be broken down into very small subsections of even a small community. It is not uncommon for different subsections of a population to congregate in a small geographic area of larger cities bringing rise to unique neighborhood names such as Chinatown, Little Italy, and Polish Hill. While there may be times where digging down to the neighborhood level might be appropriate, the vast majority of organizations would not need to go that far. Regional subcultures would suffice for most organizations to make cultural communications decisions.

The State of Hawaii is of particular interest to mainland organizations due to the substantial shift from the cultural norms typically associated with the United States. Although there are many aspects of culture, the primary focus of this case study will be on one of the three indicators of culture: race. When reviewing cultures outside of the United States, it would also be important to review laws or governance as well, but, as Hawaii is a part of the larger United States, this section would remain fairly consistent between the national culture and the Hawaiian subculture. Additionally, organizations that are reviewing their cultural communication strategies should always consider the history of the area of research. The analysis of the Hawaiian subculture begins with a brief history of the state and follows with an in-depth analysis of its racial and religious makeup.

Hawaiian History

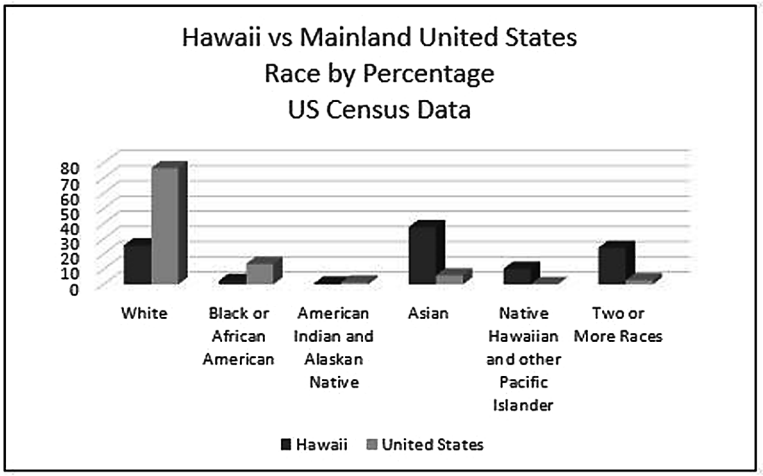
The Hawaiian Islands were inhabited by sea farers from Polynesia dating back to around 200 A.D. The eight major islands were ruled by different rulers when British explorer Captain Cook arrived in the islands in 1778 (Greenspan, 2018). Over the course of the next three decades, continued trading (particularly of arms) between the white explorers and the native Hawaiians led to the uniting of the major islands under one ruler, King Kamehameha I in 1810 (Greenspan, 2018). Disease, insects, and epidemics brought by the white explorers took a serious toll on the native population, decreasing their numbers by nearly 75% (Greenspan, 2018). The Hawaiian monarchy withstood attempts by the British to overthrow their monarchy and claim it for Great Britain in 1843, surviving until 1893 when representatives of the United States overthrew the monarchy and forced Queen Liliuokalani to abdicate her throne in 1895 (Greenspan, 2018). The Hawaiian Islands officially became a territory of the United States in 1898 and gained statehood in 1959.

The history between the United States and the Hawaiian Islands has been a difficult one and even to this day there are still strong factions of Hawaiians that push for the succession of Hawaii from the union and restoration of the Monarchy. This shared history between Hawaii and the mainland United States is unique, as it is often seen from two very different lights. As the newest state in the union, there are still large portions of the population who remember the time before statehood, and many of these individuals are happy to share their opinions (both positive and negative) on the subject. On the flip side of this is an equally large portion of the population who welcomed statehood and the economic incentives that it provided the state. The one thing that mainland organizations should understand about Hawaii from its history is that there is a deep-rooted skepticism of outside influence that often makes change initiatives very difficult to achieve.

Hawaiian Population

The population in the state of Hawaii is a diverse melting pot of Asian, Pacific Islander, and Caucasian heritages with a strong sense of local pride. The estimated population of the State of Hawaii in 2019 according to U.S. Census data was 1,415,872 people with the majority of the population residing on the island of Oahu (U.S. Census Bureau, n.d.). A quick look at the racial makeup of the Hawaiian population, as shown in Figure 1, reflects significant differences between the Hawaiian sub-population and the general population of the United States as a whole.

Figure 1. Racial composition of the Hawaiian population, 2019

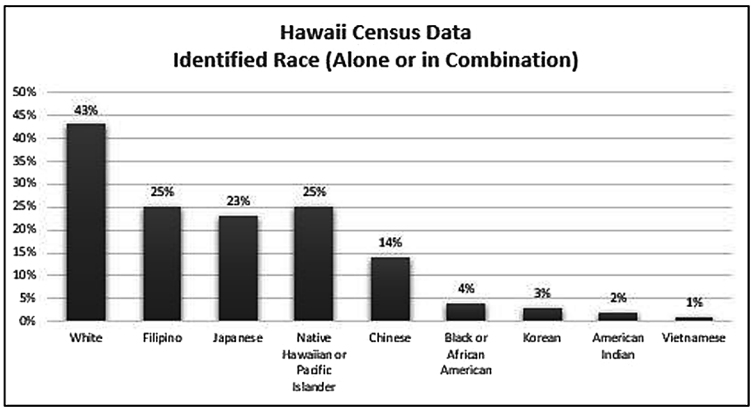


Hawaii's population shows a much larger percentage of Asian, Native Hawaiian, and multi-racial individuals (U.S. Census Bureau, n.d.). In fact, these three subsets of the population account for 71.8% of the overall population of the state of Hawaii whereas they account for only 8.8% of the general population of the United States as a whole (U.S. Census Bureau, n.d.). Individuals who identified as white alone only made up 25.6% of the Hawaiian population, where they are 76.5% of the overall U.S. population (U.S. Census Bureau, n.d.). These stark differences in the racial makeup of the two populations begins to paint a picture of the divides that could occur between the different cultural nuances that race itself may play a role in. Still these numbers are only able to give us a broad idea of the cultural forces at play. Hawaii's population of Asian residents in this data only begins to evoke an understanding of Hawaii's culture. While those of Asian descent alone make up 37.6% of the population, that does not truly account for those who also identify as one or more other races.

A review of data provided by the State of Hawaii's Department of Business, Economic Development and Tourism (2018) which utilized data findings from the U.S. Census Bureau reveals that these categories can be broken up even further. This data takes into account the fact that individuals often identify as more than one race and captures that information. The information in Figure 2 shows the true breakdown of how the population in Hawaii identifies racially. While some may identify as one race only, some identify as more than one so the overall percentages will add up to more than 100%. It is important to remember that the percentage indicated is accurate to the percentage of the population that identify as that race.

It is noted that the largest percentage of the population (43%) identify in some way as white, but are followed by 25% of the population identifying as Filipino and another 25% identifying as Native Hawaiian or Other Pacific Islander (Department of Business, Economic Development and Tourism, 2018). Individuals who identify as Japanese and Chinese round out the top five races identified; these populations represented 23% and 14% respectively (Department of Business, Economic Development and Tourism, 2018). These figures are significant as they present a clearer picture of how the population in Hawaii identifies themselves.

Figure 2. Racial identification of the Hawaiian population



**Percentages may be more than 100% as individuals may have reported identifying with more than one race.*
Data retrieved from Demographic, Social, Economic, and Housing Characteristics for Selected Race Groups in Hawaii Report, March 2018, Research and Economic Analysis Division, Department of Business, Economic Development and Tourism, State of Hawaii.

As the numbers are examined and application of Hofstede's concepts to this data begins, it is important to realize that this inspection of this information is conducted through a nationality or racial lens. The information reviewed will not apply to every person every time, but in general it would apply to the general population of each racial subset (Minkov & Hofstede, 2013). The cultural values of each nationality or race would typically be present in the overall population and thus it could be inferred that a random sampling of the population that identified as that nationality or race would have similar characteristics and cultural understandings (Minkov & Hofstede, 2013).

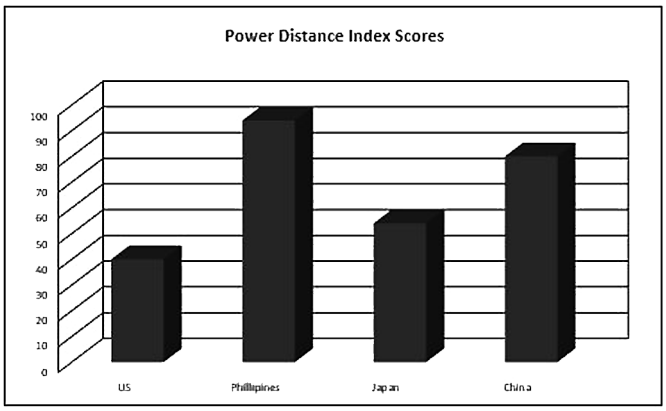
CURRENT CHALLENGES FACING THE ORGANIZATION

In an effort to understand the cultural differences that are present between the mainland United States population and that of Hawaii, the differences are evaluated between the predominate nationalities and the United States as a whole. Each of Hofstede's cultural dimensions is assessed, the differences are evaluated, and the impact the difference may have on cultural communications is proposed. It should be noted that to date, there has not been significant studies on the Native Hawaiian or Pacific Islander populations with regards to Hofstede's cultural dimensions. Although 25% of the population identify as Native Hawaiian or Pacific Islander, much of their cultural norms can be understood by reviewing their history as has been previously done. These cultural norms will again be reviewed separately in each dimension's analysis as warranted. As 66% of the state's population identify as being of Asian descent, this review will look at the top 3 Asian nationalities (Filipino, Japanese, and Chinese) that account for 62% of the population to compare their scores to that of the United States as a whole (Research and Economic Analysis Division of the Department of Business, Economic Development & Tourism, State of Hawaii, 2018).

The analysis begins with a review of the Power Distance Index (PDI) scores for the three dominate Asian cultures present in Hawaii and the United States as a whole. Figure 3 shows the scores for each nationality. As discussed before, cultures with higher power distance believe that the manager is right

and there is little tolerance for questioning their judgement and, as such, there is high distinction put on titles. The United States is relatively low on this scale indicating that there is often room for input and discretion from the lower ranks. Asian cultures on the other hand tend to have a much higher power distance score. For instance, the Philippines is the highest score on the index at 94 and China comes in not far behind at 80 (Hofstede, Hofstede, & Minkov, 2010). This provides evidence that these cultures have a high regard for people of distinction and are less likely to speak up in the event that they disagree with a decision.

Figure 3. Power distance index for dominate Hawaiian cultures



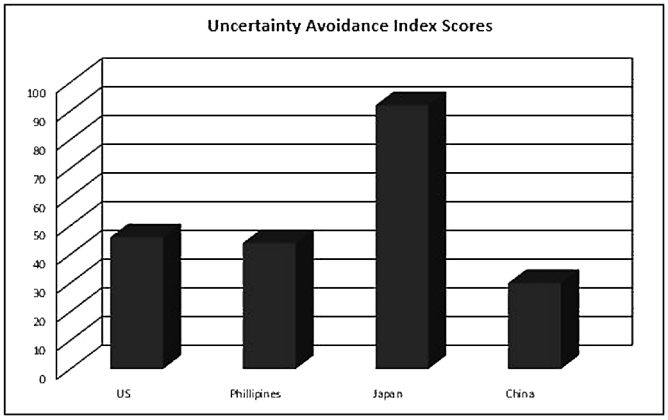
(Hofstede, Hofstede, & Minkov, 2010)

Organizations in the United States that have operations in Hawaii would be well advised to keep this in mind. As the predominate culture in the United States would dictate, employees would be expected to speak up and participate in the decision-making process. This may not always be the case when dealing with the Hawaiian subculture as the dominate Asian influence tends to create a larger separation of the powers and front-line employees or lower level supervisors may not be as apt to provide input.

Within the second area of analysis, more similarities are actually found than differences among the predominate cultures. The Uncertainty Avoidance Index shows how likely a culture is to take the safe road as opposed to taking risks. The United States, Philippines, and China are all around the middle to the lower end of the spectrum (46, 44, and 30 respectively) showing that they are much more likely to take risks (Hofstede, Hofstede, & Minkov, 2010). Japan on the alternative is very high on the Uncertainty Avoidance Index indicating that they prefer to take the safer more stable route.

Whereas there may be similarities in the overall risk tolerance of the predominate cultures, the heavy Japanese influence in Hawaii tends to bring a slower response to change for many organizations. The need for the workforce to be sure in their decisions and places in life can be seen throughout Hawaii. For instance, Hawaii has a higher percentage of its workforce represented by unions than any of the other United States' state. In 2019, 25.5% of all workers in Hawaii were represented by a labor union (Bureau of Labor Statistics, 2020). For many in Hawaii, labor unions represent stability and work to satisfy the need to avoid unnecessary risks. This brings unique challenges to mainland companies, as workforces are often more inclined to organize with unions and expect to have stronger safety nets in place with regards to benefits.

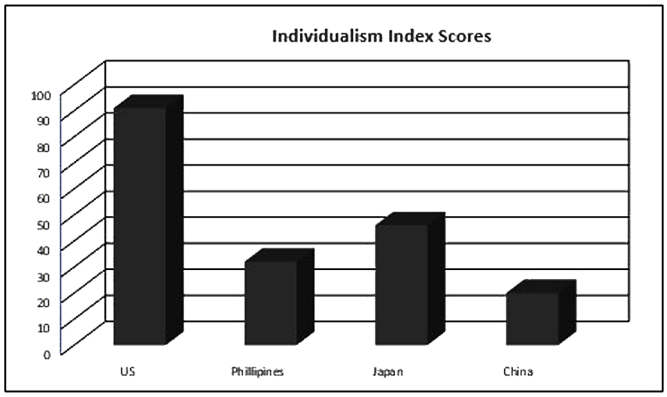
Figure 4. Uncertainty avoidance index for dominate Hawaiian cultures



(Hofstede, Hofstede, & Minkov, 2010)

The third dimension in the analysis shows perhaps the largest differences and quite possibly the most important area that companies should consider when evaluating their cultural communications programs. The Individualism Index shows a culture's attitude toward doing what is best for the individuals or focusing on the greater good. The United States ranks number one on the Individualism Index with a score of 91 (Hofstede, Hofsted & Minkov, 2010). Culturally, the United States puts a very strong focus on individual achievement and making one's own way in the world. It is believed that it is up to each individual to achieve their dreams and as a result they must think of themselves and put their goals above others. Asian cultures on the other hand take a very different look on this and are often quite low on the Individualism Index indicating that they prefer a more collectivist view of society. Social programs are often more prevalent in cultures with higher collectivism scores and likewise unions tend to thrive in these areas as well.

Figure 5. Individualism index for dominate Hawaiian cultures



(Hofstede, Hofstede, & Minkov, 2010)

Cultures like China and the Philippines, that are often seen by the western world as having political ideology that nears socialism or communism, are often very low on the Individualism Index. China is on lower end of the Individualism Index with a low score of 20 whereas the Philippines scored slightly higher at 32 (Hofstede, Hofstede, & Minkov, 2010). Japan who is a little higher on the index is rated at a middle of the road number of 46 (Hofstede, Hofstede, & Minkov, 2010). These are very strong differences from the predominate culture in the United States and mainland-based organizations have to take note. Underestimating the power of the collectivist thought is a sure recipe for failed initiatives.

If a mainland organization were to do their typical incentives for individuals in Hawaii that they do on the mainland, would they be successful? This is often the case with organizations that try to incentivize their Hawaiian workforces the same way that they do their mainland workforces. Although they may have some success, one item that is missing in the communication is how this good for the organization, the team, or the customers. The sense of community and local pride is very evident in the Hawaiian subculture. It is quite common for Hawaiians to consider neighbors, friends, and co-workers as family or their "ohana." These extended ohana play a crucial role in Hawaiian society. It is seen as a part of one's duty to take care of these extended families and often decisions are made collectively.

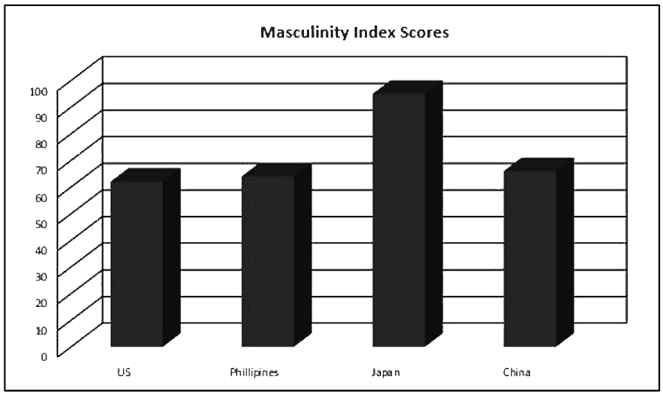
Management working locally in Hawaii must learn this concept as well. Despite the fact that the workforce may respect the manager's position and authority, the manager will be hard pressed to get anything accomplished unless there is some sort of group buy-in. If the manager fails to understand this and just issues directions without any reasoning as to why this is good for the group, the manager will be more likely to find resistance or have the directions summarily dismissed. Alternatively, if the manager were to give the group sound information with why change would be necessary and how the change provides for better results for the overall group, they would be likely to wholeheartedly support the manager's initiative. At the very least they would be much less resistant to the change and this would make for a much more successful change initiative.

As the mainland organization begins to understand the strong collectivist nature of the Hawaiian workforce, they will undoubtedly see much smoother communication between their Hawaiian and mainland operations. Keeping in mind that the greater good must be explained is a crucial step in ensuring positive cultural communications in this instance.

Hofstede's Masculinity Index is another area where there are fewer differences between the predominate cultures. The United States, Philippines, and China all score similarly on the index at 62, 64, and 66 respectively (Hofstede, Hofstede, & Minkov, 2010). Japan is again the outlier in this index with a much higher score of 95 (Hofstede, Hofstede, & Minkov, 2010). This can be seen in the very strong culture in Japan that focuses on high achievement and hard work. Although hard work and dedication can be seen in the Hawaiian workforce, the concept of working unreasonable hours until one is exhausted is not seen frequently in the Hawaiian subculture. This is one area where an organization may take note, but should focus their cultural communication efforts on other areas.

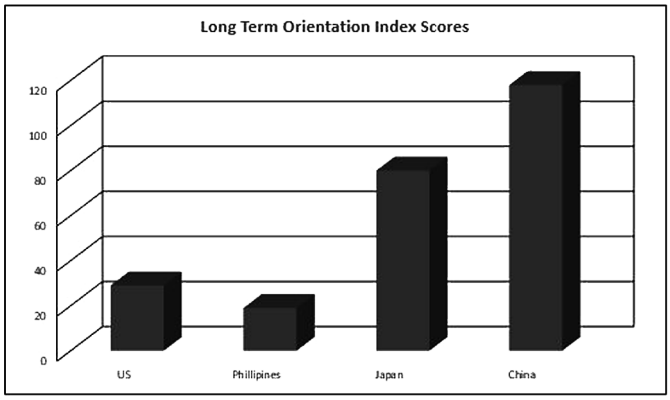
The Long-Term Orientation Index on the other hand is one that organizations should pay close attention to. As discussed previously, countries with a lower Long-Term Orientation Index score tend to live more in the moment, valuing social status and striving to produce quick results where cultures with higher Long-Term Orientation Index scores tend to look more toward the future, sparing resources and seeking long term gains (Hofstede, Hofstede, & Minkov, 2010). China scores number one on the Long-Term Orientation Index with a score of 118 and Japan follows next with a score of 80 (Hofstede, Hofstede, & Minkov, 2010). The United States and the Philippines on the other had are on the opposite end of this scale with scores of 29 and 19 respectively (Hofstede, Hofstede, & Minkov, 2010).

Figure 6. Masculinity index for dominate Hawaiian cultures



(Hofstede, Hofstede, & Minkov, 2010)

Figure 7. Long-term orientation index for dominate Hawaiian cultures

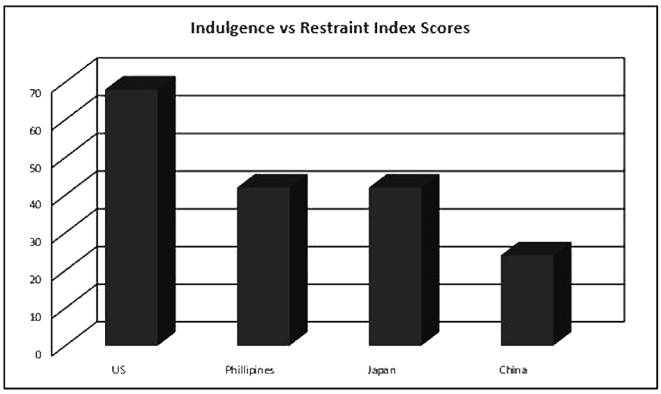


(Hofstede, Hofstede, & Minkov, 2010)

This dynamic can be seen throughout the U.S. economy as moves are constantly made to increase profits in the short term, often at the expense of long-term gains. Culturally, the United States is much more worried about our place in the world and respecting traditions even when it may hinder opportunity down the road. The typical Asian influence in working toward long term goals and focusing more on the better good for all certainly has its place in Hawaii. Even with the surprisingly low score of the Filipino culture with regards to the Long-Term Orientation Index, it is still something that mainland organizations must deal with. Understanding that there may be resistance to a quick fix that just saves face is a crucial piece of information that organizations must have. A strong focus on the future goals and being able to communicate that to the workforce is a crucial step in any cultural communication program.

The final dimension in our analysis is of course the Indulgence versus Restraint Index. The Indulgence versus Restraint Index is a measure of how much a culture is willing to pursue happiness over adhering to social norms. This index, again shows a stark difference between the predominate United States culture and that of the Asian influence on cultures in Hawaii. The United States is by far the highest of

Figure 8. Indulgence versus restraint index for dominate Hawaiian cultures



(Hofstede, Hofstede, & Minkov, 2010)

the cultures with a score of 68, followed by Japan and the Philippines both at 42, and ending with China a low score of 24 (Hofstede, Hofstede, & Minkov, 2010).

These Indulgence versus Restraint Index scores highlight an important difference that mainland-based organizations must acknowledge and account for. The Hawaiian workforce is much more likely to want to follow the path that has already been forged and stick with social norms than going too far out on a limb to have a little fun, and change things up just to make people happy. That being said, the Hawaiian culture holds strong importance on having large social gatherings and building the community spirit through participating in these events. There is no aversion to having fun, but it is often manifested in more traditional large gatherings with food, friends and large outdoor activities. This again shows a preference toward community and collectivism while also holding tight the cultural and social norms that are in place. Organizations who realize that following the social and cultural norms and promoting the group fun concept will be much more likely to have successful cultural communication programs.

SOLUTIONS AND RECOMMENDATIONS

This case study has presented and evaluated what culture is and how difference in cultures can create cultural challenges for organizations. Using the indices, Power Distance, Uncertainty Avoidance, Individualism, Masculinity, Long Term vs. Short Term Orientation, and Indulgence vs. Restraint, the culture of an organization can be described for each of the dimensions. These findings can be used to inform the foundations, norms, and expectations of a new organization and its members when a parent organization is considering doing business with the new organization or with one different than the parent organization. Many differences and some similarities were identified in the analysis of the Hawaiian subculture in comparison to the mainland United States.

An organization that is successful working with employees of the Hawaiian subculture consider the dimensions. When considering Power distance, successful organizations keep in mind that Hawaiian organizations would tend to have a larger separation between the upper level management and the front-line supervisors or lower level managers. As such, lower level managers are not likely to speak up in meetings or to provide input, especially if there is a situation where the lower level manager would

disagree with the upper level manager. For Uncertainty avoidance, a Hawaiian firm is less likely to take risks and is more likely to take a slower response to change. Preference in Hawaii is for stability and protection, similarly to organizations organized with a labor union to offer a safety net for risk. In consideration of Individualism, workers in Hawaii are more likely to consider the whole group when making decisions, such as the position a labor union would take when considering the outcome of a negotiation. The United States has a strong focus on the individual. Organizations successful in Hawaii would take a more collectivist approach when setting goals or quotas, production targets, and worker incentives. The Masculinity index analysis reveals that hard work and high achievement are descriptive of the Hawaiian subculture; however, the achievement is completed through work-life balance rather than long, unreasonable workdays. Successful organizations in Hawaii would consider this balance expectation. The Long-term orientation of Hawaiian organizations is such that the employees work for the better good and long-term goals instead of focusing on potentially unsustainable near-term profits. Communication with workers in Hawaii would likely focus on how the organization can succeed over time rather than a short-term solution with short-term success. Organizations evaluating Indulgence versus restraint realize that as with a desire for work-life balance when considering the Masculinity index, indulgence vs. restraint in Hawaii is much more toward a practice of restraint. Hawaiian employees are more likely to follow social norms and build community through traditional gatherings and outdoor activities. This also reinforces the stability focus and the collectivist nature of the Hawaii subculture. Successful organizations take these cultural and social norms into account when planning activities.

Communication Plan

It is imperative now to determine what a cultural communication plan is and why it is important for mainland United States' organizations who have operations in Hawaii, or other countries for that matter, to implement such a plan for their operations. A cultural communications plan is a direct effort by an organization to incorporate cultural understanding into the communications plans between divisions of the organization or outside entities who are operating in different cultural areas. Before a cultural communication plan can be implemented, each organization should stop and evaluate its current operations. They should review their structure, their organizational culture, and identify what areas of concern that they have for their operations in Hawaii or abroad. It is important that this step be completed as the organization must have a solid understanding of where their challenges lie. An assessment matrix, similar to Figure 9, can help organize the elements to inform the communications plan. Integrating the findings from the index assessment will be helpful in identifying the challenges and possible solutions.

Even though the focus has been on the pre-dominate cultures that make up the Hawaiian subculture in this case study, each organization must take a deeper look into their unique workforce. The analysis completed in this case study can be useful to an organization that has operations in Hawaii as an overall guide to the cultural forces at play, but a review of their own workforce is necessary. For instance, companies in different sectors often attract a different cultural group as employees. Some companies may have upwards of 70 to 80 percent of their workforces that are of one cultural background whereas other companies may have a more balanced workforce. These reviews are necessary to understand further the overall cultural makeup of the workforce. Once the organization has reviewed their organizations cultural makeup, they can apply the same principles discussed in this case study to identify potential cultural disconnects that may be more specific to their workforce situation.

Figure 9. Assessment matrix for informing a communications plan

Assessment Category	Organization	Implementation Location	Cultural Gaps & Challenges
Structure			
Culture			
Concerns			
Professional development needs			
Communications process			
Context (VUCA/ leadership style)			
Stakeholders			

The next step in the cultural communications plan process is to identify the key individuals who should receive training on the cultural differences that exist in the organization's operations. This is an important step to know who will play a key role in the communications process. This may be district managers, department managers, corporate executives, and of course the local management team. Understanding how to navigate the cultural differences that exist in the communication process is essential for these individuals to understand. The organization could then identify the types of communications that need to have a cultural review. These could be things such as large-scale changes to operations or benefits and even smaller items such as team projects. Once these opportunities have been identified, the company can begin the process of developing and implementing a plan to address the cultural communication gaps that may exist.

Another consideration for the cultural communications plan is the context of the organization to identify the status of complexity and changing pace of the business environment. Many business systems can be classified as having properties that are volatile, uncertain, complex, and ambiguous. These are identified as a VUCA environment for conducting business (Mack et al., 2016). When workers are uncertain and in VUCA situations, they tend to look to their managers for direction and assurance. The managers often consult expert opinion, online information, or social networks for guidance on their decision-making (Hallo et al., 2020). Involvement of the workers in the decision-making process by the managers and leaders varies by leadership style and has been found to differ by gender. Gender differences in decision making in complex situations have resulted in the use of democratic and participatory leadership styles and transformative leadership behaviors by women leaders more often than their male counterparts (Silva & Mendis, 2017). Keep in mind that scores high on the Hofstede Masculinity Index have a stronger preference for achievement, heroism, assertiveness, and rewards for success; the areas with lower masculinity cultures value cooperation, modesty, and caring for the weak (Hofstede Insights, n.d.). Regardless of where the leader or manager looks for support for decisions or any other factors, understanding the stakeholders for the decision and their cultural influences is essential for responsible leadership and shared objectives (Maak & Plees, 2006).

Finally, the organization, as with any initiative, needs to have the buy-in of the key players involved. When developing the program, it is crucial that the local managers are consulted to get a complete picture of the culture within the organization. Although heavy focus has been on national or regional cultures,

there is always an important culture that operates within the organization which is commonly called the organizational culture. Similar to the United States vs. Hawaiian subculture concept, each organization has a corporate vs. local organizational culture that must be understood. As the organization works to develop their cultural communications plan, they also need to know how the local organizational culture differs from the corporate culture. This will help to ensure that the plan is understood by everyone involved and also that it truly meets the needs of the organization.

CONCLUSION

This case has demonstrated that cultural differences are present between the predominate U.S. culture and that of the Hawaiian subculture. Organizations that are operating in each of these areas must understand the differences and be able to adjust their operations to accommodate the cultural nuances that exist. A cultural communication plan can be created by an organization to assist them in accounting for these cultural differences and to help ensure understanding of communications as they occur. Hawaii is a unique melting pot of cultures that requires each organization to have a better understanding of its history and cultural norms in order for them to have greater success in their change initiatives and daily operations. Using the tools provided, an organization can easily review the cultural makeup of their workforces and create a plan to address the needs of these cultures while ensuring the success of their organizations in Hawaii.

REFERENCES

Adler, N. J., & Gundersen, A. (2008). *International Dimensions of Organizational Behavior* (5th ed.). Cengage Learning.

Bailey, J., & Clegg, S. (2007). *International dimensions of organizational behavior*. Cengage Learning.

Bureau of Labor Statistics. (2020). *Union Members in Hawaii – 2019*. https://www.bls.gov/regions/west/news-release/pdf/unionmembership_hawaii.pdf

Greenspan, J. (2018, September 1). *Hawaii's monarchy overthrown with U.S. support, 120 years ago.* History. https://www.history.com/news/hawaiis-monarchy-overthrown-with-u-s-support-120-years-ago

Hallo, L., Nguyen, T., Gorod, A., & Tran, P. (2020). Effectiveness of Leadership Decision-Making in Complex Systems. *Systems*, *8*(1), 5. doi:10.3390ystems8010005

Hofstede, G. (1980). *Culture's Consequences*. Sage Publications.

Hofstede, G., Hoftede, G. J., & Minkov, M. (2010). *Cultures and organizations: Software of the mind*. McGraw Hill.

Hofstede Insights. (n.d.). *The 6 dimensions of national culture*. https://www.hofstede-insights.com/models/national-culture

Lieske, J. (1993). Regional subcultures of the United States. *The Journal of Politics*, *55*(4), 888–913. doi:10.2307/2131941

Maak, T., & Pless, N. M. (2006). Responsible Leadership in a Stakeholder Society – A Relational Perspective. *Journal of Business Ethics*, *66*(1), 99–115. doi:10.100710551-006-9047-z

Mack, O., Khare, A., Krämer, A., & Burgartz, T. (Eds.). (2016). *Managing in a VUCA World*. Springer; doi:10.1007/978-3-319-16889-0

Meyer, N. (1982). *Star Trek II: The wrath of Khan* [Film]. Harve Bennett (Executive Producer).

Minkov, M., & Hofstede, G. (2011). The evolution of Hofstede's doctrine. *Cross Cultural Management*, *18*(1), 10–20. doi:10.1108/13527601111104269

Minkov, M., & Hofstede, G. (2013). *Cross-cultural analysis: The science and art of comparing the world's modern societies and their cultures*. Sage Publications. doi:10.4135/9781483384719

Research and Economic Analysis Division of the Department of Business, Economic Development & Tourism, State of Hawaii. (2018). *Demographic, social, economic, and housing characteristics for selected race groups in Hawaii.* http://files.hawaii.gov/dbedt/census/acs/Report/SelectedRacesCharacteristics_HawaiiReport.pdf

Rubin, K. (n.d.). *General Information about Hawaiian Shield Volcanoes.* Retrieved, February 8, 2020, from https://www.soest.hawaii.edu/GG/HCV/haw_volc.html

Silva, D. A. C. S., & Mendis, B. A. K. M. (2017). Male vs female leaders: Analysis of transformational, transactional & laissez-faire women leadership styles. *European Journal of Business and Management*, *9*(9), 19–26.

U.S. Census Bureau. (n.d.). *Quick Facts: Hawaii; United States.* Retrieved February, 8, 2020, from https://census.gov/quickfacts/

KEY TERMS AND DEFINITIONS

Asian: A generalization of racial groups that originate from the Asian continent. Countries include but are not limited to Japan, China, Philippines, Korea, Vietnam, etc.

Collectivism: The cultural norm that focuses heavily on the good of the group over the successes of the individual.

Culture: Long standing traditions, ideas, or norms that are prevalent throughout a population.

Cultural Communications Plan: A direct effort by an organization to incorporate cultural understanding into the communications plans between divisions of the organization or outside entities who are operating in different cultural areas.

Cultural Dimensions: Measures on a spectrum of cultural characteristics that can be used to guide cultural communications.

Pacific Islander: A generalization of racial groups that originate from Oceania. These groups include Hawaiian, Samoan, Marshallese, Tongan, Māori, and Tahitians among others.

Subculture: Cultural norms that are persistent within a sub-population of a larger culture.

APPENDIX: CASE QUESTIONS

1. What are the key factors when describing the culture of an organization?
2. How do the cultural dimensions (Power Distance, Uncertainty Avoidance, Individualism and Masculinity, Long Term vs. Short Term Orientation, and Indulgence vs. Restraint) describe a population, subculture, or organization?
3. What are cultural communication considerations for engaging workers in Hawaiian organizations?
4. What elements of a communication plan would be most critical for the success of a mainland United States organization working with workers from a culture similar to the Hawaiian subculture?
5. What should a performance improvement professional consider when creating a communications plan?

Chapter 11
Resolving a Workforce Crisis in the U.S. Roofing Industry

John G. Schehl
National Roofing Contractors Association, USA

EXECUTIVE SUMMARY

The National Roofing Contractors Association (NRCA), a nonprofit construction trade association established in 1886, was challenged to find a solution to overcome a severe industry workforce shortage that emerged as the economy recovered from the great recession. The NRCA leadership, staff, and other industry stakeholders focused on developing strategies to address the workforce crisis head-on and committed resources to develop a series of performance-based programs to overcome the crisis. The new initiatives relied on limited U.S. Department of Labor's Bureau of Labor Statistics (BLS) data to support development decisions. Aware that the available BLS data was insufficient, NRCA commissioned the Arizona State University (ASU) to conduct the roofing industry's first ever comprehensive demographics research study. New data gleaned from the research changed not only NRCA's approach to resolving the workforce crisis, but it may potentially change how the entire roofing industry operates.

ORGANIZATION BACKGROUND

Established in 1886, the National Roofing Contractors Association (2020) is a 501(c)(6) nonprofit trade association serving the needs of the entire roofing industry supply chain including contractors, manufacturers, distributors, architects, consultants, engineers, code authorities, building owners and county, city, and state government agencies. As one of the construction industry's most respected trade associations, it has become the voice of roofing professionals and the leading authority in the roofing industry for information, education, technology, and advocacy. The National Roofing Contractors Association has been the home for generations of entrepreneurial craftsmen and enterprises who shelter and protect America's families and businesses, as well as each other. Its vision is the recognition of its members as professionals and to unifying the industry to that purpose.

DOI: 10.4018/978-1-7998-3673-5.ch011

The National Roofing Contractors Association's mission is to inform and assist the roofing industry, act as its principal advocate, and help members in serving their customers. The National Roofing Contractors Association continually strives to enhance every aspect of the roofing industry. A dedicated staff of 60 professionals operate from the National Roofing Contractors Association's headquarters in Rosemont, IL and five additional staff in Washington, DC, to best serve its member's needs.

The National Roofing Contractors Association has nearly 4,000 members from all 50 states and 53 countries and is affiliated with 97 local, state, regional, and international roofing contractor associations. The National Roofing Contractors Association's contractor members range in size from companies with less than $1 million in annual sales volumes (50 percent of the current membership) to large, commercial contractors with annual sales volumes exceeding $100 million. More than half serve both residential and commercial roofing markets, and more than one-third are family-owned small businesses continually operating for more than a quarter of a century (MCRA, 2020).

SETTING THE STAGE

The early 1980s saw a shortage of skilled roofing workers as the U.S. economy rebounded from the recession of the 1970s. The economic boom continued through the 1990s and, simultaneously, new low- and steep-slope roof system technologies emerged, creating an exponential demand for a larger and higher skilled workforce.

This demand peaked in 1998 at 135,720 skilled roofing workers, excluding helpers/laborers, according to the Department of Labor's Bureau of Labor Statistics. This wave of workers fell far short of meeting the industry workload at that time. Simultaneously, immigrant worker populations—primarily Latinos—filled the void. The immigrant workforce in the roofing industry increased from less than 15 percent in 1994 to about 27 percent by 2000, according to Bureau of Labor Statistics data. Then came the tragic 9/11 attacks on important political site in the United States, grinding the U.S. economy to a standstill. The demand for roofing work diminished significantly and the workforce crisis appeared to dissolve (Siehoff, 2020).

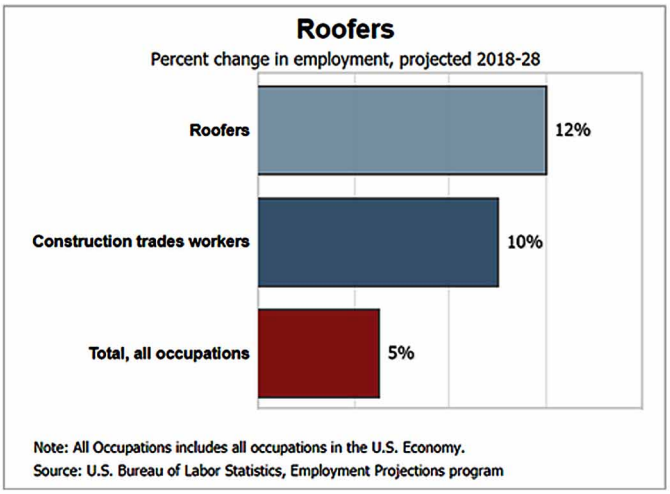
Roofing industry productivity gradually returned to previous levels as the U.S. economy healed, although inconsistently across regions of the U.S. The workforce went back to work and met the demand. Then came the worldwide economic recession between 2007 and 2011, leaving in its wake a permanent void of skilled roofing craftsmen as mass numbers of workers exited the industry to pursue other career opportunities.

In 2017, the Bureau of Labor Statistics projected industry-wide employment of roofers to grow 12 percent from 2018 to 2028, much faster than the average for all other occupations. They predicted this growth will be driven through replacement and repair of roofs as well as the installation of new roofs (Bureau of Labor Statistics (2020). See figure 1.

Nobody thinks about roofs until one leaks, disrupting or destroying a home or business or shutting down an entire manufacturing production line. The public depends on local roofing contractors to fix their roofing problems. The vast majority of the National Roofing Contractors Association members are family-owned small businesses generating less than $1M in annual revenues.

Leading up to and during the National Roofing Contractors Association's annual July 2018 committee meetings, the most discussed industry issue that was causing members enormous personal and financial pain was the shortage of skilled workers. Manufacturers of roofing materials were experienc-

Figure 1.



ing record numbers of warranty claims. Roofing material suppliers were not able to deliver materials to jobsites at agreed upon times due to a lack of delivery drivers. Roofing contractors were losing business in unprecedented amounts due to not having the manpower to perform roof replacement and repairs within a reasonable time. This Bureau of Labor Statistics data only provided industry leadership an anecdotal glimpse as to why members were experiencing this unprecedented pain, but the National Roofing Contractors Association (NRCA) would soon discover that the problem was much greater than was perceived back in 2015.

CASE DESCRIPTION

This case study presents a chronology of events that motivated the National Roofing Contractors Association leadership to make an unprecedented commitment of industry resources to develop strategies and tactics designed to overcome head-on an industry's workforce shortage. The resulting initiatives include intentional efforts to create performance-based programs—programs that require participants to demonstrate they actually can perform a desired behavior—that offered the potential to change how an entire construction sub-trade operates. It also presents how the National Roofing Contractors Association's desire to have a highly credible performance-based certification program became the catalyst and focal point for creating a clear industry career path. The National Roofers Contracting Association aspired to achieve a career capstone program by developing its ProCertification® professional credentialing program, a cutting-edge approach to certification through standardized performance-based assessments. A standardized performance-based assessment is a test that requires individuals to perform certain tasks, and the results of each person's performance is measured against the same standards regardless of where in the United States the test is given.

CURRENT CHALLENGE FACING THE ROOFING INDUSTRY

The Current State of the Roofing Industry Workforce

History began to repeat itself. As the economy recovered after the great recession, roofing contractors began experiencing work backlogs—more work than they can complete with their current resources—even though no significant materials shortages were hindering project deliveries. This gradual increase in work volume increasingly revealed an unprecedented workforce crisis with potentially devastating consequences for the entire industry. This is hardly hyperbole when considering the factors contributing to the current lack of skilled roof system installers.

During the first decade of the 1900's, few in the industry noticed—or simply chose to ignore—the fact that the industry's labor pool was primarily composed of baby boomers (people born between 1946 and 1964), retiring at a rate of 10,000 workers *per day*, according to a 2015 Pew Research Center report. This report also projected the trend would continue through the next 19 years. But roofing work was relatively slow after the 9/11 U.S. attacks, so nobody noticed. By 2018, the mean age of a roofing worker was 37-years old and aging, according to Bureau of Labor Statistics. Furthermore, the overall fertility rate for the U.S. in 2017 was 1,765.5 per 1,000 women, which is 16% below what is considered the level needed for a population to replace itself according to CNN Health (Howard, J. 2019). Considering these variables, the overall domestic workforce for all industries has become more and more dependent on foreign-born workers.

Simultaneously, the Latino roofing workforce reached an all-time high in 2018 of 56.3 percent, according to the Bureau of Labor Statistics. Latino and other immigrant workers are critical to a productive roofing industry, yet the U.S.'s current leadership seems to ignore the value these workers bring to the overall national economy as government cannot reach agreement on immigration reforms. The National Roofing Contractors Association is also aware that the roofing industry historically has done little to meet the needs of immigrant workers, like providing Spanish language training materials and conducting research to gain a deeper understanding of their cultural, social, or economic needs. This, however, is rapidly changing as the industry becomes more reliant on immigrant workers to create a new generation of roofing professionals.

A further challenge to the current roofing industry workforce is the tidal wave of advanced roofing technologies in recent years that resulted in new roofing and waterproofing systems requiring even higher skill levels to install such as roof-integrated solar photovoltaic systems (materials that generate electric power and are integrated into the roof covering materials); vegetative roof systems, commonly known as "green" roofs; self-adhering systems made of synthetic rubber and plastic membranes; monolithic liquid-applied systems that are poured into place; and, even glass roof coverings for residential applications. NRCA publishes guidelines and best practices covering the design and installation for most of these systems, and these technical documents are being referenced and implemented every day by the design and building code sectors of the construction industry. This rapid increase in roof system technologies, however, is driving the skills gap wider than the industry's current training capacity can overcome. The need for standardized curricula to support skills training for the hard-working men and women who install these systems has never been greater.

The U.S. industry began to experience skilled worker shortages in 2014 as the economy recovered. Fortunately, National Roofing Contractors Association leadership decided to hold a series of meetings during 2015 to discuss strategies that could address the pain and challenges its members were experienc-

ing. They appointed a dedicated task force of industry stakeholders who were charged with developing specific tactical and programmatic recommendations that could turn around the workforce crisis and create a competent, sustainable and high-performing workforce that would carry the industry well into the future. Examples of industry stakeholders includes representatives from various roofing contracting companies, material manufacturing companies, architects and engineers who specialize in roof system design, private consultants who specialize in roof system performance, and insurance company representatives who are involved with mitigating the problems associated when a roof system is blown off by the wind or damaged by hailstorms, hurricanes, tornadoes and other causes. The leadership of the National Roofing Contractors Association also required an approach that would be insulated —to the greatest extent possible—from future economic cycles. The ultimate vision of this task force became the creation of a uniform system of training and certifying workers with the potential to transform the industry while providing immediate and tangible results expressed in the following goals:

- A clearly defined pathway for new workers to more easily envision that there is a great opportunity to advance his or her career, inspire in them a strong interest in learning a highly-skilled trade, and the recruitment of these individuals into a roofing career
- Mobility for roofing workers who work in multiple U.S. states/jurisdictions
- An improvement in installation quality that results in higher levels of roof system performance or success for building owners
- A recognition of the professional-level of work that roof system installers provide
- An improvement of worker performance that manifests itself in higher safety and productivity metrics
- A decreased rate of workforce attrition or turnover of hiring and leaving
- An overall increase of public confidence in roofing as a professional craft trade

To accomplish these goals, the National Roofing Contractors Association leadership recognized the industry needed a comprehensive approach to workforce development and began work to unite the industry around these goals. At that time, they had no idea how valuable these decisions and actions would become.

To exasperate the ailing workforce, the roofing industry continues to suffer a very negatively perceived image by the general public. It is often said within the industry that no new parents gaze upon their firstborn child and say, "We hope junior will grow up to become a roofing professional." Today, roofing work is an honorable, highly skilled craft trade that offers a significantly higher-than-average entry level payrate along with exceptional career growth opportunities.

Nick Sabino, president of Deer Park Roofing, Cincinnati, serves as the 2019-20 National Roofing Contractors Association's Chairman of the Board. Sabino is actively trying to recruit new workers. Sabino states "There was a time when all the advertising we did was to attract new customers. In this day and age, almost all our marketing efforts are to attract new workers rather than finding work. We know we need to do more to attract new employees into the industry and not just exchange employees between companies. There simply are no new people out there who want to do roofing work."

According to Chad Collins, owner of Bone Dry Roofing, Atlanta, the roofing industry's current workforce crisis is serious. "We now have to walk away from work opportunities simply because we can't get it done," says Collins. We don't have enough workers with even the most basic roofing skills, and it's going to get a lot worse before it gets better."

During a 2015 National Roofing Contractors Association taskforce meeting to address the workforce crisis, the consensus of the committee members was that the industry is losing between 10 and 20 percent of its work because contractors do not have an adequate or skilled workforce. This translates to between $25 billion to $50 *billion* of annual work lost directly attributable to the labor shortage. Where is this work going? "The work is going to the underground market where nonskilled, uninsured contractors are getting away with delivering poor quality work that will end up hurting the industry—and its image—even more," Collins says.

Most roofing industry skills training has traditionally been provided through an ad hoc system of manufacturer and/or distributor training as well as on-the-job training provided by roofing contractors. Local union training organizations only produce an estimated 10 to 11 percent of the total skilled industry workforce, with signatory memberships steadily dropping over the past 15 years.

The U.S. economy has steadily improved since the economic downturn in the U.S. from 2007 to 2009, known as the great recession. American workers in all industry sectors now require higher and more sophisticated skill sets. According to Opportunity America (OA) (2020), a nonprofit jobs and career development coalition, there are fewer well-paying jobs for American workers with only a high school diploma, but there is an increasing and robust demand for skilled workers who are not college bound and have more than a high school education but less than a four-year college degree. And the same is true for the construction sector. Traditional blue-collar construction laborer jobs have given way to a more skilled workforce in all specialty sub-trades. Opportunity America reports that skilled workers of this kind account for more than half the labor force, When considering statistics from various Bureau of Labor Statistics data reports, one can reasonably assume that 25 percent of "good jobs" – those paying at least $35,000 and on average $55,000 a year – are held by Americans with postsecondary education and training short of a bachelor's degree. In 2018, Bureau of Labor Statistics data reports that the average mean annual wage for a roofer was $39,970 and National Roofing Contractors Association (NRCA) members report many experienced, highly skilled roof system installers are earning up to $117,000 annually.

SOLUTIONS AND RECOMMENDATIONS

Developing a Strategy

The most frequent comment in recent years when discussing the current workforce crisis with the members of the National Roofing Contractors Association has been something like this: "Yes, we need to do more training, and we need to do it now." Unfortunately, every employer has a different understanding about what workforce development is and has different training needs, and few know how to go about doing it effectively. To further fragment the topic, the degree to which employers want to be directly involved in workforce development also varies significantly. Some industry employers prefer to hire workers trained by others; some want to sponsor and host their own training programs; some choose to partner with other local employers and operate their own formal registered apprenticeship programs while remaining open-shop employers; and some simply prefer to be signatory to a local union training center.

Whichever approach an employer might choose, training alone does not build a workforce; it only is one component of the entire human resource development function. A training program does not recruit workers though having one helps recruiting efforts. Likewise, it can help retain workers, but it is not a structured employee retention program. To further confound things, training was often misconstrued by

roofing contractors as education, mentoring, coaching or other methods for improving worker performance. It became evident that the industry needed a clearer definition for workforce development—something of a roadmap—to guide its decisions about the type of programs it should invest its resources to develop, and then create a plan for bringing the new programs to market. But what did the marketplace want? What was the market size, and makeup of each stakeholder group?

As previously discussed, we were aware the industry's workforce demographics had changed, but we really did not have current data that helped answer these and many other questions about the makeup of the industry workforce. Further, without data, the industry did not have a solid foundation for framing conversations with external stakeholders including local, state and government agencies such as the U.S. Small Business Administration and U.S. Department of Labor concerning legislation that directly impacts the industry.

Staff was aware of a quote by the Swedish mathematician, Andre Dunkels, who stated "*It's easy to lie with statistics, but it's hard to tell the truth without them."* Recognizing the need for accurate, current data, National Roofing Contractors Association (NRCA) leadership began working in 2017 with the fundraising foundation of the National Roofing Contractors Association, known as the Roofing Alliance, to obtain this data. The Roofing Alliance commissioned the Arizona State University to conduct the first-ever comprehensive industry demographics research. The purposes of the research project would include:

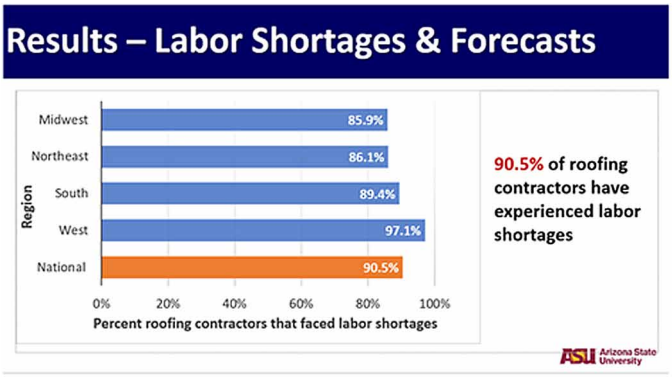
- Capture detailed description of the roofing industry workforce, its stakeholders and the work that they do
- Gather employment and demographic information on the U.S. roofing workforce, including an understanding of its challenges, trends and emerging issues
- Strengthen the National Roofing Contractors Association's voice and role in Washington D.C. by gathering important statistical data that can be shared with regulatory and federal agencies
- Serve as a member and industry resource by supplying key statistical data as a national association

The research project began in August of 2018. By this time, the workforce crisis was beyond critical and needed immediate action. A comprehensive roofing industry demographics research project would take more than a year to complete. So, members of the Roofing Alliance maintained frequent communications with the Arizona State University (ASU) team who provided detailed information as the research progressed. This information proved invaluable to support National Roofing Contractors Association (NRCA) leadership's decisions to move forward with resourcing and developing its overall workforce development initiatives. Data obtained along the way was immediately analyzed, validated and shared. It revealed that, while some of the National Roofing Contractors Association's assumptions were true, many were false. One assumption proved true was that most roofing contracting firms were suffering a shortage of skilled workers, though it varied regionally (see figure 2). The data also revealed an unexpected surprise. The traditional industry business model—how roofs were being installed—had changed along with the workforce. For example, the Arizona State University (ASU) data revealed that 63.8-percent of roofing contractors were using subcontracted labor to fill the workforce shortage, a statistic that stunned the National Roofing Contractors Association (NRCA) leadership, most of whom operated his or her business using the traditional direct employment at-will model directly with their roofing workers. It was also revealed that Bureau of Labor Statistics (2020) census data about the roofing industry was off by approximately 275-percent. The actual number of roofing contracting firms was 50,650, plus or minus 5-percent, and the total workforce employed by these contractors was slightly

less than 1 million workers, most of whom were low-skilled or unskilled and did not receive or have access to any professional training or performance improvement opportunities. The National Roofing Contractors Association was aware that there were many more roofing contracting firms in the U.S. that employed laborers and were not members but had no idea about the breadth and depth of the workforce. A key take-away of this surprise was that the National Roofing Contractors Association should no longer depend on Bureau of Labor Statistics census data about the roofing industry; it was woefully incorrect.

In retrospect, it is no wonder that "roofers" hold the infamous first place position of having the most complaints in public referral service organizations such as Angie's List and Home Advisor, etc. The National Roofing Contractors Association quickly became clear-eyed and realized about the true nature of the workforce crisis-- and saw the opportunity—to improve performance of the entire roofing industry workforce.

Figure 2.



Creating the Solution

Guided by the work of several committees, staff and other industry partners, over the past few years National Roofing Contractors Association (NRCA) identified and immediately began developing eight unique initiatives designed to achieve the strategic goals established in 2015. Aligning and unifying the roofing industry to achieve these Jim Collins-type BHAGs (big, hairy, audacious goals) would be National Roofing Contractors Association's (NRCA) first priority:

1. Create NRCA's *One Voice* initiative. Historically, membership in the National Roofing Contractors Association was restricted to roofing contracting companies and not manufacturers, distributors or other related industry stakeholders. The National Roofing Contractors Association board of directors amended its bylaws to allow full voting membership to these other industry supply chain partners including holding a certain percentage of seats on its governing board, full committee participation and access to other direct benefits. New committees formed to dissolve decades-old stakeholder disagreements on such topics as building codes, legislative priorities and industry research needs. In other words, the National Roofing Contractors Association took lead to unify and create a true consensus-based industry voice. The central *One Voice* event— the National Roofing

Contractors Association's Roofing Day in Washington, DC— (U.S. Capital) quickly became one of the top 10 legislative events into the U.S. capital each Spring when 450 to 500 representatives from all stakeholder groups converged to meet with his or her U.S. representatives and share the industry's greatest needs and concerns. Today, every member of the U.S. Congress is aware of the needs of the roofing industry. The 3rd annual 2020 Roofing Day event is on track to again exceed its previous 2-year participant registrations.

Along with the commitment to participate as a unique *One Voice* member of NRCA is a commitment to financially support the other initiatives designed to reshape how the roofing industry operates. Within 1-year of launching the *One Voice* initiative, the projected expenses to develop the remaining initiatives described henceforth are fully committed.

2. Develop the Training for Roof Application Careers™ (TRAC) training initiative, a blend of online and hands-on modules supported by hundreds of skill-specific hands-on training lesson plans that training organizations can use to transform new, inexperienced workers into quality roof system installers in a much shorter period of time than the industry's traditional ad-hoc approach. This uniform, nationally recognized worker training curricula is designed to serve as a comprehensive onboarding program that addresses all roofing disciplines, including roofing workers and the employees who supervise them in the field such as crew foreman and company superintendents. The Training for Roofing Application C initiative accelerates new employees to conversational competence within a few months of onboarding and does so using standardized vocabulary and best practices. The training system is being developed in strategic partnerships with several construction industry training and education stakeholders including the National Center for Construction Education and Research, the community college system, a network of vocational training institutions, middle and high schools with strong vocational programs, industry manufacturers, nonprofit organization dedicated to youth career development such as SkillsUSA and government institutions such as the U.S. Job Corps and the Federal Bureau of Prisons that provide skilled craftsman training.

National Roofing Contractors Association (NRCA) launched the TRAC Thermoplastic Roof Membrane Installation Package and TRAC Asphalt Shingle Installation Package in 2019 and has committed resources to develop 13 additional system-specific curricula. All content is produced in English and Spanish, and certain industry partners already are requesting the content be translated into Russian, Polish, Mandarin and other languages. A relatively inexpensive one-time curriculum purchase provides training and education organizations unlimited use of the content. Each package includes resources that roofing contractor companies can use to integrate new roofing workers more quickly into their jobs, along with specific roof system installation guidelines and means and methods representing consensus-based industry best practices.

3. The National Roofing Contractors Association is developing a comprehensive industry recruiting program that includes several versions of recruiting "kits" for use by various stakeholders. Each kit will be customized content for specific audiences including:
    a. Career counselors who serve vocation-bound youth at career and technical education and training institutions and organizations, from middle schools to community college level

b. Regional, state and local roofing contractor associations (NRCA affiliates) who serve the needs of local contracting companies. These associations reach many thousands of roofing contracting firms that are not National Roofing Contractors Association members.
c. Individual roofing contractor companies who actively recruit workers from their local labor market
d. State and local workforce development organizations and agencies, such as state One-Stop workforce and apprenticeship agencies (a network of state agencies that assist unemployed workers with finding work opportunities), workforce investment boards and other social services that provide career re-training for under-served and displaced workers
e. Roofing and other construction supply chain distributors and vendors, where existing industry workers frequent to pick up construction materials.

Customized recruitment kits will include inspiring testimonial videos; various career and craft trade brochures, banners and posters, sample job posting templates, coaching and training content for employers to enable them to engage local vocational training organizations, a complete set of standardized job descriptions for every industry career position and many other collateral promotional items. Work on this initiative has already begun, along with building relationships and developing partnerships with each of these workforce development stakeholders. Kits will become a benefit for members of the National Roofing Contractors Association and made available to nonmembers at a very low cost.

4. The National Roofing Contractors Association's Qualified Trainer initiative elevates the effectiveness of industry trainers. The National Roofing Contractors Association recognized in the early 2000's that industry training was traditionally being facilitated by very experienced field workers or supervisors, but these individuals lacked the competencies of professional skills trainers. The National Roofing Contractors Association applied for and received federal grants from the U.S. Department of Labor to create train-the-trainer curriculum starting in 2001 and continued developing workforce skills training as a core industry competency ever since. Launched in the fall of 2017, The National Roofing Contractors Association's Qualified Trainer conference has equipped nearly 400 professional industry trainers for delivering world-class workforce skills training in every state and most U.S. territories. This initiative's goal is to develop a minimum of 1,000 professional industry trainers by 2025.
5. The National Roofing Contractors Association's ProCertification® initiative is a performance-based professional certification program for roofing system installers and field managers. NRCA has committed the resources necessary to produce 18 system-specific installer certifications, one field manager (foreman) and five master-level professional certifications over the next five to seven years (NCRA, 2020; Hale, 2020). See Table 1.

During the previously referenced 2015 task force meetings, the National Roofing Contractors Association leadership made it clear that the industry did not want a certification that only required candidates to pass a written knowledge exam. They demanded that the new credential provide some assurance to the public, and employers, that certified individuals were actually able perform the work to the published standards in, the National Roofing Contractors Association's (NRCA) technical manuals. Hence, concepts for a performance-based certification testing scheme were pursued since the program's inception. It should be noted that the National Roofing Contractors Association's Roofing Manual and more than 30

other technical publications, first published in the 1970's, are consensus-based documents that establish the standards for the design and installation of all major roof systems. The National Roofing Contractors Association technical publications are recognized worldwide as the gold standard of roofing technology and best practices and are referenced by most roofing industry stakeholders, the insurance industry, the International Code Council, design professionals including architects, engineers and consultants and the U.S. judicial system.

The National Roofing Contractors Association leadership also determined that priorities in certification development will be driven by the roofing systems that hold the largest market share and potential to affect the largest number of industry workers. NRCA surveys the industry and compiles roofing market data every two years, since the mid-1980's. Leadership also established two permanent volunteer committees to assist staff with program development. An exams committee comprised of subject matter experts help develop exam content, establish scoring standards and handle grievances and appeals. And the ProCertification® program—the professional certification program of the National Roofing Contractors Association—committee assists staff with developing policies and procedures and ensures the program meets the strategic goals of the industry. The National Roofing Contractors Association also engaged the services of Dr Judy Hale, one of the world's most experienced and respected professional certification consultants, to assist staff and committee members on the unique performance-based certification scheme the industry was demanding.

The primary objectives set by the ProCertification® program committee were to ensure the new performance-based certifications are developed with high face validity and are defensible so that the initiative would not fall short of its strategic goals. The National Roofing Contractors Association leadership also realized that achieving these objectives would significantly increase consumer confidence and restore trust in the roofing industry as a highly respected craft trade. Making such a bold public promise demands that the National Roofing Contractors Association create an exceptional certification program.

Each step to develop and administrate the ProCertification® program endeavors to conform with the most recent version of the International Organization of Standards document titled *ISO/IEC 17024: Conformity assessment—General requirements for bodies operating certification of persons.* These certification standards provide time-proven processes and procedures intended for creating traditional knowledge-based exams, such as multiple-choice single response exams administered using traditional psychometric best practices. Like most standard-setting documents, the ISO 17024 requirements provide flexible guidelines to be interpreted and adopted to meet the needs of a specific program. However, these standards provide little guidance for developing valid, defensible performance-based exams.

Each ProCertified® roof system installer certification is unique to a specific roof system discipline. The certification scheme requires applicants to first meet eligibility that includes a minimum time of field experience installing the specific system, and then candidates must pass two exams. The first exam is a multiple-choice single response computer-based knowledge exam that is designed for a low-literacy population. The National Roofing Contractors Association desires to test candidates about his or her essential roofing industry knowledge, and not on their language or computer literacy or skills. Thus, these computer-based exams include audio narration for all question stems and answer options, accompanied by real jobsite photos or graphics representing correct and incorrect installation tasks and procedures from which examinees must click on the correct image or answer in response. These exams serve to discriminate the candidates who possess the essential industry knowledge, especially around working safely, from those who do not.

The second exam is a hands-on practical performance exam. Developing fair and equivalent processes and procedures for scheduling, conducting and scoring performance exams has been challenging. Accurately discriminating between candidates who can from those who cannot perform the installation of a specific roof system to a standard is fraught with challenges. Though a certification's job task analysis provides clear information about which essential installations tasks must be performed for a given system, it cannot disseminate the step-by-step work processes required to perform any task well. To overcome this challenge, staff worked closely with several experienced installers to develop a scoring rubric—a matrix of criteria used to more accurately score a candidate's performance— that accurately captures the intimate details to standardize the installation means and methods for each system. But a bigger challenge was figuring out how to remove subjective opinion and bias when an exam's proctor observes a candidate's performance. Staff and its certification consultant devised a scheme to orientate and calibrate performance exam proctors into a uniform scoring methodology. The solution required developing a new credential; the National Roofing Contractors Association's Qualified Assessor certificate program.

6. The ProCertification® Qualified Assessor program is an assessment-based certificate program that requires applicants—once they meet eligibility requirements—to complete three asynchronous (self-paced) online training modules, and then pass a proctored computer-based final exam. This final exam presents a series of short 1- to 3-minute video clips of a worker performing essential installation tasks during which a specific error was intentionally staged, and the Qualified Assessor candidate must identify the specific errors. Each video was programmed to only play once and without the ability to pause, simulating observing a real-time installation. Each Qualified Assessor credential a designation for a specific roof system type and assessors are only qualified to proctor installer candidate's exams for that system. The National Roofing Contractors Association conducted a minimum of six pilot sessions for each performance exam to establish and set time limits for each, evaluate the scoring rubric's clarity and accuracy and contrast data between different Qualified Assessors to validate this unique testing scheme. The data clearly demonstrates the National Roofing Contractors Association's performance exams effectively transpose qualitative scoring into accurate quantitative data to which traditional psychometric principles can be applied.

Another key element of fair and equitable performance exams is assuring that standard testing conditions are present for every exam event. Performance exams are conducted using standardized roof mockups in a controlled environment. Standard testing conditions also include using the same tools and equipment, the same types, sizes and thickness of roofing materials, the same roof slope and narrow ranges of temperature and wind speed, all of which can directly affect an installer's performance. To ensure standard testing conditions are met, Qualified Assessors are trained on these details and required to complete checklists to verify these conditions exist before starting a performance exam. The National Roofing Contractors Association publishes a document titled *Guidelines for Performance Exam Standard Testing Conditions* to clearly communicate these testing conditions.

The National Roofing Contractors Association simultaneously developed and launched its ProCertified™ Roofing Foreman certification along with the first two roof system installer certifications. The required knowledge, skills and abilities of a foreman are quite different than those of a roof system installer. Four primary domains were identified through the job task analysis process. These domains are communicated through what the National Roofing Contractors Association is calling the four pillars of a competent foreman. The pillars are:

a. Worker safety
b. Quality installations
c. Productivity
d. Customer service

The ProCertified® Roofing Foreman certification also is earned in a specific roof system, or designation. This certification's final exam is designed as a core exam assessing safety, productivity and customer service through a series of scenario-based questions and the quality installation pillar is tested through a video-based exam similar in design to that of a Qualified Assessor.

The ProCertification® initiative was also designed with the intent to serve as a clear industry career path for inexperienced entry-level workers. The National Roofing Contractors Association (NRCA) chose to implement a stackable micro-credentialing approach (the ability to earn a series of related credentials with each containing small quantities of information that, when combined, creates a very large body of knowledge) to its ProCertification® program credentials. Specific system certifications are awarded in the form of a digital badge. Candidates also receive a laminated photo ID card to demonstrate their earned credential. The Identification card also contains a Quick Response—or QR—code that can be scanned with any smartphone device at jobsites to access the candidate's digital badge data. Candidates can achieve a series of certifications in a specific order to earn master-level installer certifications. See Table 1. Master installer certifications will be implemented in the near future as additional system-specific certifications are developed.

7. The National Roofing Contractors Association is also investing in a robust new association management database, a new learning management system and credentialing management system to support the administration of each initiative. The new database will provide the National Roofing Contractors Association the means to track and better serve the needs of each industry worker throughout his or her career.
8. A two-pronged, comprehensive public relations campaign focusing on two audiences: A). Introducing youth—as young as third-grade level—to the importance of everyone having a good roof that provides safe, secure shelter from the elements; and B). Positively affecting the general public's opinion that the roofing trade is among the most prestigious craft trades requiring very high technological skills, provides extraordinary opportunity to work in a cohesive, creative team environment in a healthy outdoor work environment at one of the highest pay scales of the craft trades.

SUMMARY

During my 24-year career at the National Roofing Contractors Association, this author has been blessed with the opportunity to travel throughout Europe, Canada, the Mideast and North Africa (MENA) region, and Asia to observe and learn how several countries develop, manage and sustain their unique roofing industry workforce. Several developing countries were asking our help during these visits (workforce problems are not unique to the U.S.) and some already had a rich history of success in managing the ebb and flow of economic and cultural factors that influence workforce productivity. This author will never forget an experience in Germany back in 2000 while visiting our partner association's training center, the Zentral Verband Des Deutschen Dachdecherhandwerks (Central Association of German Roofing

Work). It was a very special training center that focused on pride in workmanship that left on me a strong impression. But what impressed me most during that trip was my visit to a local shopping mall where, totally unexpected, I spotted a young man escorting his girlfriend or spouse, arm in arm around to the various stores. What was unique about this young man was what I called the "uniform" he was wearing; a dark brown leather lederhosen, black velvet vest with large medallions affixed and a large-brimmed hat sprouting a tall plume of red and gold feathers. "Really?" I asked my host "What's up with that guy?" My host responded "Oh, that's (don't recall the name), one of our program graduates. All our graduates are proud to wear their dachdeckermeister uniform in public. Our public honors and respects every one of them." That single experience anchored my personal vision of what the U.S. roofing industry work-

Table 1. NRCA procertified® certification program credentials

ProCertified® System Discipline	***TRAC* Installer Training Curriculum**
ProCertified® Roofing Foreman: (**X**) Designation	*ProForeman Series Leadership & Communications Training*
ProCertified® Thermoplastic Systems Installer	*Thermoplastic Systems Installation Training*
ProCertified® Asphalt Shingle Systems Installer	*Asphalt Shingle Systems Installation Training*
ProCertified® EPDM System Installer	*EPDM Systems Installation Training*
ProCertified® Clay and Concrete Tile Systems Installer	*Clay and Concrete Tile Systems Installation Training*
ProCertified® Metal Flashing & Accessory Installer	*Metal Flashings & Accessories Installation Training*
ProCertified® Asphalt-based Systems Installer	*Asphalt-based Systems Installation Training*
ProCertified® Liquid-applied Systems & Coatings Installer	*Liquid-applied Systems & Coatings Installation Training*
ProCertified® Wood Shake & Shingle Systems Installer	*Wood Shake & Shingle Systems Installation Training*
ProCertified® Metal Shingle Systems Installer	*Metal Shingle Systems Installation Training*
ProCertified® Service Technician—Low-slope systems	*Low-slope Roof Service Training*
ProCertified® Service Technician—Steep-slope systems	*Steep-slope Roof Service Training*
ProCertified® Metal Panel System Installer (Low & Steep)	*Metal Panel Systems Installation Training*
ProCertified® Rooftop Solar Systems Installer—Low-slope systems	*Low-slope Rooftop PV Systems Installation Training*
ProCertified® Rooftop Solar Systems Installer—Steep-slope systems	*Steep-slope Rooftop PV Systems Installation Training*
ProCertified® Slate System Installer	*Slate Systems Installation Training*
ProCertified® Synthetic Shingle Systems Installer	*Synthetic Shingle Systems Installation Training*
ProCertified® Vegetative System Installer	*Vegetative Systems Installation Training*
ProCertified® Waterproofing Installer: **(X)** designation	*Below-grade Waterproofing Systems Installation Training*
ProCertified® Master Steep-slope System Installer	
ProCertified® Master Low-slope System Installer	
ProCertified® Master Roofing Service Technician	
ProCertified® Master Solar Roofing Professional	
ProCertified® Master Roofing System Installer	
ProCertification® Qualified Assessor, **X** designation	

(National Roofing Contractor Association, 2020)

force could become. Yes, the work is physical and definitely a younger person's trade. But today's U.S. roof systems also require new and extremely complex skills that demand a comprehensive approach for developing the dedicated professionals who install them. It is an honor to have the opportunity to serve an industry that has supported my own family for nearly 50-years in such a meaningful way.

Further, a primary purpose of all nonprofit trade associations is to advance the industry it serves by serving its member's needs. Sustaining a nonprofit trade association requires recovering costs to develop the products and services intended to fulfill this purpose. National Roofing Contractors Association (NRCA) projects the total investment to develop the eight initiatives described in this chapter at somewhere between $12M to $15M U.S. dollars over a seven to 10-year period. NRCA is now aware that there are nearly 1-million industry workers and it hopes to certify a minimum of 3% of this workforce during the first five years of operating these programs.

Typically, association members expect at least a break-even business model for each initiative. It is difficult to predict how much of the initial investment these National Roofing Contractors Association initiatives can recover and how long that recovery will take. But its leadership is focusing solely on solving the immediate industry workforce crisis and they are not setting any expectations for returns on investment anytime soon. That is an unprecedented decision in recent history of the National Roofing Contractors Association. We are in it for the long run. It should also be noted, however, that in recent months the National Roofing Contractors Association is experiencing unprecedented membership growth and increases in revenues from its education program sales and other non-dues revenue sources that can be directly or indirectly be attributed to at least one of these eight initiatives, especially the TRAC™ and ProCertification® programs.

The National Roofing Contractors Association leadership also recognized that without true performance-based initiatives, the investment may end up as just another organization's attempt to throw magic fairy dust on a problem. The National Roofing Contractors Association is committed to provide the resources needed to ensure a highly-skilled, sustainable roofing industry workforce well into the future.

REFERENCES

Hale, J. (2020). *The learning curve*. Retrieved from: http://www.professionalroofing.net/Articles/The-learning-curve--02-01-2020/4622

Howard, J. (2019). US fertility rate is below level needed to replace population, study says. *CNN Health*. Retrieved from: https://www.cnn.com/2019/01/10/health/us-fertility-rate-replacement-cdc-study/index.html

National Roofing Contractors Association. (2020). Procertification™. *National Roofing Contractors Association website*. Retrieved from: https://www.nrca.net/procertification

Opportunity America. (2020). *Report*. Retrieved from: https://opportunityamericaonline.org/

Siehoff, D. (2020). *Weathering the storm: How the National Roofing Contractors Association uses certifications to protect members during a labor shortage*. Retrieved from: https://forummagazine.org/weathering-the-storm/

US Bureau of Labor Statistics. (2020). Retrieved from: https://www.bls.gov/

KEY TERMS AND DEFINITIONS

Skilled Worker: A person who is trained to do specific tasks or sets of tasks to accomplish a goal.

Solar Photovoltaic Systems: Materials that generate electric power and are integrated into roof covering materials.

Trade Association: An organization that serves its members by providing training, industry practices and networking.

APPENDIX: CASE QUESTIONS

1. What are the commercial advantages of obtaining certification as a roofing contractor?
2. Explain how application of skills to a task or job is a more meaningful way to demonstrate professionalism than completing a test.
3. What is the primary purpose of a trade association?
4. What type of business model do association members expect and why?

Chapter 12
All the World's a Stage: Achieving Deliberate Practice and Performance Improvement Through Story-Based Learning

Brian S. Grant
https://orcid.org/0000-0002-4375-7551
Raytheon Technologies, USA

EXECUTIVE SUMMARY

This chapter provides a case study where a systematic, organized method of storytelling, presented as the Story-based Learning model, is used to design a series of integrated and engaging activities for cybersecurity training (to protect computer systems and networks) that fosters deliberate practice and improves performance. To address the talent shortage in the global cybersecurity workforce, the client developed a blended curriculum designed to provide practical experience to prospective cybersecurity professionals. A key component of this curriculum was the capstone exercises, activities focused on application of the content introduced in the courseware. Essentially, this is a story of using stories, one of humanity's oldest technologies, to solve the problem of training and cultivating expertise in future cybersecurity personnel. Based on solid prior evidence supporting the use of stories to increase engagement and retention, this case study focuses on detailing the thought process used to reach this set of solutions, as captured by the Story-based Learning model.

ORGANIZATIONAL BACKGROUND

The client for this case study was a large global technology company with a long history of innovation and training, with capabilities and expertise built over decades. The client recently also cemented a specialization in providing cybersecurity solutions. Through my affiliation with a globally recognized learning center of excellence, I had the opportunity to support the client in developing the cybersecurity curriculum at the heart of this case study.

DOI: 10.4018/978-1-7998-3673-5.ch012

While there were countless individuals and groups involved in the strategic planning, analysis, design, development, and implementation of the cybersecurity training curriculum, this case study only mentions the areas most significant to this case study, categorized as follows:

- **Subject Matter Experts**: The team of Cybersecurity Subject Matter Experts (often abbreviated as SMEs) that supported all aspects of the cybersecurity curriculum development and delivery.
- **Analyst**: Individual who worked with the Subject Matter Experts to conduct an upfront work analysis, detailing the tasks and skills performed by cybersecurity professionals on a daily basis, as well as answering clarifying questions by Instructional Systems Designers during development.
- **Instructional Systems Designers**: The team of Instructional Systems Designers (often abbreviated as ISDs) that I worked with for this project. We worked with the Subject Matter Experts to develop the cybersecurity training, but the Instructional Systems Designers also provided each other unwavering support and fresh perspectives throughout the process.
- **Information Technology Infrastructure**: The team of Information Technology (often abbreviated as IT) Infrastructure personnel who configured the computer network infrastructure and environment to support the development and delivery of the cybersecurity curriculum, in particular the various lab exercises.

SETTING THE STAGE

Unfortunately, cybercrime is big business, to the tune of over $440 billion a year. Cybercriminals have grown increasingly more organized and aggressive, while the cybersecurity teams defending against such attacks have struggled to find qualified personnel. The fact remains that there continues to be a persistent talent shortage in the global cybersecurity workforce. One important reason for this dearth of qualified applicants was the past focus on hiring people with traditional technology degrees instead of "opening themselves up to applicants whose nontraditional background mean they could bring new ideas to the position and the challenge of improving cybersecurity" (Zadelhoff, 2017).

Recently, more companies have recognized that skills, knowledge, and willingness to learn can prove more vital than formal degrees. This turning point was a result of understanding that the characteristics critical to the success of cybersecurity professionals were not ones that taught in the classroom, including curiosity, problem solving, strong ethics, and risk management (Zadelhoff, 2017). When the prospective candidates start with these right characteristics, they are better positioned to complete a comprehensive cybersecurity training program that teaches the required technical and technological competencies, coupled with preparation to obtain recognized industry certifications. The client in this case study was one of these companies that recognized this attitude in closing the hiring gap in global cybersecurity professionals.

By embracing this attitude, the client sought to expand their role in providing broad-based, comprehensive cyber services. The learning solution at the heart of this case study was to develop a fully-functional, blended curriculum focused on providing practical experience to prospective cybersecurity professionals. The goal of the training program was to cultivate the new, and much needed, workforce required to secure the networks and systems of current and potential customers across the globe, including foreign governments, military, and large corporations.

This blended curriculum solution set offered a classroom-focused environment led by Instructors with the learners moving through the modules together as a group. This classroom also provided full access to the Web-based lab components, including the Capstone exercises placed at the end of each course of modules. The Capstone exercises were designed to provide learners the opportunity to demonstrate their ability to apply various skills learned throughout the earlier modules.

The focus of this case study will be on the development of the foundational and intermediate courses of training modules on the subject of cybersecurity, specifically the activities that provided learners with an introduction proficiency to the cybersecurity job roles of a general cyber analyst and operator. The development of the training for advanced job roles, along with leadership and executive-level training, will be outside the intended scope of this case study. In addition, it should be noted that while learners of this cybersecurity curriculum gained awareness and exposure to the full range of attack methods used by various external and internal threat actors, the orientation of the tools, methods, and skills taught in the curriculum was purely focused on reconnaissance and defense.

A critical component to the successful implementation of this defense-oriented curriculum involved the strategic placement of Capstone exercises at the end of a sequence of modules, but still conducted before the final testing preparation for obtaining corresponding certifications. Thus, these Capstone exercises served an integral role in reinforcing the knowledge, skill, and technologies introduced in their corresponding modules and reviewed through individual lab exercises embedded in the curriculum.

My specific challenge was to design these Capstone exercises. This involved creating a comprehensive set of interwoven activities in each Capstone exercise that provided the engaging deliberate practice experiences for key module objectives, resulting in the eustress (the positive stress that improves performance) that would lead learners toward proficiency, mastery of the skills, and eventual expertise. An additional challenge included integrating the various Capstone exercises into a coherent alignment that flows seamlessly as the learners advanced through the curriculum.

Solid evidence can be found in the literature involving the use of systematic deliberate practice to improve performance, as well as the important connections between increased engagement and improved learning. Deliberate practice produced the strong learning outcomes in both cognitive and psychomotor tasks, specifically by imparting the experience and performance required (Ericsson, Krampe, & Tesch-Römer, 1993). Likewise, clear evidence exists that using simulations, when coupled with deliberate practice, yielded better results than traditional educational approaches for complex activities such as medical and clinical training (McGaghie, 2011). I feel that these benefits can effectively map to the complex and mentally demanding work a cybersecurity professional performs.

Therefore, deliberate practice through simulations, such as those provided through hands-on scenarios, are important to providing the experience the learners need, specifically what Ericsson and his colleagues (1993) identified as the key aspects of developing elite performers: access to instruction and high levels of deliberate practice throughout development.

However, learners must also be actively engaged in the learning environment in order to encourage reflection, nurture emotional reactions, and convey credibility through relevance (Paulus, 2006). This can be done through the application of story, using a rich narrative to provide the substantial motivational benefits of self-efficacy, presence, interest, and perception (McQuiggan, 2008). And remember, these were precisely the desired characteristics for prospective learners starting their journey to become cybersecurity professionals. Furthermore, engagement appears to benefit new learners, such as entry-level cybersecurity learners, even more than experts (Carini, 2004), just as deliberate practice does (Ericsson et al, 1993).

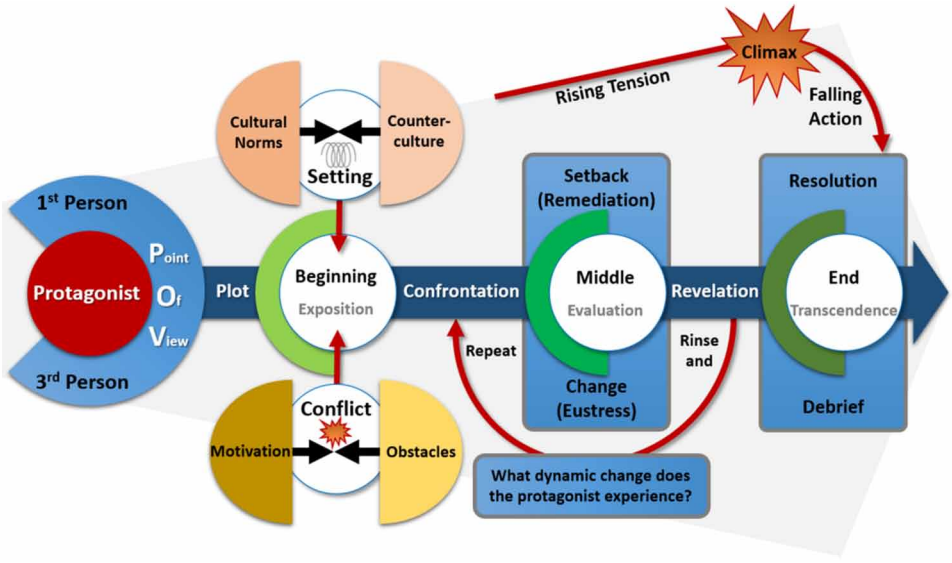
The role of stories supporting retention of information has been well documented over the decades, even as early as the research by Bower and Clark, which clearly demonstrated how the use of narrative significantly increased recall (1969). This method was exemplified by competitive memory champion's use of narrative "memory palace" strategies, a method where one uses his/her mind to store imaginary visuals in a made-up location to aid in memory enhancement. However, this evidence only pointed to some deeper truths about the power that stories bring to the learning brain.

Neurobiology has unmistakably supported the theory that the evolution of our brains included a hard-wired fondness for stories, and that this story pathway may be accessed to motivate people, even in a business setting (Zak, 2014). Furthermore, there has been evidence that indicated the use of narrative-focused game-based environments does not, in fact, diminish learning. Instead, it showed a strong positive relationship between learning outcomes, in-game problem solving and increased engagement (Rowe, 2011).

Based on this solid foundation, I felt confident that using engaging, story-based scenarios would help achieve optimal learning. What I lacked was the map of how to effectively create such scenarios. Therefore, the goal of this case study is not to further underscore the consistent results in applying stories to learning, but to focus on a thread lacking in the literature: what repeatable process can be used to consistently create the rich narratives required to provide the necessary benefits to learners?

This case study proposes one such approach through the application of a Story-based Learning model that can be used to design and develop story-based scenarios, such as the Capstone exercises for the cybersecurity curriculum. The emphasis here is detailing the creative process utilized during the development phase of the foundational and intermediate curricula. The analysis of creative process will be expressed through the lens of the Story-based Learning model. Thus, this case study is as much about the building of the Story-based Learning approach as it is about the application of this approach in crafting engaging and learner-focused narrative concepts for training scenarios. It is a tale of using stories to tell the story of how such stories are made.

Figure 1.



CASE DESCRIPTION AND TECHNOLOGY CONCERNS

There were two primary challenges in designing the Capstone exercises. First, they had to reinforce the crucial skills covered in the content. But they also had to engage the learners so they would perform the deliberate practice needed to reach proficiency. What would be the right balance between challenge and engagement, while still not becoming too academic? The key was in determining the best technologies to utilize.

Remember that the word *technology* does not refer merely to electronic hardware and software, as is so often used in our modern age. Instead, it derived from the Greek τέχνη (techne), which means "science of craft" and the word broadly referred to any capability offered by the practical application of knowledge to achieve an objective. We have embedded technology into machines that allowed for utilization of the technology without the user possessing detailed knowledge of the processes that enabled it. But even before that, some of our most profound technologies predate any mechanization. Just as the printing press was a radical new technology back in its day, so too were the ancient technologies profound in their prehistoric days, such as the invention of writing, the art of storytelling, and even the control of fire.

However, despite my awareness of using stories to optimize learning, I did not start the project with that solution in mind. Instead, as with any project, there was first an analysis of the challenge before determining the best technologies to solve it. In this case, to analyze the requirements for the Capstone exercises further, I had two paths to follow simultaneously, even while discoveries in one inevitably fed the other:

1. Which module objectives required capstone activities to reinforce them using purposeful and deliberate practice?
2. What framework for the delivery of these activities maximized learner engagement while providing the necessary alignment across the curriculum?

Thankfully, determining the required objectives was relatively straightforward due to the foresight of the Analyst and Subject Matter Experts having completed a comprehensive task analysis. Working with the Subject Matter Experts, I reviewed the existing analysis in order to identify a number of key tasks and skills that require reinforcement. And in subsequent meetings, we refined that list.

For example, when analyzing the foundational content for the first Capstone exercise, we determined that the ability to create a network map that depicted the devices and connections of a given computer environment was a critical task to reinforce, as it was frequently performed when identifying network structures. Meanwhile, the basic usage of the operating system Windows was also taught to ensure understanding of how to navigate the command line to obtain important system information. However, the ubiquity of the operating system did not translate to that knowledge requiring further deliberate practice outside module lab exercises. Instead of including the Windows topic into the Capstone exercise for reinforcement, the use of a job aid or other reference would suffice for that topic.

But other decisions were not so clear cut. Do technical topics, such computer architecture and scripting in programming languages, always outweigh less technical cybersecurity topics, like identifying threat actors and maintaining situational awareness? Given a wide variety of topics, we could not reinforce them all in the Capstone exercise, so I relied on the expertise of the Subject Matter Experts to help determine the right mix of Capstone topics. In this case, the Subject Matter Experts deemed some of the less technical topics as just as important to reinforce in the Capstone exercise as other technical ones.

This led to another question. How can we provide appropriate deliberate practice on softer skills and incorporate them seamlessly in with the technical ones?

To answer this, we had to consider the second path of analysis, the framework and method used to organize and deliver these Capstone activities; a framework that incorporated the interpersonal skill objectives, along with the technical ones, into a comprehensive and complete narrative that would engage the learners.

This is where the proposal for using story-based scenarios arose. As discussed earlier, this solution was a natural methodology to enabling deliberate practice. And, with my background as a writer and storyteller, I was confident that such an approach could be implement effectively. However, using a narrative method to address something as diverse and complicated as cybersecurity would still prove a leap of faith for some.

Can the narrative of a story convey both the mindset and technical skills required of a cybersecurity professional in an engaging manner?

I proposed that the answer was yes, if we created an immersive world for the story to unfold in. Then, we would place our learners, in the role as cybersecurity professionals, right at the heart of this detailed, relevant setting.

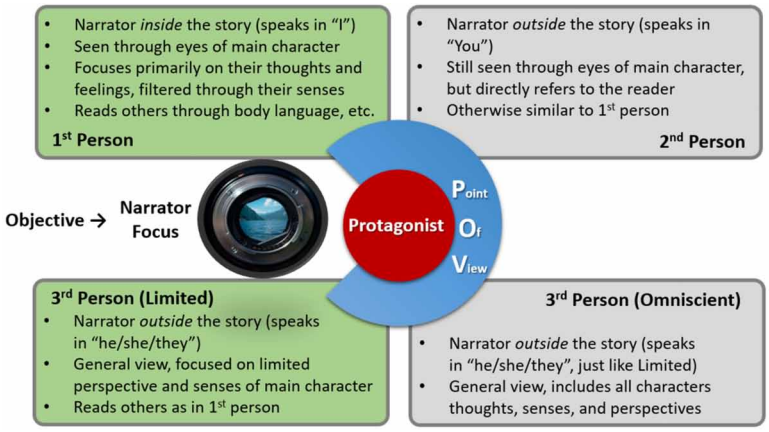
So, it was not without some irony that we could meet the challenge of designing cybersecurity Capstone exercises by using one of humanity's oldest technologies, storytelling, as a key component of the solution set. But to understand how this worked, to see how we could introduce entry-level learners to the mindset and workflow of a cybersecurity professional through a story, it would help to consult the Story-based Learning model.

The topics deemed important to reinforce in the Capstone exercises became our primary objectives for the story scenario. At this point we decided which Point of View (often abbreviated as POV) the learner would experience this story scenario through. Specifically, the point of view is the lens, or perspective, through which we chose to tell the story, the focus of the narrator conveying the narrative. There were a few options:

- 1st person – A commonly used method where the narrator was inside the story, and seen through the main character's perspective (using "I" or "we"):
  - 1st person example: "I am worried about learning the new computer application."
- 2nd person – A rarely used method where the narrator was outside the story but telling the tale to someone else, often the reader (using "you"):
  - 2nd person example: "You worry about learning the new computer application."
- 3rd person limited – A commonly used method where the narrator was outside the story, though it is told from the main character's limited perspective (using "he", "she", or "they")
  - 3rd person limited example: "She is worried about learning the new computer application."
- 3rd person omniscient – An uncommonly used variation of the 3rd person perspective where the story could view all character's thoughts (still using "he", "she", or "they")
  - 3rd person omniscient – "She is just as worried as her friend about learning the new computer application."

As illustrated by the figure, there were a wide variety of point of view options in the storytelling toolbox. However, for the intent and purpose of telling a training story scenario, the most commonly used narrative devices of 1st person and 3rd person limited were far superior for Story-based Learning

Figure 2.



scenario structures. Many people have found 2nd person uncomfortable as it is not the natural method used in daily conversation, and it could prove a difficult perspective to tell stories through. Likewise, 3rd person omniscient is often found too complex for the learner to keep track of. So, for these Capstone exercises we decided to pick from either 1st person or 3rd person limited.

In this case, the 1st person point of view perspective was the best choice strong choice for two main reasons. First, learner participation in the Capstone exercise was in a classroom setting, guided by an Instructor, even if they still access web-based materials. So, while the Instructor conveyed story information (explaining to them, "You will be assuming the role of…"), the scenario content itself would be best portrayed directly from the learner's perspective. The other reason that 1st person point of view worked best involved a clear understanding of who the main character, or protagonist, of the story would be: the learner themselves, placed into and assuming the role of a cybersecurity person, as opposed to viewing the story of a fictitious cybersecurity professional.

So, we realized that determining the story's protagonist, that is our main character, for the Capstone exercises was just as important as knowing the audience for the training itself, as it explained how the learners would be accessing the scenario. The main character protagonist, serving as the story's most prominent character, was placed at the center of the story, and typically provides the point of view perspective we focus on. We carefully considered the role that the protagonist has in the story, placing them in a decisive position that is relevant to the learners. Here, the learners would be assuming the role of a cybersecurity professional, such as an employee at a Security Operations Center (often abbreviated as SOC), a centralized unit that addresses organizational security issues. Therefore, it was the best choice for this scenario to align with a traditional "tabletop" roleplaying exercise, which is often conveyed through a 1st person point of view focus.

However, for other types of Story-based Learning scenarios, the requirements can drive different choices. In a purely Web-based delivery environment, I have found that providing the learner with a designated story character other than themselves often proved more effective. So, for a Web-based scenario, I often preferred using a 3rd person limited point of view over a 1st person point of view. The reason was that by purposefully separating the learner from the main character protagonist, it offered more of an observational experience.

Research in neuroscience has explained why this observational approach still works for learning, such that watching someone else perform actions can support the deliberate practice that learners need. Research points to the existence a mirror neuron network in the brain, a specialized set of neurons that fire not only when you perform an action, but when you observe someone else performing a similar action. The brain's mirror neuron network allowed for learning through both observation and through the experiences of others (Ramachandran, 2000). This mirror neuron network was also triggered when observing emotions (European Science Foundation, 2008). And further evidence has indicated that this mirror neuron system not only works for physical motor skills, but mental cognitive skill as well (Paas, 2008).

Based on these choices for the cybersecurity curriculum, the Subject Matter Experts and I were able to outline possible scenarios that string the objectives for a Capstone exercise together and place them in the best Point of View for the learners. In the case of the foundational Capstone, the early ideas outlined the learner as a Security Operations Center employee conducting an investigations of a fictitious university department. First, they created a visual network diagram of the department's computer network, a task they had done in an earlier lab exercise in the curriculum. But in the Capstone exercise, this task is placed in a larger context in both task and story. Next, the learner had to document potential vulnerabilities in that same network. Then, the learners were provided with fictional artifacts of content that they used to discern potential cyber threat actors and their motives. Then we confronted them with an incident that they had to respond to, analyzing logs to determine what happened, and then documenting remediation recommendations.

While this was a good start, we soon encountered a difficult technology problem.

CURRENT CHALLENGES FACING THE ORGANIZATION

The technology challenge we faced at this juncture was not about the use of the ancient art of storytelling, but instead the problem was with a more modern digital technology. It was a good plan to use the foundational Capstone exercise to provide the mindset and workflow of a cybersecurity professional, but that idea assumed that the learners would be able to utilize some digital software applications during the exercises. The problem was that the foundational courseware only has the learners utilize the most basic applications in a cybersecurity professional's software toolbox, and even then only at an introductory level. Furthermore, the primary orientation of the foundational cybersecurity tasks focused only on defensive postures, which limited our options for scenario activities.

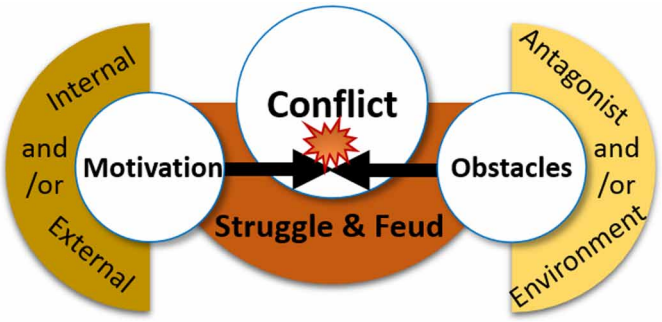
This problem was not limited to the fundamentals courses, as the intermediate and later courseware would delve far deeper into the practical use of these industry-standard computer applications. For these more advanced courses, the question was how to create, spin up, and maintain the necessary equipment and virtual environments necessary to not only provide the learners fictitious systems and networks to probe, but also simulate the appropriate virtual machines that the learners would use to run these probing cybersecurity applications—all without interfering with each other as they work. This was definitely a thorny technological problem.

However, there was also a story obstacle to also overcome. We had to determine who in the scenario story was working against these learners as they confronted the activities that evaluated and reinforced their skills in deliberate practice? Could we use examples pulled from real-world threat actors? If so,

were there issues with the rapidly changing landscape of cyber threats? If we could not, then what would make for an authentic formidable foe?

To understand the nature of this last problem, we needed to crack open the egg of conflict in the Story-based Learning model and see what sparks effective dramatic strife.

Figure 3.



Good stories have typically thrived on conflict, serving as a story's oxygen and ignition. But physical danger was not the only means of achieving this needed struggle. At its source, conflict stemmed from pitting our protagonist's motivations (regardless of whether our main character was motivated by their own desires or driven by outside ones) against obstacles that must be overcome in order to achieve the goal. And these obstacles would either have occurred through the actions of an antagonist, someone who directly hampers the protagonist achieving their goal, through a physical or cultural environment that indirectly thwarts our protagonist, or both.

In this case, our cybersecurity professionals-in-training faced both forms of obstacles; first there were antagonists in the form of threat actors who aim to infiltrate or sabotage the learner's computer network systems. But there was also a hostile cyber environment, with the political and economic drama of countries hungry for information and a desire to expose and post secrets. We detailed these threats in order to provide the Capstone exercise the authenticity it needed to be relevant to the learners.

This led to further questions about the training scenarios. Where was all this conflict and drama taking place? In what countries was our story set? Could we use real countries, ripped from the headlines, as our primary locations? If not, what were our other options?

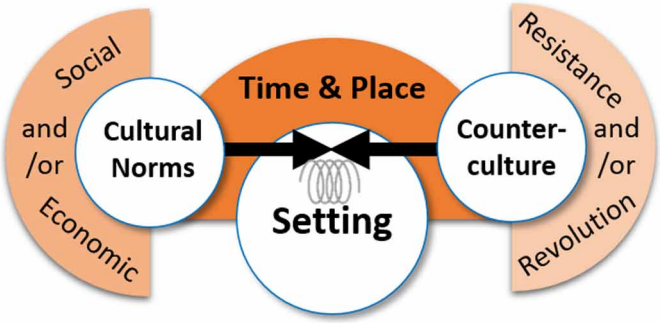
Using real countries for our Capstone exercises would lend authenticity, increasing the realism and gaining relevance through instant recognition of a real-world country. However, there was an important problem with this approach. Once we realized that many of the customers for this cybersecurity training would likely be foreign entities (governments, military, and large corporations), the option of using real-world countries would, at best, distract the learners with unnecessary knowledge and opinions they might bring with them about the country. At worst, casting of a country as a threat actor could accidently embarrass or even insult a potential client country.

Therefore, in this case, we needed to create a completely fictitious set of locations. Yes, this would require more upfront effort, but the benefits far outweighed the extra work. First, we could control every aspect of the content and deliver only what the learners needed to complete the exercise along with what was required to make it immersive enough. The trick was to provide an instructional environment that

balanced engagement and streamlined learning by not overloading or distracting the learner. Also, not using real-world countries avoided any preconceived notions learners may have about those countries, which would also hamper the learners.

Our goal, and the goal to any story setting, was to drive the narrative and plot forward, and not derail it through either distraction or by burdening the pace with too much exposition, that is an information dump of too much story background. Instead, we wanted to provide enough realistic detail to suspend disbelief, while still offering clear tensions among the actors in the setting. Specifically, we could see what drives dramatic pressure when we cracked open the egg of setting in the Story-based Learning model.

Figure 4.



The tension of setting was caused by the interplay between clashing cultures. One group was based in the current cultural norms, which is the *status quo*, driven by social and/or economic motivations to maintain things as they are. The other group formed out of a counter-culture, which either silently or vocally react to the cultural norms of the status quo in hopes of changing the culture through resistance and/or revolution, as needed.

An interesting point about the dynamics of setting was that within any organizational group, the group that a story character may identify with, current norms or counter-culture, could change at any given moment in the story, and was purely based on their perception. In any given situational setting, both parties (the cultural norms group and the counter-culture group) believed they were in the right. Whether they were labelled as the hero or the villain, part of the empire or the rebels, depended on how the story is framed. And the character could also change allegiances, and align themselves with different group later in the story.

So, as the Story-based Learning model has illustrated, both the spark of conflict and the tension of setting were used to drive the drama of the story. These, along with the main character's point of view, were vital in feeding the plot as the design of our story began. However, the story could not finish its design until it has solved the challenges we still faced.

SOLUTIONS AND RECOMMENDATIONS

To recap, the challenges we needed to confront were as follows:

1. How do we enable the learners to participate in a Capstone exercise with only knowledge of cybersecurity fundamentals and an introductory exposure to cybersecurity applications?
2. Once the learners gain sufficient experience with the necessary computer applications through intermediate and more advanced training, how do we provide the necessary classroom infrastructure for the learners to conduct online deliberate practice sessions simultaneously?
3. Who are the antagonists serving as the cyber threat actors? Are they real-world agents or should they be fabricated?
4. What fictitious setting do we need to create? How can we make it realistic without overloading the learners?

To address the first problem, we had to think a little outside the box. While you could not teach cybersecurity without computers, networks, and applications, this does not necessarily mean that we had to throw our learners into the deep end of the pool right away. On the contrary, for fundamentals training, it was important not to overload the learner at first. The curriculum in question would eventually be many courses taught over a series of months. Our goal with this initial fundamental Capstone exercise was to lay the foundations for the learner to begin thinking like a cybersecurity professional, focused on emulating the mindset that an expert would use. What did they look for in the data? How did they see patterns? What actions did they take based on investigations and the information uncovered?

This mindset and workflow were not dependent on using computer systems to conduct. Instead, they could be delivered on paper, if the environment was still engaging enough. This means that the learner would receive a series of documents, either distributed in person or electronically, that would include artifacts from the fictional world setting that we created.

These artifacts—consisting of backgrounders, articles, posts, puzzles, and logs—will be covered in more depth shortly. But first, it should be noted that, in our case, this 'artifact-based' solution for the fundamental Capstone exercise had the added benefit of solving both the second challenge and an unforeseen and related scheduling issue.

As often happens in large-scale projects, intended schedules were subject to change. In this case, the client's first customer had a tight timeline for delivering the cybersecurity curriculum that required a very aggressive development cycle. This had the direct impact of leaving the development team with less time than originally hoped. This included condensing the time that the Information Technology Infrastructure team had for creating the computer network environment infrastructure that would be used by the learners in the classroom to conduct the online deliberate practice sessions during the lab and Capstone exercises.

But if we used a purely artifact-based approach for the fundamental Capstone exercise activities, we could delay the upfront need for this digital environment, and provide the Information Technology Infrastructure team more time to spin up the necessary solutions. While the computer network and virtual cyber environment that the Information Technology Infrastructure team did eventually create for the intermediate Capstone was truly innovative in its own right, and no less deserving of its own case study, that story was outside the scope of this case study's examination.

But this buffer time did not alleviate the need to tighten communications between the Instructional Systems Designer and the Information Technology Infrastructure teams in determining the network and system needs required for the intermediate and advanced Capstone and module lab exercises. To address this, I would highly recommend that someone is designated to serve as a liaison to the Information Technology Infrastructure group, as I did. This role did not exist at the start of our project, but was a

best practice we learned and implemented. When we held regular meetings and adopting a single point of contact methodology, it optimized the communications between the teams about design needs and monitoring the progress in implementing them.

Next, we confronted our third challenge, which consisted of determining the antagonists in our story, that is the characters and/or environment that would play the role of cyber threat actors in these Capstone exercises. To recap, our main character, our protagonist, would encounter obstacles in achieving the goal, and it would be the antagonist, either person and/or environment, that would provide those obstacles. The question was which antagonist would be best for our story.

As we discussed, the lab exercises and the Capstone exercises embedded our learners as the protagonist, taking the central role in the roleplaying scenarios. We also knew that the political sensitivities of real-world customers required us to fabricate the settings and actors that drive our drama. This means that the learner's role as an employee of a national Security Operations Center (SOC) would have to be set in a fake country and that our learner would be pitted against fabricated enemies.

My early notes indicated that the Subject Matter Experts and I had an idea for focusing the fundamental Capstone exercise around a fictional public university. But since a public university was too large an organization for the fundamentals Capstone exercise, we narrowed the setting to something more manageable, and decided on creating a research-oriented department involved in cutting-edge medical device technology. Good, but where's the drama and inherent conflict in that? Who would oppose such a research department? Why? To get to the heart of these answers, we needed to take a step back and flesh out this fictitious world setting a bit more.

Through a series of brainstorming sessions, the Subject Matter Experts and I identified the characteristics of a respectable fabricated country, which here we refer to with the pseudonym of Country P, which served as the home to our main character's Security Operations Center. Country P was also where this fictional public university resided, and would be university department where the learner would map the computer network at the heart of our scenario.

We decided that Country P would be a first-world county with a strong economy founded on manufacturing, but developing a robust high-tech sector as well. By contrast, we decided that a good antagonist working against Country P would be a threat actor from a neighboring, rival country, in this case dubbed Country M. However, since there would often be more than one threat actor at work in cybersecurity, we decided to create another antagonist group, one not directly associated with any nation. We agreed that the rise in activists who used hacking to further their agendas, known in cybersecurity as hacktivists, would be a good third-party entity to serve as an antagonist against our learners in Country P. We dubbed this independent hacktivist organization Group V.

This was a strong start, as we now saw the outlines of potential conflict and dramatic tension. But what we were missing here were the details that defined the motivations of these antagonists opposing our main character protagonist. What kind of government does Country P employ? What are the economic and cyber capabilities of Country M? Who does Group V align themselves with?

I realized that a more formalized structure for collecting this background information is needed. In fact, I needed to create a document that would both capture this background on an entity, and this same document would be distributed to the learners as an artifact explaining the actors in the scenario. Such an artifact could also add realism and engagement, but had to balance providing enough information without giving too much.

First, I designed a template for this document that I called a backgrounder. I created a Country Backgrounder template for the likes of Country P and M to capture their socio-political and economic details. I searched for a standard set of attributes to consider, and found a public site that proved an indispensable resource: *the CIA World Factbook*.

I would highly recommend this site to anyone looking to create fictional countries, or to research existing ones in our world. While it offered a very comprehensive interface, I found it particularly helpful when I implemented the search as follows:

1. Begin by selecting a country to review from the dropdown menu on the homepage
2. Then, expand a section, like Economy
3. Choose a desired attribute, such as Industries or Import – Commodities
4. Select the icon across from the attribute name
5. This provides a field listing for that attribute and a full list of different countries for comparison

However, I must stress that if you were creating a fictional setting, never copy most of a single country's attributes completely. Instead, I found that when I mixed the attributes from different real-world countries together, the resulting fictional country felt more realistic and unique.

For example, in the background for Country P, we decided on a political mix of monarchy and democracy, perhaps more similar to the United Kingdom than the United States of America. But Country P's monarchy was still distinct from the UK's, as the king of Country P had reserved certain political powers. The backgrounder document also provided helpful information that could be used in scenario activities. It also conveyed subtle facts that added to the realism of the fake country, such as a fabricated flag, motto, and history. It also provided other details that not only added depth, such as allies and enemies in the region, but these details often provided hints and connections to future Capstone exercises.

Next, I designed a corresponding Actor Backgrounder template for the non-governmental entities. Using this backgrounder document, we fleshed out the information about the fictional university department in the scenario. For example, in this scenario we created a made-up engineering discipline involving nanotechnology, involving microscopic machines that can be programmed. This background detailed the cutting edge work our fictional university department performed in Country P, the goals of their research into this technology, and its potential applications.

By embedding such details into the backgrounder document, we laid the needed exposition information describing the plot for the fundamental Capstone exercise. The background for the university department explained their work in biomedical applications, their critical need for Rare Earth Elements (REEs), and the department's close ties to the government of Country P—all of which proved key plot points as the drama unfolds.

In addition, we provided the learners with backgrounder documents on the potential threat actors relevant to this scenario, namely the neighboring rival of Country M, who used state-sponsored cyberattacks in order to achieve economic and political advantage. Simultaneously, Group V, the anonymous hacktivist group, stole unverified, but unfavorable information and then had it posted through another actor whose website was known for posting such leaked information. All of this was intriguing enough, but in order to enhance the realism and engagement, we designed the backgrounder document to appear like an official brief on the country or entity, and even enlisted the aid of a Graphic Artist to help craft unique country flags and logos for each actor.

Figure 5.

THE WORLD FACTBOOK

Please select a country to view

ABOUT | REFERENCES | APPENDICES | FAQs | CONTACT | THE WORLD FACTBOOK ARCHIVE

FIELD LISTING :: INDUSTRIES

This entry provides a rank ordering of industries starting with the largest by value of annual output.

COUNTRY	INDUSTRIES
Afghanistan	small-scale production of bricks, textiles, soap, furniture, shoes, fertilizer, apparel, food products, non-alcoholic beverages, mineral water, cement; handwoven carpets; natural gas, coal, copper
Albania	food; footwear, apparel and clothing; lumber, oil, cement, chemicals, mining, basic metals, hydropower
Algeria	petroleum, natural gas, light industries, mining, electrical, petrochemical, food processing
American Samoa	tuna canneries (largely supplied by foreign fishing vessels), handicrafts
Andorra	tourism (particularly skiing), banking, timber, furniture
Angola	petroleum; diamonds, iron ore, phosphates, feldspar, bauxite, uranium, and gold; cement; basic metal products; fish processing; food processing, brewing, tobacco products, sugar; textiles; ship repair
Anguilla	tourism, boat building, offshore financial services
Antigua and Barbuda	tourism, construction, light manufacturing (clothing, alcohol, household appliances)
Argentina	food processing, motor vehicles, consumer durables, textiles, chemicals and petrochemicals, printing, metallurgy, steel
Armenia	brandy, mining, diamond processing, metal-cutting machine tools, forging and pressing machines, electric motors, knitted wear, hosiery, shoes, silk fabric, chemicals, trucks, instruments, microelectronics, jewelry, software, food processing
Aruba	tourism, petroleum transshipment facilities, banking
Australia	mining, industrial and transportation equipment, food processing, chemicals, steel
Austria	construction, machinery, vehicles and parts, food, metals, chemicals, lumber and paper, electronics, tourism
Azerbaijan	petroleum and petroleum products, natural gas, oilfield equipment; steel, iron ore; cement; chemicals and petrochemicals; textiles
Bahamas, The	tourism, banking, oil bunkering, maritime industries, transshipment and logistics, salt, aragonite, pharmaceuticals
Bahrain	petroleum processing and refining, aluminum smelting, iron pelletization, fertilizers, Islamic and offshore banking, insurance, ship repairing, tourism
Bangladesh	jute, cotton, garments, paper, leather, fertilizer, iron and steel, cement, petroleum products, tobacco, pharmaceuticals, ceramics, tea, salt, sugar, edible oils, soap and detergent, fabricated metal products, electricity, natural gas

These little details added much needed realism to the culture of these actors. And soon, even the Subject Matter Expert got into the act. Some wove the world setting and mythos into small activities and puzzles posed to the learners outside of the Capstone exercises. This not only further engaged the learners, but also continued to build on the world setting used in later Capstone exercises.

It wasn't long before we realize that this growing world setting needed a literal map that depicted how all these fictional countries related to one another. With the help of another Graphic Artist, we created a political map showing country boundaries and major cities overlaid onto a geographical map depicting important terrain such as mountains, rivers, and bodies of water.

I would like to advise anyone designing such a map to never underestimate how geographical and topological features—such as coastlines, mountains, lakes and rivers—can often dictate many of a country's and/or state's political borders. I found that using this organic approach provided a more natural and realistic layout.

However, while this map was made available as a resource for learners who desired a big picture, it was not presented up front to avoid overloading the learners with information. In fact, the sequence used to present the artifacts was quite important. In the fundamentals Capstone exercise, the two backgrounder documents on Country P and the university department were presented first, starting the plot of the training scenario's story, and providing the introductory exposition information to this fictional world.

Then we confronted the learner with their first challenge. Returning to the Story-based Learning model, we have moved past the beginning, where our conflict and setting converge to drive the plot forward. As the model suggested we should provide a first challenge and confrontation, which was actually an evaluation of the learner. Even if the scenario is structured where the learner observed the action through a separate designated character (remember our discussion of point of view for our main character), this evaluation was where the learner would be asked to control of the situation and decide what actions the main character should take. This way, it is always the learner that is evaluated on the knowledge and/or skills they have acquired.

In this case, the initial evaluation involved an important learning objective we determined back in our analysis: creating a map of a computer network, specifically the one for the university department in Country P. The learner practices this activity before during a module lab exercise, providing the required deliberate practice and immediate feedback that helped the learner succeed. Therefore, it was reasonable to expect the learner to meet this first Capstone exercise challenge, grow through the eustress and turn that positive stress into success and moving on to the next confrontation in the story.

As seen in the Story-based Learning model, there could be many cycles of confrontation, which has been denoted in the model as "Rinse and Repeat." This means that each time a learner encountered a confrontation, they need to be reset the learners before they attempt the failed confrontation again, and ensure a proper debrief or transition before moving onto the next confrontation. In the case of the Capstone exercises, a series of confrontations propelled the learner through the story as they also demonstrated mastery of the required knowledge and skills.

But how did we know that the learner successfully answered the confrontation questions, and completed the tasks that were set before them? In a complex exercise like the Capstone, we found there could be different interpretations of the information, such that different answers could also be partially correct. Therefore, we created a checklist answer sheet for the Instructors they would use to grade the learner's work. We detailed different point values for each part of the activity, and provided guidelines for Instructors for offering partial credit based on whether the Instructor felt the learner's work demonstrated the proper understanding of the problem, despite making small errors.

Therefore, after the initial confrontation the plot continued and we introduced the backgrounder documents for Country M, the rival neighbor of Country P, and Group V, the hacktivist group stealing secrets to further its own agenda. This background information served to set up the next confrontation and evaluation, where the learner had to identify potential threat actors (antagonists) and their motives in opposing Country P. To do this we created artifacts that displayed the increasing conflict in the form of imaginary news articles describing the increased tensions between Country P and Country M due to public accusations coupled with economic and political posturing.

Another artifact we provided was two blog posts by Group V, the first one described a leaked document from the university department in Country P, which painted a disturbing picture of what their new technology could be used for, while the second artifact turned the tables on Country M, describing embarrassing leaked emails. We wanted to make it clear that Group V was an agent of chaos, with no clear allegiance to any one country, but only to their misguided agenda of exposing "inconvenient truths."

This set the stage for the learner to confront their next evaluation in interpreting these artifacts and answering questions about potential threat actors and motives. This part of the Capstone exercise aligned with the goal of instilling a cybersecurity professional mindset in the learner, and we used artifacts like the news and blog postings to lend it more realism.

As indicated by the Story-based Learning model, this confrontation/evaluation cycle continues, as the protagonist, as well as our learner playing the main character, experience dynamic change and growth. Meanwhile, the story arc continues with further rising tensions and increased stakes for our protagonist. The next Capstone exercise activity catapulted the learners into the middle of an investigation of a cyber incident involving the stolen documents mentioned in the blog post artifact, but with the realization that the document's content had been altered by on of Country P's enemies before it was posted.

The learner was asked to continue the role as a member of the national Security Operations Center for Country P and set the task of analyzing a series of network activity log files. The log files provide a historical timeline of who did what on the network and are an important element in the investigation of the intrusion of how the documents were stolen, and by whom.

This led to the dramatic climax of our story for the fundamental Capstone exercise. As illustrated in the Story-based Learning model, the learner, as our main character protagonist, must transcend this final challenge and truly think like a cybersecurity professional. The participant had to utilize all acquired skills so far in order to answer key questions about what happened and offer remediation recommendations.

After the climax, the Instructor led the learners through the falling action phased of the story arc. They fulfilled this aspect of the Story-based Learning model by conducting a debrief discussion where we provided the resolution of the story and some closure by revealing some new evidence that showed what really happened. In this case, we created a final artifact in the form of a chat log revealing the archived messages between a graduate student in the university department and an unknown outside entity.

What happened was what is known as "phishing" a social engineering attack where someone outside the network entices someone inside to reveal information or provide access. So, the chat log showed that the graduate student was looking for some hardware and this unknown person, who was secretly working for the hacktivist organization Group V, enticed the grad student to log onto a fake website which captured his university login credentials. Using a password and access this outsider stole the documents, altered them, and had them posted on the Internet.

It was using this kind of rich narrative, built through dramatic conflict and a tension-filled setting, that we provided the engaging deliberate practice the learner needed to reinforce knowledge and skills while moving on to testing and certification. And this was the approach we followed in subsequent Capstone exercises.

For example, in the intermediate Capstone exercise, I built upon the setting first established in the fundamental Capstone exercise, by expanding the word and new actors. Expanding the world involved introducing Country J, as well as a new entity, Company T, which were actually named in the backgrounder documents as ideas for further growth of the story. Such attention to continuity and connection through the various Capstone exercises increased both their realism and engagement.

For instance, though Company T was mentioned only by name as a business partner for both Country P and their rival Country M in the foundational Capstone. Now in the intermediate Capstone, Company T plays a central role in the new story arc. We used the same process described earlier in this case study to flesh out this company, as well as the new Country J, and other needed actors to tell our story.

Once again our learners are the protagonists, our main characters assuming the role of a cybersecurity employee for Company T. This time the intriguing story involved typical computer network audits revealing a trail of deceit, insider threats, and even possible sabotage of Country P's water infrastructure through a potentially dangerous software vulnerability introduced by a subcontractor based in rival Country M, but hired by Company T.

All of this played out amidst the further escalation in rhetoric and actions between Country P and Country M, as captured in more news artifacts we created. The learners soon found out that Company T had contracts with both Country P and Country M, putting it in an awkward situation. And to make matters worse, we introduced a new hacking group, Group S, who is accused of performing recent cyberattacks on behalf of its close ally, the spy agency of Country M.

Again, we provided the evidence for this story again through artifacts, backgrounder documents, news articles, and other items electronically distributed to the learners. However, this time, we were able to utilize the computer network environments created by the Information Technology Infrastructure team so the learners could use real cybersecurity applications on virtual simulated networks during the intermediate course and its Capstone exercise.

The purpose of the depth and complexity of a rich narrative and world setting was to offer a highly engaging environment for the learner. And it proved quite successful. However, it was also an administrative nightmare for the Instructional Systems Designers to remember all of these narrative details, especially when designing courses in addition to the Capstone exercise.

My recommendation was to suggest one person serving as a "storyrunner," someone responsible for the tracking the continuity and consulting with Instructional Systems Designers and Subject Matter Experts on world setting questions as new material is developed. In our case, I assumed the role of storyrunner, which eventually became an official role, where the storyrunner Instructional Systems Designer was dedicated solely to designing the Capstone exercise, as well as integrating the story elements throughout the module content.

We also decided that another important lesson learned was to work on the key objectives for the Capstone exercise before development of the corresponding module content. This tightened the alignment of lab exercises with the Capstone exercise and avoided potential rework.

In closing, I cannot emphasize enough the importance of documenting details about the world setting. It was difficult for a single person to memorize all the nuances of countries, entities, and their intricate interactions. Furthermore, due to Human Resource staffing needs, the storyrunner for development of

one phase of the curriculum may not be available for another, which necessitated a handoff to another Instructional Systems Designer. I recommended creating a document, or series of documents, which cataloged the various aspects of the world setting, especially those items that were important in the initial design decisions, but were not deemed relevant to provide to the learners.

As I worked through the designs of these complex scenarios, the outline of the Story-based Learning model continued to evolve and expand. What I discovered was that this model offered an organized and repeatable process that anyone can use to maximize character development to best serve the story, creating conflict that increased tension, and settings that propelled the narrative. Together, this can create engaging scenario stories that foster deliberate practice, learning to increased performance.

REFERENCES

Bower, G., & Clark, M. (1969). Narrative stories as mediators for serial learning. *Psychonomic Science*, *15*(4), 181–182. doi:10.3758/BF03332778

Carini, R. M., Kuh, G. D., & Klein, S. P. (2006). Student engagement and student learning: Testing the linkages. *Research in Higher Education*, *47*(1), 1–32. doi:10.100711162-005-8150-9

Ericsson, K. A., Krampe, R. T., & Tesch-Römer, C. (1993). The role of deliberate practice in the acquisition of expert performance. *Psychological Review*, *100*(3), 363–406. doi:10.1037/0033-295X.100.3.363

European Science Foundation. (2008). How mirror neurons allow us to learn and socialize by going through the motions in the head. *Science Daily*. Retrieved July 14, 2019 from https://www.sciencedaily.com/releases/2008/12/081219073047.htm

McGaghie, W., Issenberg, S., Cohen, E., Barsuk, J., & Wayne, D. (2011, June). Does simulation-based medical education with deliberate practice yield better results than traditional clinical education? A meta-analytic comparative review of the evidence. *Academic Medicine*, *86*(6), 706–711. doi:10.1097/ACM.0b013e318217e119 PMID:21512370

McQuiggan, S. W., Rowe, J. P., Lee, S., & Lester, J. C. (2008). Story-based learning: the impact of narrative on learning experiences and outcomes. In B. P. Woolf, E. Aïmeur, R. Nkambou, & S. Lajoie (Eds.), Lecture Notes in Computer Science: Vol. 5091. *Intelligent Tutoring Systems. ITS 2008*. Berlin: Springer. doi:10.1007/978-3-540-69132-7_56

Paulus, T. M., Horvitz, B., & Shi, M. (2006). 'Isn't it just like our situation?' Engagement and learning in an online story-based environment. *Education Tech Research*, *54*(4), 355–385. doi:10.100711423-006-9604-2

Ramachandran, V. S. (2000, June 29). Mirror neurons and imitation learning as the driving force behind "the great leap forward" in human evolution. *Edge Foundation, The Third Culture*. Retrieved July 14, 2019. https://www.edge.org/conversation/mirror-neurons-and-imitation-learning-as-the-driving-force-behind-the-great-leap-forward-in-human-evolution

Rowe, J., Shores, L., Mott, B., & Lester, J. (2011). Integrating learning, problem solving, and engagement in narrative-centered learning environments. *International Journal of Artificial Intelligence in Education*, *21*(1-2), 115–133.

Zadelhoff, M. (2017). Cybersecurity has a serious talent shortage. Here's how to fix it. *Harvard Business Review*, *5*. https://hbr.org/2017/05/cybersecurity-has-a-serious-talent-shortage-heres-how-to-fix-it

Zak, P. (2014). Why Your Brain Loves Good Storytelling. *Harvard Business Review*, *10*. https://hbr.org/2014/10/why-your-brain-loves-good-storytelling

KEY TERMS AND DEFINITIONS

Capstone Exercise: A comprehensive set of scenario activities aligned to objectives designed to reinforce knowledge and skills at the end of a sequence of training.

Cybersecurity: Protecting digital networks and systems from unauthorized usage or disruption.

Deliberate Practice: The purposeful training experiences that reinforce motor and/or cognitive skills in an effort toward improving performance.

Engagement: The state of being mentally and/or emotionally invested in an event or occurrence.

Eustress: Physical or cognitive stress that is perceived as positive and beneficial, resulting in improved performance.

Scenario: A sequence of events taking place in a designed location involving predetermined characters, often engaged in a narrative structure.

Story-Based Learning: A systematic, learner-focused process for using narrative structures to increase engagement and foster deliberate practice.

Technology: Any capability offered someone by the practical application of knowledge to achieve an objective, or use of such capability embedded in something, such as a machine.

APPENDIX: QUESTIONS

1. What are some benefits to utilizing a Story-based Learning approach for delivering scenario-based content and exercises? What are some possible negative in using this approach?
2. How does engagement translate into improved performance?
3. Can you provide some examples of how deliberate practice improved your performance?
4. What were some of the lessons learned conveyed in the case study? How could they prove helpful in your workplace?

Chapter 13
Integrating Organizational Values With Workplace Performance

Zachery Ryan Beaver
https://orcid.org/0000-0002-1051-0552
University of North Texas, USA

Rose Baker
https://orcid.org/0000-0003-2191-0436
University of North Texas, USA

Carl Binder
The Performance Thinking Network, LLC, USA

EXECUTIVE SUMMARY

With an end goal to build and maintain a new workplace culture to support workplace performance, the central human resources shared services group for a large university initiated a pilot project to improve the performance of their processes, systems, and its human resources. Through the guidance of a performance improvement professional facilitator, the central group consulted various cultural models and change management methods to identify a pilot project. The implementation of a multilevel change methodology for performance improvement was applied to the work performed by the human resources information services (HRIS) group. Using their newly defined mission, vision, and values statements as a guide, the central human resources shared services group piloted one project with the subgroup then moved onto others. This case study focuses on the pilot project within the human resources information services (HRIS) group, the work of the performance improvement facilitator and the group's members, and the outcomes of their efforts.

DOI: 10.4018/978-1-7998-3673-5.ch013

ORGANIZATION BACKGROUND

Big Name University (pseudonym) has a central human resources shared services group to support the work of the university's geographically distributed campuses. Together, the campuses and the centralized services make up the university system. The number of employees within the university system is nearly 15,000. The central human resources shared services group helps all individuals interacting with the university system. In-person and virtual support are offered to job applicants, faculty, and staff. Departments within the shared services include benefits; compensation; equity, diversity, and inclusion; talent acquisition; talent management; and records. The human resources shared services group is responsible for maintaining and reporting the data for each of the employees as requested or required. The data include elements such as payroll, health insurance, employment duration, sick and vacation leave, unit assignments, performance plans, performance reviews, and retirement system decisions.

Over the last few years, the growth of the university campuses and changes in technology have resulted in the desire to adopt new processes for using the human resources information system. New administrators within the central human resources shared services group have encouraged the central human resources employees to develop more creative ways to use the data for analysis and decision making. The central human resources shared services group administrators decided to have a pilot project within its central services group to explore how to better serve their customers, the employees within the university system. The central human resources shared services group selected the human resources information services (HRIS) group from within the shared services to apply the Six Boxes® Performance Thinking® process to analyze their performance and service processes for the university system and adopt a new way of serving their customers. This human resources information services (HRIS) group coordinates requests for employment information system payroll security, state and federal data management requirements, state and federal reports, and employee data requests and reports.

To achieve the performance improvement goals for the pilot project, the administrators within the central human resources shared services group realized they required assistance to pilot a project that would ultimately lead to a change in the organizational culture. The administrators searched for a facilitator who could help them with their performance improvement challenges. They hired a performance improvement professional to join the team and help the human resources information services (HRIS) group to pilot a project that would integrate organizational values and improve workplace performance. Bishop (pseudonym), an experienced performance improvement professional, had worked with teams in a number of organizations to apply performance improvement interventions to help optimize the organizations' results, analyze processes, and improve performance.

The human resources information services (HRIS) group would work on this project with Bishop, the performance improvement facilitator, and the administrators for the central human resources shared services group. The first step would be to use the refined mission, visions, and value statements for the central human resources shared services group as a lens to analyze the human resources information services (HRIS) group's work related to performance expectations, feedback, tools, resources, consequences, incentives, skills, knowledge, employee selection and assignments, motives, and preferences. The second step would be to analyze the initial state and desired performance levels for the organization, process, and performers of the human resources information services (HRIS) group. This second step is supported by assessing the organization's cultural priorities, values, and goals. The third step would be to map processes, work outputs, and identified criteria and to develop scorecards and reports for mea-

suring business results at the organization, process, and performer levels. The theoretical foundations of these steps are detailed in Setting the Stage and are explained for the case study in the Case Description.

SETTING THE STAGE

Changing an organization's workplace culture has multiple challenges. To address this change process, organizations can follow an analysis technique such that they examine behavior-environment interactions, assess the current state and identify the desired state for the workplace culture, and develop a learning organization strategy for adoption by the organization leadership and workers. To set the stage for this case study, foundation information about the tools used to facilitate the process are presented. The human resources information services (HRIS) group and the administrators for the central human resources shared services group were introduced to and applied elements based on foundational models used in performance improvement projects. These models included the Six Boxes® model for behavioral engineering (Binder, 1998), the Metacontingency model (Glenn, 2004, 2010; Glenn et al., 2016), and the concepts related to the learning organization and adoption to proactively implement change at multiple levels of the organization (Applebaum & Gallagher, 2000).

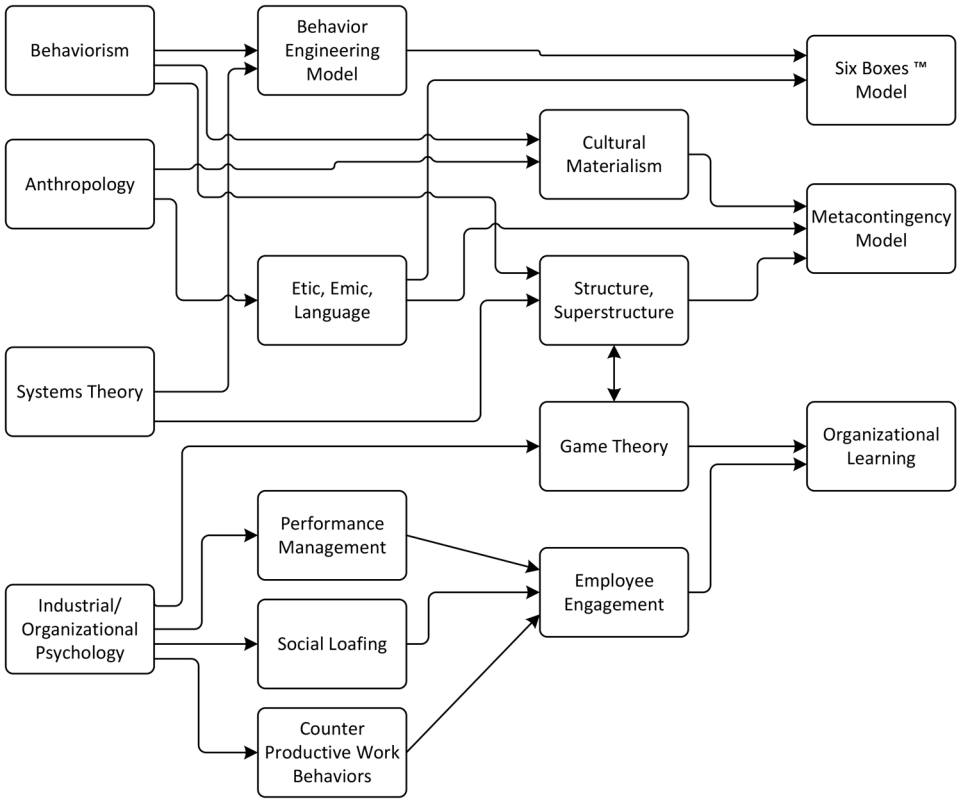
Utilizing social science cultural models to identify the current workplace cultures and performance improvement technologies to implement digital tools for human performance, the organization can determine ways to change and improve the worker's performance (Abernathy, 2009). This effort can help optimize performance from those in the organizational setting and direct the actions within a performance improvement intervention (Binder, 2016). Without proper interventions, there can be a multitude of problems that may arise in organizations such as counterproductive work behavior (Zheng, 2017), social loafing (Karau & Williams, 1993), and pervasive individual self-interest leading to dysfunction (Wilson, Ostrom, & Cox, 2013).

Although the evidence-based work related to performance improvement has been conducted within organizations for decades, recent expansion has been to societal levels in addition application at the organization, process, and performer levels (Kaufman, 2019). Even though this expansion has taken place, some organizations often focus exclusively on project results and individual performer success when attempting change processes such that they chiefly manage individual task performance (Ho, Wu, & Wu, 2014). This task-based focus can narrow an organization's performance improvement efforts to the limited scope of performance management and hinder the efforts to the point that any changes in performance might not be enough to observe as a change in the organization's outputs. When organizations realize that their current methods of performance improvement are not meeting their needs, a clearer focus on employee performance rather than on employee management can benefit the organization and the workers (Buckingham & Goodall, 2015). Although decades of implementation have happened, "human performance technology/performance improvement is not a familiar field of study and practice in corporations and workplaces" (Chow & Moseley, 2017, p. 10); however, the field of performance improvement and the use of its models are growing (Gok & Law, 2017). Even with an increase in usage, there has been limited discussion of these technologies in the current reimaging of employee performance and organizational culture (Wilson, Hayes, Biglan, & Embry, 2014).

Performance improvement implementation employs various theories and models. A map of influential theories and models used within the performance improvement intervention described in the case study are depicted in Figure 1. The map is not all-inclusive but serves to visualize a number of the connec-

tions between the theories and models. On the left of Figure 1 are major fields of study. Behaviorism (Moore, 2011) was employed to help explain factors influencing the present state performance and work outputs at the start of the work with the human resources information system (HRIS) group depicted in the case study. Anthropology (Tharp, 2009) was used to explain the development and status of the group and its culture. Systems theory helped explain the interrelatedness and interdependence of the people and their performance outcomes (Turner, Baker, & Romine, 2019). Industrial and organizational psychology helped to apply psychological theories to the organization. The middle of Figure 1 depicts theories and theoretical works used to help explain the findings after testing performance improvement implementations and to offer support for decisions when choosing an intervention strategy. The right side of Figure 1 links the two models, Six Boxes model and the Metacontingency model, and organizational learning to the theories, theoretical works, and major fields used within the performance improvement intervention and presented within the case study. These models and organizational learning are presented in more detail below.

Figure 1. Map of major fields of study applied during the case study



Behavioral Engineering

Understanding why people engage in specific behaviors and what sustains continuation of behavior has long been a study of social science. Successful businesses have a financial interest to have people to engage and maintain certain behaviors in order to improve productivity and have improved interactions between supervisors and employees and improved performance (Baker, 2019). Companies not satisfied with the way their interventions are impacting their employees' productivity and interactions are looking to employee performance and its improvement, away from the management of behaviors (Buckingham & Goodall, 2015). Nonfinancial performance measures help to inform perspectives from internal customers, internal business processes, and employee learning and growth and offer an opportunity for monitoring organizational and employee improvement (Ittner & Larcker, 1998).

Behavioral engagement and encouragement are described as behavioral engineering (Gilbert, 1978). Early work related to behavior study was B.F. Skinner and the three-term contingency: antecedent, behavior, and consequences (Moxley, 1987). These contingencies have been successfully utilized to influence behavior of employees within organizations (Abernathy, 2009). Skinner's work is still influential as operant conditioning is used within psychology with the study of reinforcements and punishments (Araiba, 2019).

Thomas Gilbert, a student of Skinner, expanded on Skinner's three-term contingency and added environmental factors for what drives and maintains performance (Gilbert, 1978). Gilbert developed multiple theorems and the behavior engineering model over the course of his career. The model contains various categories for identifying what drives and maintains behavior and worthy performance within the environment and within the person (Gilbert, 1978). The elements of the model are depicted in Figure 2. The information, instrumentation, and motivation are representative of the stimulus, response, and consequences. The consequences are reflected by changes in the person's motivation and are affected by incentives in the environment and intrinsic motivations or motives of the person.

Figure 2. Gilbert's behavior engineering model

	Information (S^D)	Instrumentation (R)	Motivation (S_r)
Environmental Supports (E)	Data	Instruments	Incentives
Person's Repertory of Behavior	Knowledge	Capacity	Motives

Adapted from Gilbert's Behavior Engineering Model (Gilbert, 1978).

After the introduction of Gilbert's behavior engineering model, Binder (1998) sought to continue its evolution. The Six Boxes Model advanced Gilbert's work and increased the accessibility and usability of the foundational theory. A key feature of the Six Boxes model is the language. Simple and shareable language is integrated with the theoretical underpinnings of Gilbert's behavior engineering model to promote usability across organizations and by practitioners of performance improvement. The Six Boxes model is summarized in Figure 3.

Figure 3. The Six Boxes Model

1. Expectations & Feedback	2. Tools & Resources	3. Consequences & Incentives
4. Skills & Knowledge	5. Selection & Assignment (capacity)	6. Motives & Preferences (attitude)

Adapted from The Six Boxes Model of Behavior Influences (Binder, 1998, p. 50)

The Six Boxes model has been a useful tool for organizations (Winiecki, 2015). Although study of the model's intervention implementation had been limited, the premise behind the model for performance improvement has been observed to increase the desired performance by employees, processes, and organizations (Gok & Law, 2017). The Six Boxes tool is expanding in its use and is proving valuable when compared to other performance tools (Chow & Moseley, 2017).

To help guide organizations seeking to implement a performance improvement intervention, performance improvement technologies such as the Six Boxes model and the Performance Chain model (Binder, 1998) could aid organizations with performance improvement and cultural change. These models are based on Thomas Gilbert's work and draw from his Leisure Theorems and Behavior Engineering Model (Gilbert, 1978). The Performance Chain provides a link from what people do in organization to what the organization desires them to achieve (Binder, 2015); it is modeled with the behavior influences, the behavior, work outputs, and the business results.

The models provide a simple language to understand and influence human performance. The behavior-environment interactions identify and evaluate the stimuli, responses, and consequences that influence the person's repertory of behavior or the environmental conditions in which the person works. Ultimately, performance thinking informs performance improvement interventions and can be used to influence the quality and quantity work outputs and influence workplace culture.

Cultural Selection

Organizational change techniques are driven by selection, and metacontingencies, individual contingencies, and cumulative outcomes exert control of cultural behavior (Delgado, 2012). Without a shareable language, such as required by organizational change management or metacontingencies, workplace culture is not likely to change successfully (Gover, Halinski, & Duxbury, 2016). Metacontingency models provide a three-term contingency view of culture (Glenn, 2010; Glenn et al., 2016). A type of selection process, metacontingency requires the interaction of two or more individuals for which the interlocking behavioral contingencies are maintained by the consequences of the behaviors. The metacontingency models may be applied to organizations to help drive and sustain high performance, especially for change related to cultural contingencies and cultural behaviors.

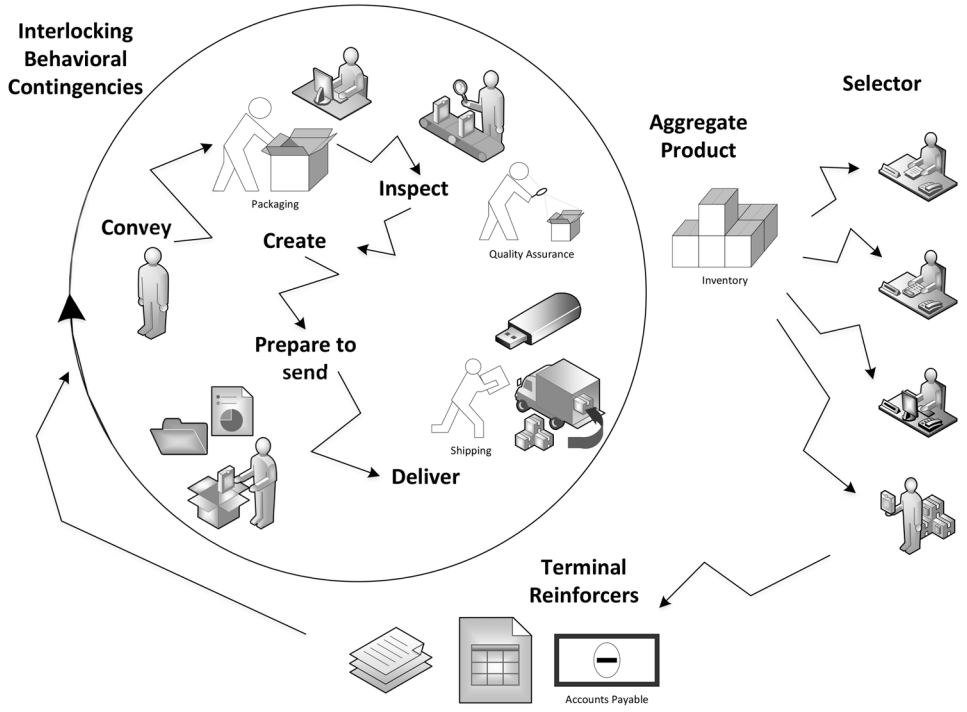
The culture of an organization makes up what is perceived to be valuable to and permissible for its members (Gover, Halinski, & Duxbury, 2016). Organizations that have conducted a cultural analysis to examine the impact and the implications of cultural conditions have realized positive effects on the outcomes of organizations (Smircich, 1983). Consider that groups are part of a larger social system and are influenced by the culture of the organization. Efficacy of groups within an organization and cooperation of the members are necessary for the achievement of shared goals (Wilson, Ostrom, & Cox, 2013); this efficacy and cooperation is shaped by the perceptions of the organization's culture. Central to an organization's culture are its values. Tang et al. (2017) found person-organizational congruence

moderated workplace performance. Culture was a function of positive congruence between person and organization as opposed to finding a positive culture (Tang, Min-Shi, & Wen-Bin, 2017). The level of simplicity or complexity of understanding and perceiving the organization's culture also regulates workplace performance. The more complex an organization's culture is perceived to be, the more influential the social environment is on the cultural consequences (Zagury Tourinho & Vichi, 2012). Changes in an organization's culture have the potential to modify cooperation, achievement, and performance of the workers. However, for culture change to take place purposefully one must define what the culture change is to be.

Although organization culture does not have an agreed upon definition, one can describe the culture of an organization through its cultural priorities, organizational values, and the goals of the organization. The Metacontingency model (Glenn, 2004, 2010; Glenn et al., 2016) is one way to merge the behavioral science of Skinner with the concept of culture. The Metacontingency model is depicted in Figure 4. The model is composed of interlocking behavioral contingencies that produce an aggregate product, which is then selected and reinforced (Glenn, 2010; Glenn et al., 2016). The contingencies can be maintained or destroyed by factors inside the culture or those interacting with it (Gelfand, Leslie, Keller, & de Dreu, 2012). A strength of this model is that culture is something that is ever developing, not something that is predefined or static.

The combination of the behavior engineering model with the contingencies within the Metacontingency model informs performance improvement professionals to develop solutions for implementation within the learning organization. The adoption of these interventions can lead to changes in workplace culture that could be lasting change.

Figure 4. Metacontingency Model

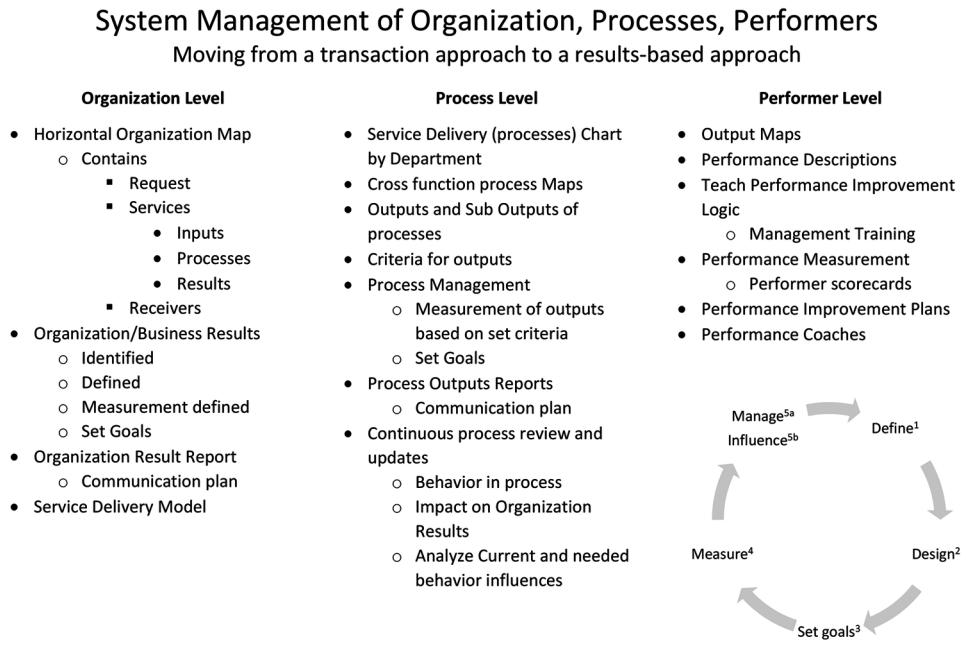


Learning Organization and Adoption

For an organization to develop its culture, merely understanding behavior and what defines culture is not enough. Organizations must be willing to establish and maintain a learning environment (Appelbaum & Gallagher, 2000), in other words, develop and support a learning culture that would bring change to the organizational culture. Organizational learning can help build a culture of high performance (Ponnuswamy & Manohar, 2014) and establish an organizational culture that values learning and a supportive social system for work output. These values have led to many positive outcomes in organizations including corporate responsibility for relationships with external stakeholders and development of participatory leadership styles to influence crucial cultural conditions (Schönborn, 2010).

The organization operates as a system and the components become a system of systems. The learning organization proactively applies systems management techniques to the organization, process, and performer levels. These levels are shown in Figure 5 in a multilevel change model for system management of the levels. This model was developed based upon a synthesis of experiences serving as a performance improvement facilitator and applying the models depicted in Figure 1 in organizations. The goal of the multilevel change model for systems management depicted in Figure 5 is to move the organization from a transaction focused organization to one that is results-based focused. Application of this multilevel change model to develop the learning organization aids in the adoption of changes in the organizational culture. This change should not only be focused on the employee work processes or on the training and development department, the whole organization should be involved in the application of culture change. This adoption and diffusion of the culture changes will require a paradigm shift by employees, supervisors, and leadership. Interventions should be proposed across multiple levels of the organization.

Figure 5. Multilevel change model for system management of organization, process, and performer levels



In order for a culture change to be successfully adopted and diffused within an organization, employees must understand the organization as a whole, identify what makes the organization successful, and be able to communicate with each other across departments. For an organization to successfully improve performance there must be alignment in the variables that affect performance. This continuous circle in the lower right corner of Figure 5 depicts the actions that need to be taken to establish a culture change. For each level, organization, process, and performer, a definition of the desired change is determined. This could be established through techniques such as brainstorming, goal setting, or value mapping. Following the define stage, the change is designed, goals are set, and measurements are completed to assess the implementation. The management and the influence of the process is evaluated and used to inform the next definition. The continuous process is to develop a plan to move the organization from the transaction approach to the results-based approach.

To be an effective intervention, change of this type must be implemented at multiple levels of an organization. Such intervention is often primarily at the organizational level. Mapping is a key strategy for change. The organization should be mapped realistically. For this purpose, the map should not be a typical vertical view of departments and employees. Vertical maps do not provide an understanding of the workflow between departments, which often contributes to lower-performing silos (Rummler & Brache, 1990). The organization should have a horizontal organization map. The map should show how the company functions within its environment and how it operates. It should display requests, services, and receivers. The services mapping should also identify what inputs are received, processes that are engaged, and results that are produced. The map is an illustration of the system of the organization and the system of systems of the organization; it serves as a foundation for finding performance improvement opportunities (Rummler & Brache, 1990).

- **Organization level**. The organization should also focus on clarifying their desired business results. The business results should be organization-wide outcomes. The business results might include things like revenue, customer satisfaction, regulatory compliance, market share, and so on. The business results should be identified and defined. Once defined, the results also must be measured and the measurement should be tracked over time. This can take the form of a company scorecard. Goals should be set for the business results and the measurement data should be available and communicated to the organization members and stakeholders; i.e. a company dashboard, scorecard, or report (Binder, 2015). With an understanding of how the organization functions in its environment and the business results identified, the plan now focuses on the processes. In the horizontal mapping, the processes were identified moving across the organization. Next, the processes should be mapped into single and cross-functional process maps. These maps would show how a process moves inside and across departments at the department and job role level. Once a process is completely mapped, the outputs and sub-outputs of the process should be identified. Next, the criteria for the outputs should be identified and documented. These criteria would set the standard for the outputs in the processes (Binder, 2015).
- **Process level.** With process maps, work outputs, and criteria identified, the organization can now move to process management. For process management to have its greatest chance for success, the processes should be given owners (Rummler & Brache, 1990). Supervisors and performers who are involved in the day-to-day operation can make sustainable owners (Binder, 2015). The outputs of the processes should be measured by the established criteria. Once the measurement has begun, goals should be set. The results of the measurement and goal attainment should be communicated

via widely accessible scorecards and reports. Process scorecards and reports should be monitored for the connection and impact on the organization's business results. To improve reliability and reduce cost, the processes should undergo consistent review by its owners and be updated as needed. These updates can focus on the behavior in the processes, can help to review the needs of the outputs and to establish the validity of its criteria, and should focus the analysis on behavior influences (Binder, 2015).

- **Performer level.** Next to be completed is the performer level. Performers may need to realign how they view their job responsibilities, their interaction with a manager, their performance expectations, and how they are evaluated. First, outputs should be mapped for each position. Performers should identify which internal and external customers they interact with and what the outputs are of those interactions. Once these outputs have been mapped, performance descriptions should be designed for each position. These descriptions should state the outputs a position is responsible for, what behavior is produced to accomplish the outputs, what business results these outputs most impact, and what behavior influences are in place. The performance descriptions must align with the information identified at the organizational and process level. Any discrepancy should be reviewed by leadership and addressed in process and performance management (Binder, 2015).

Next managers will participate in training on performance thinking, how to improve performance, and how to make performance improvement plans. Managers will coach their employees to understand, manage, and improve performance. Managers must understand the difference between behavior, outputs, and what influences performance (Gilbert, 1978). Managers will use the Performance Chain and Six Boxes model of behavior influence (Binder, 1998, 2015). These models advanced Thomas Gilbert's work and include his Leisure Theorems and Behavior Engineering Model (Gilbert, 1978). The models are simple to understand and teach a language of performance. A common language and definition of performance is key to the success of the manager and employee (Binder, 1998).

Once managers learn how to analyze and what influences performance, they need to learn how to coach employees to manage and improve performance. Managers must know how to develop a performance plan. Based on the Performance Chain and Six Boxes, the plan will identify a work output to focus on, connect the output business results, identify criteria for the output, document exemplary performer behavior needed to produce the output to criteria, measure to track the progress, determine behavior influences, and create actions steps (Rhia & Binder, 2011). These action steps should include tasks for the manager, employee, and other members of the organization, if needed.

Performance improvement should be a continuous process. Managers should formally and informally check in with their employees regularly to see how their plan is functioning. Once the desired improvement has been achieved by the employee, a new plan should be put in place to establish, improve, or support performance. Coaching experts should also be a resource for managers to access (Binder, 2015). These experts can be other managers, human resource professionals, or outside consultants that have been trained to aid a manager in their plan development and success. Measurement data from employee performance plans should be used to evaluate the employee, team, and manager. The results of the measurement and goal attainment should be communicated via widely accessible scorecards and reports (Binder, 2015). This information should be used for multiple purposes, such as decision making at the other levels of the organization, team assignment, and employee rewards and recognition.

This multi-level approach will aid an organization in transitioning culture. Performance is continuously monitored and managed across the multiple levels. As a result of the learning organization and adoption

process, leadership and management should have data to assess problems, a method of understanding performance, and multiple identified areas and ways to address performance.

CASE DESCRIPTION

The following case implements the multilevel change model (see Figure 5) for a cultural change project within the centralized human resources shared services group that serves nearly 15,000 employees in a large university system of a number of geographically dispersed campus locations. A specialized group was selected to pilot a cultural integration approach. The pilot group's main function was human resources information systems (HRIS). The group's responsibility was to pull data out of the organization's employee information system to produce reports for decision-makers and assist users, typically supervisors, in running or altering prepared-report format reports. Often these duties required one-on-one interaction with customers outside of the human resources group. It also required new or altered computer code and the delivery of reports in a customer-friendly format. This typically took the form of a Microsoft Excel spreadsheet. The human resources information systems (HRIS) group was made up of three people at the start of the project (all male between the ages of 30 and 60). As the project progressed, the team expanded with the addition of a female employee and another male employee in the group. The group was selected as the pilot group due to a need to improve the performance of the group to meet the needs of the growing university system employee count.

The central human resources shared services group had recently completed an organization statement creation process. This activity aligns well with one of the multilevel change model's focus points at the organization level (see Figure 5). Several central human resources shared services group members from different specialized subgroups were selected by leadership to develop mission, vision, and values statements. The process was led by an external consultant, Bishop, the performance improvement facilitator. Additionally, a member of the human resources information systems (HRIS) group project team was in attendance.

Five values and definitions for those values were produced and presented to the central human resources shared services group. The central human resources shared services group members were provided a digital copy of the values and a hard copy was posted in the breakroom. This left the manager of the human resources information systems (HRIS) group open to suggestions on the best ways to ensure his group followed the newly stated values.

The administrators of the central human resources shared services group were delivered a presentation on performance improvement services available to their teams. This included the following services and products.

- Defining and supporting job titles or roles
- Defining and improving or supporting processes
- Designing and supporting training programs
- Change Management and Implementation Planning
- Establishing, managing, and strengthening organizational culture
- Developing performance improvement plans
- Performance improvement coaching
- Identifying measures or objectives or goals

- Project Planning
- Strategic Planning

A follow up meeting was conducted with the director and manager of the human resources information systems (HRIS) group. Given the introduction of the new values, both individuals agreed that the group could benefit from the performance consulting service of establishing, managing, and strengthening organizational culture. The intervention selected was a process, outlined in Binder (2016), in which values would be overlaid on performers' behaviors and criteria for work outputs.

Before beginning the definition of performance and integration of values, the expected business results for the organization had to be selected and defined. This is the define stage in the multilevel change model shown in Figure 5. The following list was compiled using multiple strategies including interviews of performers and leaders, industry-specific research, and reference to performance improvement best practices. The following list of Business Results was produced:

- Operational efficiency
- Regulatory compliance
- Customer satisfaction
- Societal impact
- Employee engagement
- Quality
- Employee satisfaction
- Market share
- Student satisfaction
- Student success
- Revenue
- Profits
- Safety
- Financial liability

The next stage of the project was, to begin with, the frontline performance of the human resources information systems (HRIS) group. This effort included two individuals to represent the frontline workers and to inform the performer level of the multilevel change model. Meetings were held weekly over the course of two months. The first goal of this meeting was to obtain an understanding of the performance expectations of a frontline worker in the human resources information systems (HRIS) group.

These individual contributors were asked to diagram the key customers they served and the work outputs which were delivered to each customer. The obtained information produced customer diagrams that displayed what each individual contributor was producing on a regular basis and where the products were going, inside or outside of the department. The diagrams also served to further display the scope and value of the work of certain areas of performance. The more a particular output was produced for multiple customers, the more integral this part of their performance was assumed to be to their role.

Using the customer diagrams and conversations as a guide, a more detailed definition of performance began to take shape (the define stage as shown in Figure 5). The outputs of most importance and value were selected from the diagrams to be investigated using the Performance Chain model (Binder, 2015,

2016). Using this model, the team defined behaviors and best practices, work outputs plus criteria, and linked each work output to the predefined business results.

With a new and focused understanding of this human resources information systems (HRIS) task requirements, the human resources information systems (HRIS) group set out to incorporate the cultural values. The information collected thus far in the performance chain was now looked at through the lens of the values. These values were reviewed and discussed by the project team. Once the team felt clear on the values, the team members began to alter and incorporate various areas of the performance chain per work output. The performance chain links behavior influences to behaviors necessary to accomplish the work outputs then links these work outputs to business results.

The consultant, Bishop, who is the performance improvement professional, and a performer selected one key value for each output. The value that was chosen, was agreed to have a moderate to direct relationship with that specific work output. Next the criteria for one of the selected work outputs were taken through a values audit to define the value-added sub-outputs or milestones in the process (Binder, 2015). Using the definition of the value, we looked to see if criteria were in fact aligned with the value. Parts of the criteria that were reflective of the value were highlighted in the same color as the value documented for that output.

The same values auditing process was undertaken for the behavior identified for each work output. These behaviors were reviewed and highlighted if selected as representative of the value. This usually appeared as two or three highlighted sentences. The highlighted text allowed someone to quickly glance at each of these documented areas of performance and have an understanding of where and how the values were a part of their job. As Bishop and the performer worked to document values into the performance chain, they began to take note of where changes could produce increased alignment. These were documented and shared with the performer's manager.

The aim of the effort with the performers was not just to document how the values were part of their roles. Bishop, the leadership, and the performers also wanted to support and further the integration of the values. They chose to work with the Six Boxes model (Binder, 1998) to aid in this effort. Keeping in mind some of the noted shortages in the valued-added sub-outputs and milestones documented from the values audit, they completed a Six Boxes analysis to help arrange and develop behavior influences.

They used the Six Boxes model in a linear process. This process began with analyzing the current existing or missing behavior influences for the environment and performers. Next, they brainstormed new or alternative behavior influences. The final step was to note which brainstormed influences they thought were most feasible for application. They now had a concise list of behavior influences to aid in the successful performance and further integration of values. These steps were completed for the two roles reporting to the human resources information systems (HRIS) manager. The manager was presented with the customer diagrams, values audited performance chains, and list of chosen behavior influences. The information led to changes in expectations for the roles and aided in the development of new goals and measures for team members.

After the delivery and presentation of the project, the HRIS manager expressed an interest to have the methods and models applied to the human resources information systems (HRIS) frontline worker roles to be applied to his position. Bishop began by taking the manager through the process. A key difference in this part of the project was the manager wanted to help lead and drive culture for his team. They decided that to drive this culture change he would need to do more than be a representative of the values. The manager would need to directly impact his team through what he produced for his team

members. The manager wanted the work outputs identified in the analysis to be a cultural example and have the potential to influence workplace culture.

They completed a customer diagram of the manager role and paid special attention to the work outputs that were delivered to his team (this is the design stage of the multilevel change model in Figure 5). As with his direct report, they used the Performance Chain to describe the performance in detail. A values audit was also completed for his performance that focused on the criteria for good work outputs and the behavior required to produce the work output to described criteria. There were a number of documented work outputs delivered to the manager's direct reports. After conversations around frequency, value, and preference, they selected the work output of a coding suggestion. The manager felt that this was something he did regularly and repeatedly in the same areas. The manager also felt there was frustration on the part of the employee because of the difficulty of this performance area. Reviewing the performance of the suggestions led to alteration of the criteria and behaviors for this work output.

The Six Boxes model was used to change and develop the behavior influence for the new behavior and work output criteria. As with the manager's direct reports, they used the process of analysis, brainstorming, and choice of behavior influences. The manager requested further assistance to bring his altered work output to his team members. A coaching plan and support meetings were designed for the manager. The manager was guided through a coaching plan template from The Performance Thinking Network. The template was used to document the purpose of the plan, how it would impact the organization, the work output, and the behavior needed to complete the work output and the Six Boxes process.

A measurement strategy was also outlined to track the performance of this plan over time. The selected measure was the solution to the criteria (the set goals and measure stages of the multilevel change model in Figure 5). This data was collected after each occurrence by the manager, which typically took place after the manager's weekly one-on-one meetings with his direct reports. The manager stated, "During a very tumultuous time in the organization, because this team implemented this project, we were allowed to grow. We adopted change and this was a very worthwhile endeavor. It really changed my thinking about my employees' work, I now think about their performance instead of their time in their seat. The change in the workplace culture is that now I think about the people, their skillset, and the impact of their actions on the organization, the process, and other group members."

With each of those sections completed, they now worked to identify tasks to help the manager put the chosen behavior influences in place to support the targeted performance. The tasks were primarily assigned to the manager but others were also given tasks. The manager and Bishop would meet weekly or biweekly with the manager. Together they would evaluate the task accomplishments and collect measurement data to assess the plan. Additional tasks were added and some removed as the new behavior influences were put in place once measurement data was evaluated.

The feedback received from the manager and human resources information systems (HRIS) group was positive. Bishop coached the manager for a number of months as they applied the multilevel change model to tasks. The manager felt that his group now had a better understanding of their work and a way they could incorporate the organization's values into how and what they produced. The manager also stated that he had a new way of looking at what his group does. The project was completed, ending with the satisfaction of the manager. As the human resources information systems (HRIS) group moved through the process, two additional members were added to the group. This was a significant action on the part of the administrators in recognition of the improved performance of the human resources information systems (HRIS) group. Other groups within the central human resources shared services

group did not replace members when members left employment or did not grow, they retained the same number of employees.

Word of the project's success and impact spread through the rest of the central human resources shared services group. The performance improvement facilitator, Bishop, was asked to engage in additional projects by directors and managers in other groups within the central human resources shared services group. The head of the central human resources shared services group also began to express interest in the culture building method and other performance improvement applications. The evidence for success was collected during the coaching sessions with the manager, feedback on action steps, weekly output criteria achievement, and in process behavior changes. Reports from the manager and the human resources information systems (HRIS) group were positive. Increased reporting and accountability through the weekly reports about achievements and performance changes.

CURRENT CHALLENGES FACING THE ORGANIZATION

At the completion of this project, there were a number of challenges and problems. One problem was that the manager had trouble explaining the process his team had been engaged in to conduct the performance chain and other analyses. They enjoyed the work and the outcomes but had difficulty explaining how it was working and articulating the details of the experience. Another issue was that once the performance chain documents were delivered, they tended not to be updated by the group.

Also, the time involved in the setup and completion of this work was not a small commitment. Leaders tended to support the idea of having cultural projects but allocated little resources, such as time, for the success of these projects. The authors believe there is still a desire for a two-day training solution over weeks of work even in such an area as organizational culture. There is important work to be done in this area. The payoffs for organizations and social science could be very high.

SOLUTIONS AND RECOMMENDATIONS

The following suggestions are given to address the various issues associated with this project and cultural work. Practitioners and scholars need to determine the additional information, application methods, and existence of performance improvement technologies and social science cultural models, specifically the Six Boxes Model and the Metacontingency model, to impact performance and culture. If an organization desires to implement a workplace culture change, intervention design meetings should be scheduled to include members from different departments that are representative of the organization's complexity. Interdisciplinary design teams should be established to brainstorm new areas of cooperation for building and maintaining cultures. The use of science-based approaches allows for a systematically applied process to that focuses on results, increased value, takes a systemic view, and is completed in partnership with key organization stakeholders.

Employees at the Performer level have continuously expressed a desire to maintain a positive culture and improve their performance. There is not a lack of motivation in these individuals but a lack of realistic actionable methods and expectations. With better tools and understanding of human performance and culture, organizations can better achieve their missions and individuals can enhance their performance.

The lack of institutional memory about the process that Bishop shared with each of the individual contributors and the manager is a problem that can be solved with performance support tools. Because the individual contributors and the manager were intent on analyzing their behavior influences, the behaviors in which they engaged, the work outputs they produced, and the related business results to those work outputs, they did not see or recall the process, only its products. Development of tools to prompt the employees to recall the questions they answered during the mapping and analysis could help to inspire a continuous performance improvement process. The use of top down, inside out, and bottom up strategies to apply performance thinking strategies can be supported through these support tools. The process of performance thinking and application of the Performance Chain is not only for experts; it is a collaborative process that can be applied by anyone in an organization. The key to success is working systematically to recognize and communicate how activities and processes within the behavior influences can be organized to positively affect behavior, work outputs, and business results to have measurable performance improvement. Multiple projects were completed during this application of a performance chain intervention including establishing and creating new cultural norms, developing performance plans, and establishing a coaching routine for building and maintaining the new cultural norm.

REFERENCES

Abernathy, W. B. (2009). Walden two revisited: Optimizing behavioral systems. *Journal of Organizational Behavior Management*, *29*(2), 175–192. doi:10.1080/01608060902874567

Appelbaum, S. H., & Gallagher, J. (2000). The competitive advantage of organizational learning. *Journal of Workplace Learning*, *12*(2), 40–56. doi:10.1108/13665620010316000

Araiba, S. (2019). *Current Diversification of Behaviorism*. Perspectives on Behavior Science; doi:10.100740614-019-00207-0

Baker, R. (2019). The agency of the principal-agent relationship: An opportunity for HRD. *Advances in Developing Human Resources*, *21*(3), 303–318. doi:10.1177/1523422319851274

Binder, C. (1998). The Six Boxes: A Descendent of Gilbert's Behavior Engineering Model. *Performance Improvement*, *37*(6), 48–52. doi:10.1002/pfi.4140370612

Binder, C. (2015). *Optimizing human performance in processes with Six Boxes® performance thinking* [White paper]. Retrieved from https://www.sixboxes.com/_customelements/uploadedResources/145137_SixBoxesProcessManagementWhitePaper.pdf

Binder, C. (2016). Integrating organizational-cultural values with performance management. *Journal of Organizational Behavior Management*, *36*(2-3), 185–201. doi:10.1080/01608061.2016.1200512

Buckingham, M., & Goodall, A. (2015). Reinventing performance management. (cover story). *Harvard Business Review*, *93*(4), 40–50.

Chow, A. T., & Moseley, J. L. (2017). Comparisons of Six Sigma, Lean, and Human Performance Technology/Performance Improvement. *Performance Improvement*, *56*(1), 6–13. doi:10.1002/pfi.21677

Delgado, D. (2012). The selection metaphor: The concepts of metacontingencies and macrocontingencies revisted. *Revista Latinoamericana de Psicología*, *44*(1), 13–24.

Gelfand, M. J., Leslie, L. M., Keller, K., & de Dreu, C. (2012). Conflict cultures in organizations: How leaders shape conflict cultures and their organizational-level consequences. *The Journal of Applied Psychology*, *97*(6), 1131–1147. doi:10.1037/a0029993 PMID:23025807

Gilbert, T. F. (1978). *Human competence: Engineering worthy performance*. New York: McGraw-Hill.

Glenn, S. S. (2004). Individual behavior, culture, and social change. *The Behavior Analyst*, *27*(2), 133–151. doi:10.1007/BF03393175 PMID:22478424

Glenn, S. S. (2010). Metacontingencies, Selection and OBM: Comments on "Emergence and Metacontingency.". *Behavior and Social Issues*, *19*(1), 79–85. doi:10.5210/bsi.v19i0.3220

Glenn, S. S., Malott, M. E., Andery, M. A. P. A., Benvenuti, M., Houmanfar, R. A., Sandaker, I., ... Vasconcelos, L. A. (2016). Toward Consistent Terminology in a Behaviorist Approach to Cultural Analysis. *Behavior and Social Issues*, *25*(1), 11–27. doi:10.5210/bsi.v25i0.6634

Gok, A., & Law, M. (2017). Performance improvement in the literature. *Performance Improvement*, *56*(1), 14–20. doi:10.1002/pfi.21675

Gover, L., Halinski, M., & Duxbury, L. (2016). Is it just me? Exploring perceptions of organizational culture change. *British Journal of Management*, *27*(3), 567–582. doi:10.1111/1467-8551.12117

Ho, J. L. Y., Wu, A., & Wu, S. Y. C. (2014). Performance measures, consensus on strategy implementation, and performance: Evidence from the operational-level of organizations. *Accounting, Organizations and Society*, *39*(1), 38–58. doi:10.1016/j.aos.2013.11.003

Ittner, C. D., & Larcker, D. F. (1998). Innovations in performance measurement: Trends and research implications. *Journal of Management Accounting Research*, *10*, 205–238.

Karau, S. J., & Williams, K. D. (1993). Social loafing: A meta-analytic review and theoretical integration. *Journal of Personality and Social Psychology*, *65*(4), 681–706. doi:10.1037/0022-3514.65.4.681

Kaufman, R. (2019). A Suggested Evolution of the Gilbert, Rummler, and Binder Frameworks for Major Performance Improvement and Worthy Performance Accomplishment. *Performance Improvement*, *58*(6), 12–16. doi:10.1002/pfi.21883

Moore, J. (2011). Behaviorism. *The Psychological Record*, *61*(3), 449–463. doi:10.1007/BF03395771

Moxley, R. (1987). Three Conceptual Units for Behavior. *The Behavior Analyst*, *10*(1), 17–26. doi:10.1007/BF03392403 PMID:22477957

Ponnuswamy, I., & Manohar, H. L. (2014). Impact of learning organization culture on performance in higher education institutions. *Studies in Higher Education*, *41*(1), 21–36. doi:10.1080/03075079.2014.914920

Rhia, C., & Binder, C. (2011). *Accelerating business results through leadership & management* [White paper]. Retrieved from https://www.sixboxes.com/_customelements/uploadedResources/125345_PerfThinkingManagementWhitePaper.pdf

Rummler, G., & Brache, A. (1990). *Improving performance: How to manage the white space on the organization chart*. San Francisco: Jossey-Bass.

Schönborn, G. (2010). Value performance: On the relation between corporate culture and corporate success. *Zeitschrift Für Psychologie*. *The Journal of Psychology*, *218*(4), 234–242. doi:10.1027/0044-3409/a000033

Smircich, L. (1983). Concepts of culture and organizational analysis. *Administrative Science Quarterly*, *28*(3), 339–358. doi:10.2307/2392246

Tang, J., Min-Shi, L. I. U., & Wen-Bin, L. I. U. (2017). How workplace fun influences employees' performance: The role of person-organization value congruence. *Social Behavior and Personality*, *45*(11), 1787–1801. doi:10.2224bp.6240

Tharp, B. M. (2009). *Defining "culture" and "organizational culture": From anthropology to the office.* Retrieved from https://www.kvworkspace.com/files/resources/Defining-Culture-and-Organizationa-Culture_5.pdf

Turner, J. R., Baker, R. M., & Romine, K. (2019). Complex adaptive team systems (CATS): A theoretical model addressing complexity and levels of interaction. Book chapter. In S. D. Göker (Ed.), *Leadership*. INTECH Open Science. doi:10.5772/intechopen.88743

Wilson, D. S., Hayes, S. C., Biglan, A., & Embry, D. D. (2014). Evolving the future: Toward a science of intentional change. *Behavioral and Brain Sciences*, *37*(4), 395–416. doi:10.1017/S0140525X13001593 PMID:24826907

Wilson, D. S., Ostrom, E., & Cox, M. E. (2013). Generalizing the core design principles for the efficacy of groups. *Journal of Economic Behavior & Organization*, *90*, S32. doi:10.1016/j.jebo.2012.12.010

Winiecki, D. J. (2015). Comparing a few behavior engineering models. *Performance Improvement*, *54*(8), 6–14. doi:10.1002/pfi.21501

Zagury Tourinho, E., & Vichi, C. (2012). Behavioral-analytic research of cultural selection and the complexity of cultural phenomena. *Revista Latinoamericana de Psicología*, *44*(1), 169–179. Retrieved from https://dialnet.unirioja.es/servlet/oaiart?codigo=3916013

Zheng, W., Wu, Y.-C. J., Chen, X. C., & Lin, S.-J. (2017). Why do employees have counterproductive work behavior? *Management Decision*, *55*(3), 563–578. doi:10.1108/MD-10-2016-0696

KEY TERMS AND DEFINITIONS

Business Results: The macro-level indicators of a business's progress toward achieving its mission.

Capacity: Ability to meet the requirements.

Culture: How things are produced and what the requirements are of that product. Culture is manifested in a variety of ways in an organization through its communication styles, leadership behaviors, and reinforcement or punishment of performance.

Engineering: The use of scientific principles to design and build something of interest or to solve technical problems.

Feedback: Information delivered to the performer after the performance has taken place.

Interlocking Behavioral Contingencies: At least two operant reinforcement contingencies that are related such that the stimuli and/or responses of one contingency function as an environment for events in the other.

Metacontingency: A contingency relationship between a set of interlocking behavioral contingencies, its aggregate product, and the consequences of selection.

Social Science Cultural Models: A mental structure and patterns of behavior that are used by social scientists to represent a culture and to distinguish one culture from another.

Work Output: The products of behavior that are a valuable contribution to an organization.

APPENDIX: CASE QUESTIONS

1. What level(s) should be used when categorizing a learning organization to define a change process for the organization's workplace culture?
2. How can performance be influenced to change the workplace culture?
3. What parts of performance are most influenced by organization values or value audit findings?
4. Within the Metacontingency model, what maintains and changes culture from a selector's perspective?
5. Why would knowing the requirements of the worker's customer be important to understanding and improving performance?

Chapter 14
The Flow System: Practitioner Tools for Navigating Complexity

John R. Turner
https://orcid.org/0000-0003-0252-1531
University of North Texas, USA

Nigel Thurlow
The Flow Consortium, USA

Brian Rivera
The Flow Consortium, USA

EXECUTIVE SUMMARY

This chapter provides an overview of techniques, tools, and methods for organizations to manage and operate in today's complexity. Current literature is lacking in providing techniques and tools for organizations to operate in complex environments. This gap in the literature is especially troubling for practitioners who are trying to learn and apply new tools to support their customers in implementing new innovation initiatives. The techniques, tools, and methods provided in this chapter were derived from a joint effort from academia, industry, and the Navy. This juxtaposition of tools and practices provides a praxis that ranges from creativity, innovation, performance improvement, organization development, organizational improvement, and organizational transformation.

INTRODUCTION

As the environment changes around organizations (e.g., complexity, environmental threats, globalization, potential epidemics/pandemics) many hold on to best practices with the ill-conceived perception that the same tools and techniques will work in today's complex landscape. Organizations, leaders, and practitioners are only beginning to face the reality that current knowledge, methods, and practices will not work

DOI: 10.4018/978-1-7998-3673-5.ch014

when dealing in complexity (e.g., pandemics, wicked problems). For example, the automotive industry is at an inflection point, forcing manufacturers to pivot by producing electric vehicles over gasoline as the cost of ownership for electric cars had surpassed that of internal combustion engines (Archer, June 3, 2017). Automakers must also be looking beyond electric vehicles and develop the capabilities to build fully autonomous vehicles. Unfortunately, this has been problematic for the auto manufacturers: "the existing automotive ecosystem is struggling to grasp" (McGregor, January 3, 2020, p. first paragraph). This has also introduced several new vendors, and competitors, to the field (e.g., Apple, Intel, Nvidia, Samsung; McGregor, 2020). This inflection point highlights the fact that software-based innovations are beginning to take over the electro-mechanical aspects of the automotive industry (Kersten, 2018). This inflection point does not, however, only apply to the automotive industry.

This point has been realized in recent events when looking at the impact that software-based innovation had taken over control of Boeing's 737 Max. Boeing's Maneuvering Characteristics Augmentation System (MCAS) incorporated software to address mechanical deficits in the airline as a fix to prevent the plane from stalling. The Maneuvering Characteristics Augmentation System proved to be a less expensive option compared to "modifying the airframe to accommodate the larger engines (Travis, April 18, 2019, p. para. 22), resulting in a fix for operating a "dynamically unstable airframe, the 737 Max" (Travis, April 18, 2019, p.22) . These points are provided only to highlight the changing environment that organizations are currently facing, complexity:

What's become clear is that no sector of the economy is safe, that the disruptions are accelerating, and that the very talented and highly trained business leaders responsible for the majority of the world's economy do not have the right set of tools and models to properly assess risk and capitalize on opportunity. (Travis, April 18, 2019, p. 9)

Perhaps these points have not been any clearer than in today's environment, for the year 2020, where we are being threatened by the Coronavirus (COVID-19) Pandemic. Due to the global shut-down through social distancing, interventions designed to avoid social contact, the world has essentially come to a stop, or as some would claim, a re-set. Major U.S. and European automakers have suspended production on a temporary basis as an attempt to decrease the spread of the COVID-19. This impact has extended well beyond just automobile manufacturers. Most large manufacturers have been forced to shut down, at least temporarily. Some of these companies include Nike, Abercrombie & Fitch, Luluemon athletica, and Under Armour (Shih, 2020). Some manufacturers are repurposing their facilities to produce products that are in demand during these times. For example, Dior repurposed one of their facilities to produce hand sanitizer due to the shortages in their local community (n.a., March 17, 2020). Tesla, GM and Ford have announced that they will begin repurposing their facilities to make ventilators and other medical equipment (Cormack, March 19, 2020) while Honeywell, 3M, and GE have agreed to ramp up their existing facilities to produce face masks, hand sanitizers, and other needed hospital supplies (Smith, March 19, 2020).

This trend, with closings in Asia during the earlier part of 2020, followed by closings in Europe and the United States of America in March, has sparked a major disruption in the supply and demand market on a global scale like we have never experienced before. According to some experts, this sets up "a gigantic bull whip effect in which supply chain managers chase their tails trying to match supply with demand" (Shih, 2020, p. Get Ready for). These problems have highlighted new problems in the current industry best-practices, "the disruption of the current outbreak is shifting industry structures" (Craven,

Liu, Mysore, & Wilson, March 2020, p. The near term is essential), with some even questioning Agile and Lean practices.

Lean practices (reducing waste and non-value-added activities), for example, have been especially successful in "making managers aware of the impact of waste and of variance on costs. It has heightened our recognition of the need for standardization" (Meinyk, 2007, p. para. 2). Unfortunately, these practices have also led to some of the problems we are facing today. As companies shifted to one main manufacturer due to economic value, they made themselves more vulnerable to disruptions and disasters, which is what we are facing today: "Without buffers in the form of extra capacity, lead time, or inventory, these supply chains lack the extra resources needed to cope with unplanned events" (Meinyk, 2007, p. Lean + SCM). In fact, only 2 percent of companies using lean programs actually achieve their anticipated results (Steve Denning, February 5, 2011). In contrast, Agile methods, focusing on interactions, collaboration, and change rather than processes, negotiation, and following a detailed plan, have worked well with predictable linear problems/projects, but not so well for complex and non-linear problems. The same can be said for most performance improvement efforts, many have failed when applied to non-linear, unpredictable problems (Cagle, August 23, 2019).

Using the current disrupted environment that has been caused by the COVID-19 pandemic virus, we are now experiencing a true complex environment. While the tools from Agile, Lean, and the performance improvement disciplines will not work in the complex domain, the tools from The Flow System will–that is what they were designed for. The following sections will provide a brief introduction to The Flow System along with the various tools that have been designed for managing and operating in complexity. Examples for the three helixes of The Flow System (complexity thinking, distributed leadership, team science) will be highlighted showing how some of these tools can be utilized to support organizations and communities to operate in complexity and to repurpose existing systems to meet today's demands, drawing upon the innovative processes of both creativity and innovation. First, however, the authors will highlight their conceptualization of the innovative process.

Creativity and Innovation

When discussing creativity and innovation it is difficult to first identify what exactly is being referred to: "Creativity and innovation are so closely linked in people's minds that some use the terms interchangeably" (Ford, 1996, p. 1112). Are creativity and innovation similar, or different, constructs? Or, are creativity and innovation both different components of a larger construct? Are they part of the same process or are they separate processes? What level of analysis belongs to each construct?

Creativity

In looking at the literature relating to creativity, it is first critical to identify/define what is being discussed. There are bodies of literature that view creativity as a separate construct from innovation. Among these theories of creativity include Ford's (1996) theory of individual creative action (individual creativity theory), Botticchio and Vialle's (2009) and Csikszentmihalyi's (1996) contextual model of creativity (overall creativity theory), and Woodman, Sawyer, and Griffin's (1993) interactionist perspective of organizational creativity (organizational creativity).

Creativity has been identified as being an individual (Ford, 1996), team (To, Ashkanasy, & Fisher, 2017), and organizational construct (Woodman et al., 1993). Here, creativity is best defined as "the generation of original and useful ideas" (Rosing, Frese, & Baush, 2011, p. 956).

Innovation

Other bodies of literature view innovation as a separate construct from creativity. Among these theories of innovation some of the more common include West and Farr's (1989) theoretical framework of individual innovation (individual innovation) and West's (2002) theory of team climate for innovation (team innovation).

Innovation has been described as being a collective construct, taking place at the team, organizational, or community levels of analysis. Innovation has been described in the following: "individuals work[ing] together in teams, teams work[ing] together in projects, organizations work[ing] together in alliances, and countries work[ing] together in international technology agendas" (Leenders & D'olfsma, 2016, p. 125).

Creativity and Innovation

Still, some bodies of literature include creativity and innovation as being the same construct. Of these theories, the more common include Amabile's (1997) componential theory of organizational creativity and innovation (organizational), Zhou's (2006) model of paternalistic organizational control and innovation and group creativity (organizational, team), Bledow, Frese, Anderson, Erex, and Farr's (2009) ambidexterity theory and Rosing et al.'s (2011) leadership for innovation theory.

This body of literature views both creativity and innovation as being part of the same process, each having separate roles. Here, "creativity is the first set in innovation, which is the successful implementation of those novel, appropriate ideas" (Amabile, 1997, p. 40). As a process, creativity comes from the ideation stages (e.g., development of new idea) while innovation is associated with the application or distribution of the new idea (e.g., bringing a new product to market).

Defining Creativity and Innovation

For the purpose of this book chapter, the authors make the assumption that creativity and innovation are part of the innovative process with each, creativity and innovation, taking on different roles within the process. This innovative process includes both functions of creativity and innovation. This conception of innovation as a process is described in the following:

Creativity and innovation at work are the process, outcomes, and products of attempts to develop and introduce new and improved ways of doing things. The creativity stage of this process refers to idea generation, and innovation refers to the subsequent stage of implementing ideas toward better procedures, practices, or products. Creativity and innovation can occur at the level of the individual, work team, organization, or at more than one of these levels of analysis. (Anderson, Potocnik, & Zhou, 2014, p. 1298; emphasis original)

Given this definition of the innovative process, defined as consisting of both the creative and innovative stages, it becomes apparent that this process is cross-functional (e.g., takes place across multiple levels) and multidimensional (e.g., individual, team, organization).

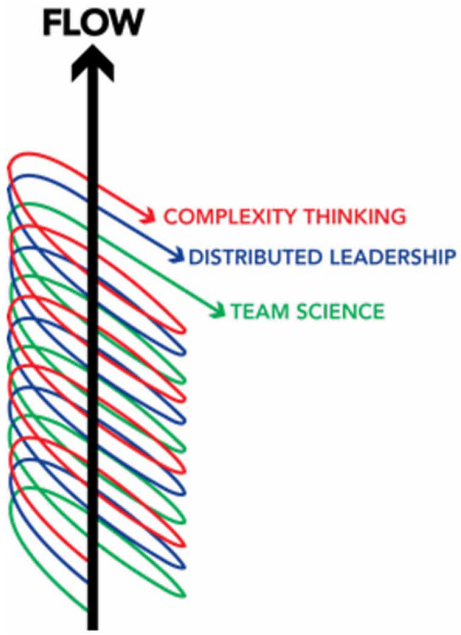
The innovative process has been shown to be a necessary component to organizational performance. It has been found to increase team (Stahl, Maznevski, Voight, & Jonsen, 2010) and organizational performance (West & Farr, 1989).

THE FLOW SYSTEM™

The conceptualization of flow comes from achieving *consciousness awareness*: "A narrative of in-the-moment decision-making of judgements, direction and predilections" (Connell & Newland, 2017, p. 264) of action. Achieving a state of flow, at an individual level, is described as "the state in which people are so involved in an activity that nothing else seems to matter; the experience itself is so enjoyable that people will do it even at great cost, for the shear sake of doing it" (Csikszentmihalyi, 1990, p. 4). This is the feeling often described by athletes or artists when they claim to be *in the moment*.

Flow is achieved, at the organizational level, when employees are freely able to interact as they adapt, learn, and evolve in a way that addresses external changes or threats that is uninterrupted by inhibiting constraints. In viewing flow at the organizational level, The Flow System identifies it as the seamless transition, from ideation to delivery, through the interconnectivity of complexity thinking, distributed leadership, and team science (Turner & Thurlow, 2020; Turner, Thurlow, & Rivera, 2019). This state of flow is modeled by interconnecting the components of what is called the Triple Helix of Flow, shown in Figure 1 (Turner & Thurlow, 2020; Turner et al., 2019).

Figure 1. The triple helix of flow™



Acknowledging that the methods, techniques, and tools required for complexity are different from those used for simple and complicated problems (e.g., Agile, Lean), The Flow System provides a "re-imagined system for organizations to understand complexity, embrace teamwork, and autonomous team-based leadership structures" (Turner et al., 2019, p. The Purpose). The Flow System recognized three main areas of concentration that have prevented organizations from achieving a state of flow. These areas are called helixes (similar to a DNA strand) and are combined into what is termed the Triple Helix of Flow to identify that all three helixes must be interconnected before achieving a state of flow for any organization (Turner & Thurlow, 2020; Turner et al., 2019). Helix was chosen instead of pillars used in the Toyota Production System to indicate that the three components must be integrated rather than being siloed or isolated constructs. The Flow System highlights building enabling constraints that promote and foster performance (e.g., leadership, people, resources) while removing inhibiting constraints that constitute barriers to performance (e.g., best practices, policy, regulations). Empirically, the helixes have been identified as being areas in which organizations often create inhibiting constraints. By integrating the three helixes into one, as in a twisted and coiled DNA strand, organizations are better able to remove inhibiting constraints while manage enabling constraints, in achieving a state of flow for organizations to function in today's ambiguous, complex, and uncertain environments.

The Flow System, shown in Figure 2, provides a list of methods, techniques, and tools that are available for organizations to use when dealing with complex and ambiguous problems. These tools are not provided as a prescription for organizations to follow. The Flow System is a system of understanding that provides options for organizations to consider. Organizations are to select those tools that work best for them and their contextual setting. The main point is that tools are utilized from each of the three helixes so that they become interconnected and embedded within an organization's culture and structure (Turner & Thurlow, 2020; Turner et al., 2019). A brief description of a few of these tools are provided in the remaining portion of this chapter.

The Flow System Core Principles

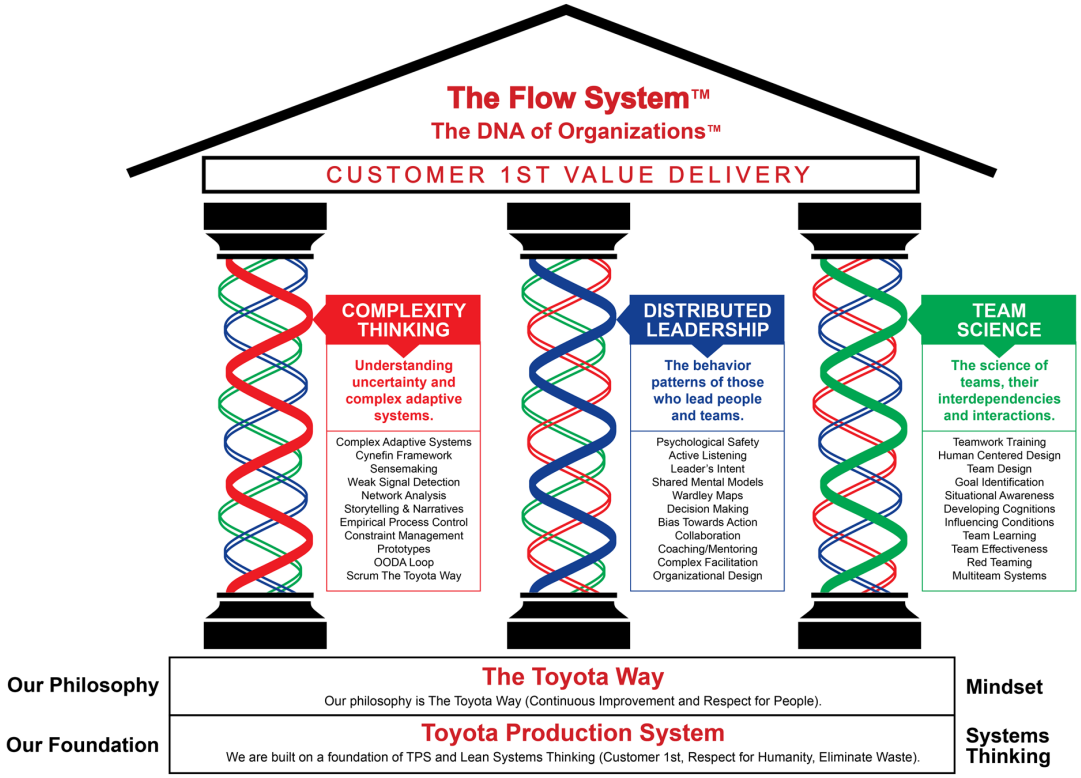
The Flow System has as its foundation the Toyota Production System (TPS) and the Toyota Way. The Toyota Production System consists of three foundational goals: Customer 1st, Respect for Humanity, and Elimination of Waste. The Toyota Way is composed of the two pillars of Continuous Improvement and Respect for People. The Flow System was built upon the foundation of these principles as The Flow System has as its foundation Customer 1st. The Flow System is composed of the follow core principles:

1. Customer 1st
2. The Flow of Value
3. The Triple Helix of Flow
    a. Complexity Thinking
    b. Distributed Leadership
    c. Team Science (Turner & Thurlow, 2020; Turner, Thurlow, & Rivera, 2020)

Customer First

In just a short amount of time, Tesla (electric vehicle and clean energy company founded by Elon Musk) had disrupted the car manufacturing industry to the point in which it has more valuation compared to

Figure 2. The flow system™



all other car manufacturers, except for Toyota (Shipley, February 28, 2020). This disruption of one of the largest global markets was caused, in part, to Tesla doing these four things:

1. It develops cars as it would a software product.
2. It simplifies the buying process, putting the customer in control.
3. It leverages its prowess in battery technology to minimize the total cost of ownership over the vehicle's lifetime.
4. It attaches itself to the predominant market trend of the day-going green to reduce global warming. (Shipley, February 28, 2020, pp. 3-4)

The attraction of operating more like a software development company warrants processes that are flexible, agile, and iterative. These types of methods have sparked significant interest in multiple industries that only began in the software industry. Agile processes have grown not only in popularity, but they have also become commonplace in multinational corporations across the globe. These processes provide tools and techniques for employees to become more adaptive to changing circumstances that come from the customer, the organization, governing bodies (e.g., local and national political policies, global governmental policies), and changes due to effects of climate change.

Tesla understands the value of the customer by placing them at the center of their products. Most companies, although claiming to have values that position the customer first, often fall short in delivering

value to the customer. While claiming that "the customer is the most important part of the production line" (Deming, 1982/2000, p. 26), many organizations focus primarily on profit, "delivering value to shareholders" (Denning, 2018, p. 17). This shareholder focus is being displaced with a renewed interest in taking a stakeholder focus (e.g., customers, employees, environment, society). Through the Davos Manifesto 2020 (providing ethical principles for global partners), at the 50th World Economic Forum, shareholder capitalism is being replaced with shareholder capitalism, with a large number of global Chief Executive Officer (CEO)'s signing the manifesto (Schwab, 2019). This focus on the stakeholder as opposed to focusing on the shareholder reverts to Drucker's conceptualization for an organization: "There is only one valid definition of business purpose: to create a customer" (Drucker, 2007, p. 95). The benefits in having corporations with a stakeholder focus comes with the added benefits of it including the components of customer first, corporate responsibility, and community/environmental awareness.

While technological advances can provide an organization with a competitive advantage, in 2020's global landscape most organizations have access to current technologies. In 2020's global and complex environment, competitive advantage comes, not from having access to new technologies, it comes from an organization's ability to "understand and adapt the technology to meet customers' real needs" (Denning, 2018, p. xvii). This becomes clear in recent events where manufacturers are repurposing their facilities to meet local shortages in medical equipment. Organizations that were flexible and capable of transitioning their facilities to meet these demands would have already been producing much needed hospital equipment, this is where competitive advantage is needed more than ever. Having the ability for organizations to pivot from current practices to producing new innovative products, and much needed products as in manufacturing hospital supplies that are now in short supply, will define organizational sustainability in the future. Current organizations fell short in being flexible and innovative during this time as most are reacting rather than leading in times of crises. Having the capability to follow innovative ideas rather than following top-down commands is, in part, what flow is about. It is necessary for organizations to have the capabilities to constantly survey their environment, make sense of their environment, to identify any weak signals in their environment, and to act before the weak signal becomes a larger systemic problem. Acting to assure that value is constantly being delivered to the customer, rather than reacting, needs to be the new standard moving forward.

The Flow of Value

Flow is derived from constructal theory that can be summarized in the following: "For a finite-size system to persist in time (to live), it must evolve in such a way that it provides easier access to the imposed currents that flow through it" (Bejan & Lorente, 2004, p. 3210). Flow is achieved through the constant evolution of processes where the minimal resistance is found in achieving one's desired outcome. This concept is similar to a river running over rocks. Over time, the river changes directions and by-passes the rock, reducing the resistance to the flow of the river, allowing for it to flow more effortlessly and freely.

In viewing organizational performance and innovation, the innovative processes of creativity and innovation are only achieved when a state of flow has been reached. One method of achieving flow within The Flow System is to focus on constraints. Constraint has been defined as "a state of being restricted, limited, or confined within prescribed bounds" (Rosso, 2014, p. 554). The idea behind constraint management is not to eliminate all constraints; some constraints can prove to be necessary. For example, having a deadline (time constraint) or limiting a project to a prespecified budget (financial constraint)

can prove to be productive to the innovative process. The idea is to eliminate inhibiting constraints, those constraints that prevent flow and manage enabling constraints, those that enable creativity and innovation.

The Triple Helix of Flow

As highlighted in Figures 1 and 2, the components of the Triple Helix of Flow include complexity thinking, distributed leadership, and team science. Flow is achieved when each of these three components is interconnected within an organization. Concentrating on one of the components without addressing the other two will only provide temporary improvements as too many inhibiting constraints will remain within the organization. Each component is introduced below, along with their connection to the innovative processes, the discussion presented at the beginning of this chapter.

Complexity Thinking

Complexity thinking involves two primary steps:

Step 1: Understanding the characteristics of complex systems.
Step 2: Have a worldview or perspective that systems, entities, and events are complex adaptive systems. (Turner & Thurlow, 2020; Turner et al., 2019)

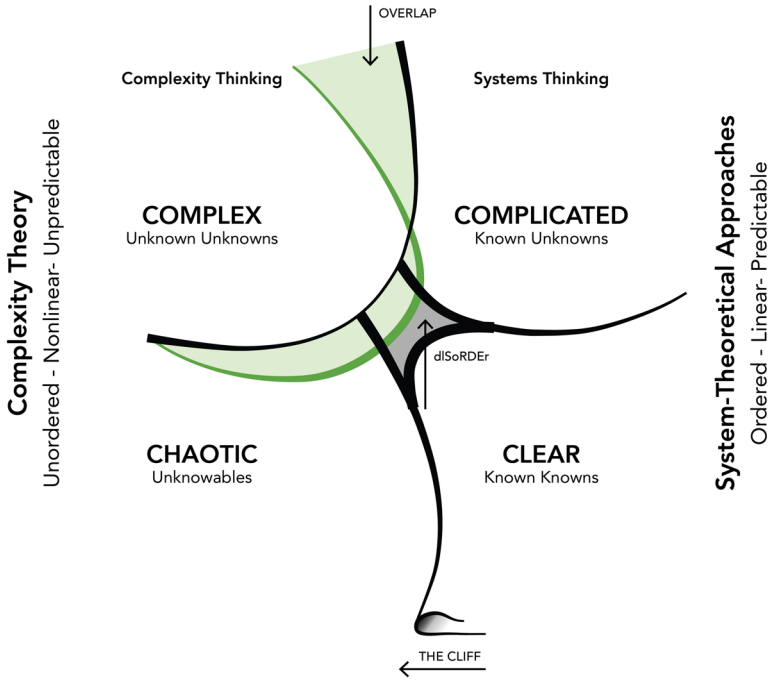
The methods, techniques, and tools for complexity thinking provided in The Flow System include complex adaptive systems, the Cynefin framework, sensemaking, weak signal detection, network analysis, storytelling and narratives, empirical process control, constraint management, prototypes, the observe-orient-decide-act (OODA) loop, and Scrum the Toyota Way (Turner et al., 2019). A few examples are provided in the following sections.

The Cynefin Framework

Complexity thinking deals with open systems as opposed to systems thinking that mainly addresses closed systems. The authors do acknowledge that social systems are composed of a combination of both open and closed systems (Turner & Baker, 2019). This overlap, between open and closed systems and between complexity thinking and systems thinking, is highlighted by the arrow with the word *OVERLAP* shown along the top of Figure 3. To aid leaders and organizations to make sense (sensemaking) of what type of environment or problem they are addressing, The Flow System utilizes the Cynefin Framework (Figure 3). The Cynefin framework was initially created by (Kurtz & Snowden, 2003) and has since been updated by Dave Snowden (Snowden, July 25, 2012a, July 25, 2012b, July 25, 2012c, July 25, 2012d, July 25, 2012e, July 25, 2012f, July 25, 2012g) and Cognitive Edge (https://cognitive-edge.com/).

The Cynefin framework presents five domains; disorder, clear, complicated, complex, and chaotic. When faced with a new unknown and unfamiliar problem, we are often in the domain of disorder. Once we begin the process of sensemaking, a method designed to aid our understanding (Turner et al., 2020) of a situation or problem, we identify which domain we are navigating in. The clear domain relates to commonly known problems, often referred to being linear problems and best practices, that are described as known knowns. Typical problems encountered here are routine tasks such as data entry or entering application information. Tools and techniques common to this domain include job aids and procedures.

Figure 3. The Cynefin framework



The domain of complicated problems involves problems that are linear but are more involved compared to those found in the clear domain. These problems are identified as known unknowns to represent that some problems have unknown components to them that must be discovered. Problems in this realm follow the traditional cause-and-effect model. Most organizational interventions fall in this domain; Agile, Lean, and most performance improvement interventions are designed around the cause-and-effect model and are known as good practices. Problems are often broken down into sub-problems, and these sub-problems are researched/studied to identify the casual modalities. Once a number of sub-problems have been resolved, it is believed that the overarching problem will begin to be diminished or be completely resolved.

The domain of complexity is different when compared to complicated because there are too many unknowns present. Problems cannot be broken down into sub-problems as the problem is often ill-defined, and the variables involved in the problem are also unknown and may change over time. The current COVID-19 is a perfect example of a complex problem. Here the complex domain is described as involving unknown unknowns; these problems are nonlinear and are identified as being complex adaptive systems (CAS). Complex problems are addressed using emergent practices, those that emerge as a response to constant probing, experiments, and testing and are contextually based. The emergent practices that are discovered for one problem will unlikely work for the next complex problem, as the contextual conditions have change. It is the methods and techniques that can be repeated, but not the solutions.

Chaos involves unknowables. The difference between the complex and chaotic domains is that in the complex domain, the problems and solutions can be imagined. In contrast, in the chaotic domain, problems are often unimaginable, as are the solutions (Snowden, 2020), this is referenced as being the

unknowable domain. This domain involves innovative practice similar to transdisciplinary research, where new methods and techniques need to be designed for the problem because current methods and techniques are unable to address the problem.

In following the steps of complexity thinking, practitioners are encouraged to identify what type of problem or environment they are facing. This is best achieved using the Cynefin framework (Figure 3) and is the tool that is used in The Flow System. The tools and techniques used for one domain are different from those used in other domains. The techniques most available to us today belong to the complicated domain. These tools include those found in Agile, Toyota Production System or Lean, the Toyota Way, and most performance improvement methods. When addressing complex problems, new tools are needed-the tools presented in The Flow System highlight some of these tools. The point for practitioners is to first, identify which domain you are operating in. Second, practitioners are to select the appropriate methods and tools appropriate for the domain in which they operating.

Complex Adaptive System and Innovation

The second step to complexity thinking involves viewing systems, entities, and events as complex adaptive systems (CAS). Complex adaptive systems are systems that involve many interdependent agents, interacting dynamically who are self-organizing, able to learn and adapt, and are emergent in nature (not designed). Examples of complex adaptive systems include teams, organizations, and social gatherings. There have been several of constructs identified as being a CAS in the literature: communities of practice (Borzillo & Kaminska-Labbe, 2011), entrepreneurship (Anderson, Dodd, & Jack, 2012), leadership (Goldstein, Hazy, & Lichtenstein, 2010), and project management (Aritua, Smith, & Bower, 2009), to name only a few. A formal definition for complex adaptive systems includes the following:

A network of many agents acting in parallel, where control is highly dispersed, where coherent behavior in the system arises from competitive and co-operation among the agents themselves, where there are many levels of organization, with agents at one level serving as the building blocks for agents at a higher level, where there is constant revising and rearranging of their building blocks as they gain experience, where the implicit or explicit assumptions about the environment are constantly tested by the agents. (Waldrop, 1992, pp. 321-322)

The innovative process of creativity and innovation can also be viewed as being a complex adaptive system (Turner & Baker, in press). The innovative process was presented as being a complex adaptive system and was tested using a qualitative research method, sampling renowned artists in the Southwestern region of the U.S.A. These interviews involved structured questions around eight characteristics of complex adaptive systems. These eight characteristics were tested to determine if the innovative process of creativity and innovation meets the criteria of being a complex adaptive system. The eight characteristics of complex adaptive systems include path dependency, systems have a history, non-linearity, emergence, irreducible, adaptive, operates between order and chaos, and self-organizing. Table 1 provides definitions for each of these eight characteristics.

Results from Turner and Baker's (in press) study supported the idea that the innovative processes of creativity and innovation do qualify as being a complex adaptive system. This study also supported the idea that an individual's creativity does support the innovative processes, and that the innovative processes do influence the creativity of individuals. As a complex adaptive system, there are dynamic interactions

Table 1. Characteristics of complex adaptive systems

Characteristics	Description
Path dependent	Systems tend to be sensitive to their initial conditions. The same force might affect systems differently (Lindberg & Schneider, 2013).
Systems have a history	The future behavior of a system depends on its initial starting point and subsequent history (Boal & Schultz, 2007).
Non-linearity	Small changes in the initial conditions or external environment can have large and unpredictable consequences in the outcomes of the system (Aritua, Smith, & Bower, 2009).
Emergence	Changes a system's structure to a new transformed structure allowing it to better adapt to external forces (Chiva, Ghauri, & Alegre, 2014).
Irreducible	Irreversible process transformations that cannot be reduced back to its original state (Borzillo & Kaminska-Labbe, 2011).
Adaptive	Open systems affect, and are affected by, external environmental systems. Open systems must be capable of reacting to changes in external environmental systems (Aritua et al., 2009, p. 76).
Operates between order and chaos	In a state of equilibrium and disequilibrium that appears to be random but is not. This state guides agent-based system to potential new levels of collective behavior (Boal & Schultz, 2007, p. 414).
Self-organizing	Self-organizing processes allow for systems to become adaptable and react to external forces (environmental changes; Chiva et al., 2014).

between the processes of creativity and innovation that are adaptive, where agents learn and adapt to challenges, operate within loosely bounded systems that foster emergence. This emergence results in a new product that is genuinely innovative, unanticipated, unpredicted, and revelatory. In viewing the innovative process as a complex adaptive system, organizations can better manage the characteristics and not the individuals, providing leaders and practitioners with opportunities for providing necessary resources that foster creativity. Innovation cannot be controlled, or demanded, it can only be fostered. Creating enabling constraints is the result as opposed to creating, or holding on to, inhibiting constraints.

Distributed Leadership

Leadership, in The Flow System, has been expanded to include "leadership that extends horizontally, vertically and every place in-between within an organization" (Turner et al., 2019, p. Distributed Leadership). Distributed leadership begins at the individual level with self-leadership and extends to the team level with shared leadership. Distributed leadership continues with functional leadership to manage the boundaries around teams when utilizing team-based structures and multiteam systems. At the executive levels, distributed leadership calls for utilizing components from the leadership theories of instrumental leadership, global leadership, and strategic leadership (Turner & Thurlow, 2020). Each of these leadership theories has been shown to support complexity and team-based systems. This model of distributed leadership is a hybrid model of leadership, as called for by researchers. Calls have been made to integrate leadership theories to "advance the field" (Meuser et al., 2016, p. 1376) of leadership.

The methods, techniques, and tools for distributed leadership provided in The Flow System include psychological safety, active listening, leader's intent, shared mental models, Wardley maps (value stream mapping and other visualization techniques), decision making, bias towards action, collaboration, coaching/mentoring, complex facilitation, and organizational design (Turner et al., 2019).

Before any organization can be genuinely adaptive, it must first delegate its authority to those who are closest to the work and who interact with the customer daily. To do this, leaders must instill a culture of safety as opposed to the traditional command-and-control culture that is prevalent in many organizations today. Developing, and maintaining, a culture that is high in psychological safety involves leaders. Psychological safety is defined as "a belief that neither the formal nor informal consequences of interpersonal risks, like asking for help or admitting failure, will be punitive" (Edmondson, 2019, p. 15). From an organizational performance perspective (e.g., organizational design), building a psychologically safe culture/environment is only the first step. Leaders must also set "high standards and inspire and enable people to reach them" (Edmondson, 2019, p. 21).

This idea of inspiring employees and teams to achieve challenging goals builds upon the concept of the leader's intent. A leader's intent is where a leader's desired outcomes are presented to followers or employees. The followers or employees then set out to achieve these desired outcomes with the understanding that they may alter direction or methods if unexplained obstacles get in the way (Turner et al., 2019). The final outcome may not be exactly what is expected, or desired, by the leader, but they are acceptable given the contextual setting. This moves the decision-making capabilities down to those doing the work, providing ownership in one's work, along with instilling a renewed purpose for the work people do, further promoting innovation.

A leader's intent is also an essential tool for dealing with complex problems. Complex problems provide no clear solution and are often ill-defined in that the problem is hard to define. Leaders are unable to state clear directions to their follower's or teams due to the nature of complex problems. Complex problems can be, and are often, "executed without a detailed plan"(McChrystal, Collins, Silverman, & Fussell, 2015, p. 104). When dealing with complexity, it is critical to adapt, iterate, and probe often, requiring those closest to the work to have the capability to make decisions.

Leading in Complexity

Achieving a state of flow begins with engaged leaders. Implementing complexity thinking will only get an organization so far, it must be supported and integrated throughout the leadership ranks of an organization for it to pay dividends. As previously highlighted, whether an organization is dealing with disrupted supply chains or a country is facing a pandemic, organizations must build complexity thinking into the leadership model at all levels.

When dealing with complex problems, small, diverse teams are more effective compared to large groups or teams. Small teams are more effective at addressing ambiguity, complexity, and ill-defined problems. Larger teams are utilized for clear and complicated problems (Wu, Wang, & Evans, 2019), using best practices. For complex problems, however, smaller and more diverse teams are necessary.

Smaller teams are better able to perform quick experiments, probe, adapt, and retest compared to larger teams. This rapid-testing, or parallel/sequential probing, is critical for making sense of a complex problem. Unfortunately, these efforts are often thwarted due to leadership structures that are not designed to support these team-based structures, or due to a lack of support from leadership in general. These efforts often fail from a "lack of infrastructure and business buy-in to do so effectively" (Kersten, 2018, p. 26).

When leading in complexity, the following guidelines are provided for practitioners:

1. **Just Because it Looks like a Nail, it Doesn't mean you Need a Hammer:** A complex systems view acknowledges that context recognition is problematic, and as such deciding what to do is

not a simple exercise of repeating what you did the last time you were in the same situation. The chances are the situation is quite different.

2. **Decisions Made by the Many are Often Better than Those Made by a few:** A precursor to any decision has to be a thorough consideration (critique) from multiple perspectives (pluralism). This might be the application of a variety of different models, or simple just asking more than one person for their opinion. Such an approach quite naturally leads to creative thinking, and enables the development of a richer understanding on a context of interest before a decision is made. Beware, however, as 'too many cooks may spoil the broth', and in situations where time is not readily available, the leadership of an individual may prove more effective than attempts at group decision making;
3. **Expect to be Wrong (or at Least not Completely Right):** There are limits to how pluralistic and critical our decision-making processes can be. But even with all the time and resources in the world (and a commitment to do the 'right' thing), decisions can only be made based on our best current understanding, and that understanding will always be incomplete. Everything is connected to everything else. We can't consider everything so we construct artificial boundaries to help us make decisions – without those boundaries we are helpless, with them our responses are limited (but at least we have some responses!);
4. **Is OK:** Contrary to the beliefs of certain U.S. politicians, being prepared and confident enough to change one's mind when it becomes clear that one's model is proving ineffective (and even counterproductive) is actually a virtue, not a sin. The complex organization evolves in unforeseeable ways and as such we must be prepared to 'move with the times.' The simple act of making a decision (based on past experience) can change how the future unfolds. Don't make the mistake of escalating one's commitment in the face of mounting contrary evidence. Dogmatism is rarely an effective strategy (Richardson, 2008, p. 25).

Innovation can come from repurposing existing tools for different contextual conditions. This goes back to the concept of functional fixedness, where a hammer is not just a hammer; it can also be used as a wedge or to remove nails. Repurposing existing facilities to meet growing demand in times of crisis is one way of meeting this need. The question becomes, why are these actions taken reactively (post-crises) and not proactively? Leadership with the capabilities of practicing weak signal detection techniques (complexity thinking) could, possibly, been provided with enough information to propose such changes when the current pandemic started to take a strong-hold on the opposite side of the globe. Anticipating that the U.S. would experience similar problems, organizations could have pivoted or altered their strategy in advance rather than wait until the shortages are a reality. Having the decision-making capabilities to make such a move would be what is required in times of crisis and what is portrayed in The Flow System. Without the appropriate leadership mindset when dealing with complexity, innovation will be unable to function due to too many inhibiting constraints from leadership.

Team Science

The field of team science is a multidisciplinary field that touches on the collaborative functioning of teams and small groups in the workplace. Team science studies the behaviors and antecedent conditions, collaborative processes, and outcomes associated with teams and small groups. Team science:

Includes the distinguishing of the necessary knowledge, skills, and attitudes required for effective team processes and performance; the development of effective performance-measurement systems that track how well teams are doing; and the establishment of team-level feedback approaches that provide teams with a diagnosis of their progress and areas for improvement. (Shuffler, DiazGranados, & Salas, 2011, p. 366)

The methods, techniques, and tools for team science provided in The Flow System include teamwork training, human centered design, team design, goal identification, situational awareness, developing cognitions, influencing conditions, team learning, team effectiveness, red teaming, and multiteam systems (Turner et al., 2019).

Team Training

Before teams are capable of functioning correctly, team training must first be implemented. Teams must be trained on teamwork skills before they can be considered an effective team. Teams must also train as a cohesive unit for them to learn to practice teamwork skills. One downfall in organizations is that employees are often put together to solve a problem and are called a team, with no training. Without teamwork training, team members will revert to individual taskwork, thus eliminating the benefits that could be afforded by authentic, effective teams. Research has shown that teams trained on teamwork skills are more effective compared to teams not trained on teamwork skills (Liang, Moreland, & Argote, 1995; Salas et al., 2015). Team training interventions must be designed around teamwork competencies relevant to the contextual setting and must follow instructional strategies for teaching these competencies (Alonso et al., 2006). Instructional strategies used to design team training interventions also need to be evaluated to show that learning has been achieved (Alonso et al., 2006). Possibly the most impactful intervention within the complex domain is to provide teams with teamwork training so that they can function effectively. It is not just task work, but teams must also have proper teamwork skills.

Team innovation requires team members to be trained in teamwork skills. Team members need to be able to brain-storm different ideas and concepts with each other without feeling threatened for doing so. Constructive criticism is necessary (red teaming techniques) for these discussions and must be conducted in a manner that does not introduce destructive conflict or feelings of anxiety. These considerations, among others (discussion of goals, processes, and outcomes) (Schippers, West, & Edmondson, 2017), should be built into team training. Once team members are capable of functioning as a team, including being able to self-manage teamwork skills, they can then begin to ideate and be innovative.

One of the main failures in implementing Agile methods has been with the efforts involved with team training. Most organizations have focused attention on implementing team-based structures based on the concept of Scrum. While Scrum provides an effective method for planning and scheduling tasks for teams, using iterative cycles called sprints, it does not address teamwork skills. Many failed attempts at implementing team-based structures in organizations can be attributed to this downfall, focusing on tasks alone with little to no consideration for teamwork skill development. Teams must be trained in teamwork skills and not just the task at hand.

Organizations also transition to teams without changing their hierarchical or leadership structures. Leadership's adoption from individual to team-based structures for their organization can prove to be successful, but only after the newly formed teams are trained in proper teamwork skills and the organization's leadership structures change to accommodate teams and complexity. This highlights one example

where team science should be integrated with complexity thinking and leadership. Teams alone cannot address complexity without first being trained on how to be a team, and organizations cannot utilize the benefits of teams unless they first alter their hierarchical and reporting structures to accommodate these teams. This point was stressed in a recent interview with General Stanley McChrystal, in talking about the 2020 pandemic: "There's not a lack of capacity in our country [USA] to get this done, not a lack of brainpower, not a lack of motivation, but there's a tremendous lack of teamwork" (Crammer, March 27, 2020, minute 4:20) with an inability to lead teams of teams. Innovation comes from teams once they can function autonomously as a collective unit using a shared leadership model, where the team becomes the model of leadership.

Multiteam Systems

Organizations should utilize the knowledge gained from the team sciences on multiteam systems when considering how to scale their team-based structures. Mutltiteam systems (MTS) are defined as:

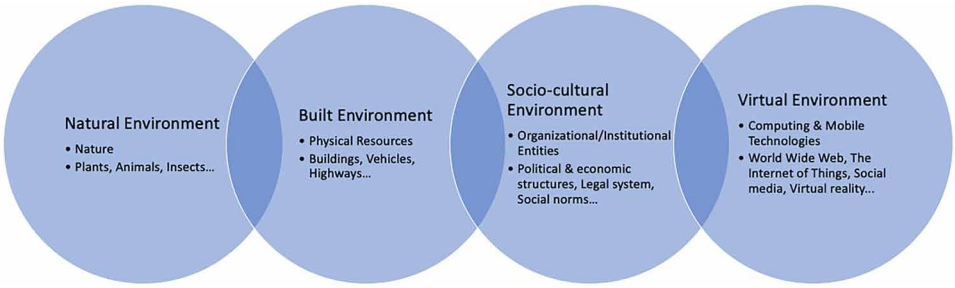
Two or more teams that interface directly and interdependently in response to environmental contingencies toward the accomplishment of collective goals. Multiteam System boundaries are defined by virtue of the fact that all teams within the system, while pursuing different proximal goals, share at least one common distal goal; and in doing so exhibit input, process and outcome interdependence with at least one or other teams in the system. (Mathieu, Marks, & Zaccaro, 2001, p. 290)

Two or more component teams can be combined as a single multiteam system if their team goals (proximal goals) are aligned with the multiteam system's goal (distal goal). This alignment of goals connects the component teams with the multiteam system so that they can function autonomously toward the larger organizational goal set at the multiteam system level. In this setting, teams operate autonomously using a shared leadership model. These component teams have oversight through functional leadership (theory). The boundary spanner (the functional leader) performs essential functions. Some of these functions include managing the interactions between the component teams, coordinating activities between the teams, maintaining goal alignment between the proximal and distal goals, and providing necessary resources to achieve the multiteam system's goal (the distal goal).

When scaling team-based systems, and when implementing multiteam systems, organizations need to alter its leadership structure to accommodate the multiteam systems better. The roles, goal structures, and functioning of the teams change when scaling teams and must be accepted and supported by the leadership ranks. One of the purposes of the distributed, hybrid, leadership model is to accommodate multiteam systems. This point also shows the interconnectivity of the three helixes. To deal with complex problems, one must be able to utilize small, diverse teams. Scaling teams to multiteam systems, what General McChrystal was talking about when he mentioned managing teams of teams, are required when addressing complex environments or problems. Leadership structures must be altered to accommodate these new multiteam system structures and to better deal with complexity.

Multiteam systems provide organizations with the capabilities to address more significant complex problems. This conceptualization comes from the field of social ecology. When facing social systems, as in organizations and communities, it is necessary to identify the variety of environments or systems that are involved or impacted by the larger problem. For example, social ecology has identified four primary environments that must be represented in any significant complex problem-solving effort; natural

Figure 4. Social-Ecology model



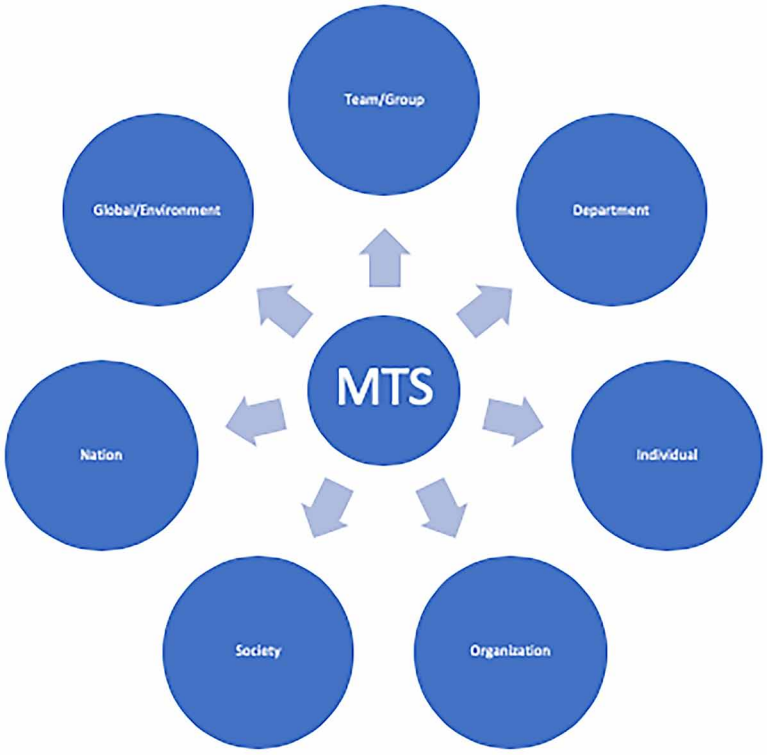
environments, built environment, socio-cultural environment, and virtual environments (Stokols, 2018). This is shown in Figure 4. Natural environments represent nature (plants, animals, insects), built environments relate to the physical environments designed by humans (e.g., buildings), socio-cultural environments include organizational and institutional systems (e.g., legal system, ethics, religion), and virtual environments involve computing and mobility technologies (e.g., Internet, social media)(Stokols, 2018).

Complex problems cannot be broken down into smaller sub-problems because the problem and solution are unknown. Social ecology takes a different approach, they break complex problems into multiple levels instead. These levels span from the "micro to macro scales of the environment and include individual, small group, organizational, institutional, community, and global levels of analysis" (Stokols, 2018, pp. xxiii-xxiv). This provides the benefit of including all stakeholders involved or impacted by the problem. This is important for organizational innovation. Innovation requires requisite variety, which comes from the interactions between multiple agents, each with their own set of experiences and backgrounds. Including agents from multiple environments helps organizations produce variety, providing the benefit of capturing information from multiple sources, those that are most impacted by the problem. This multilevel method approach is also a way for organizations to treat the innovative process as a complex adaptive system, it captures all agents who interact with the problem or product that is being addressed or developed, respectively. Innovation, as a complex adaptive system, can also be managed through the utilization of the multilevel method as a multiteam system (see Figure 5). The multiteam system can be implemented as a means of structuring and managing the multiple environmental levels, highlighting the importance for organizations to have the organizational structure (distributed leadership) that supports multiteam systems.

CONCLUSION

Due to today's complexity, in the era of the 2020 COVID-19 pandemic, operating with yesterday's tools will not prove to be an effective strategy. Currently, companies "are furiously battling assaults from start-ups and other insurgent competitors" (Rigby, Sutherland, & Noble, 2018, p. 90). Reports identified that more than 90% of current executives support becoming agile in their organization, but less than 10% of these organizations are genuinely agile (Denning, Aug. 25, 2019). Many failed attempts at implementing Agile and Lean initiatives have led to the perception that these initiatives fail to fix the problems they

Figure 5. MTS Approach to the social-ecology model



claim to be designed for, leading to terms like 'fake agile', 'fake lean', 'the end of agile', and many others (Denning, Oct 13, 2019). In reality, however, it just may be that the wrong tools are being utilized.

From the author's experiences, organizations fail to meet complex challenges due to their inability to:

1. identify complexity and not knowing how to function in complex environments (complexity thinking),
2. have inadequate organizational and leadership structures (distributed leadership), and
3. have ill-defined teamwork skills and team-structures (team science). (Turner et al., 2019, p. TFS Theory)

Our findings are similar to other leaders in the field; the appropriate methods, techniques, and tools must be identified for the contextual setting before being implemented. "Not every function needs to be organized into agile teams; indeed, agile methods aren't well suited to some activities" (Rigby et al., 2018, p. 90). Knowing the type of problem, or environment that is to be managed (e.g., clear, complicated, complex, chaos) is an essential first step. Second, knowing the appropriate methods, techniques, and tools to use for each domain becomes paramount for any performance improvement initiative. For complex environments or problems, The Flow System provides a list of methods, techniques, and tools that can be utilized by any leader or practitioner.

In summary, The Flow System provides individuals and teams the tools required to maximize performance when facing complex environments or problems. It provides leaders with the techniques and structure that allows individuals and teams to be innovative by removing inhibiting constraints while developing and managing enabling constraints. Distributed leadership provides an organization with the structure and techniques that infuse strategy and global awareness throughout an organization, providing the tools and techniques to move an organization in times of complexity. Through the interconnectivity of the three helixes, organizations are better equipped to navigate complexity, further promoting innovations at every level within an organization (individual, team, multiteam system, organization).

REFERENCES

Alonso, A., Baker, D. P., Holtzman, A., Day, R., King, H., Toomey, L., & Salas, E. (2006). Reducing medical error in the military health system: How can team training help? *Human Resource Management Review, 16*, 396-415, 396-415. doi:10.1016/j.hrmr.2006.05.006

Amabile, T. M. (1997). Motivating creativity in organizations: On doing what you love and loving what you do. *California Management Review*, *40*(1), 39–58. doi:10.2307/41165921

Anderson, A. R., Dodd, S. D., & Jack, S. L. (2012). Entrepreneurship as connecting: Some implications for theorising and practice. *Management Decision*, *50*(5), 958–971. doi:10.1108/00251741211227708

Anderson, N., Potocnik, K., & Zhou, J. (2014). Innovation and Creativity in Organizations: A State-of-the-Science Review, Prospective Commentary, and Guiding Framework. *Journal of Management*, *40*(5), 1297–1333. doi:10.1177/0149206314527128

Archer, S. (2017). UBS: There's about to be 'an inflection point' in the electric car market, and these 7 stocks could win big. *Business Insider*. Retrieved from https://www.businessinsider.com/7-stocks-set-to-take-off-in-the-electric-car-market-2017-6

Aritua, B., Smith, N. J., & Bower, D. (2009). Construction client multi-projects - A complex adaptive systems perspective. *International Journal of Project Management*, *27*(1), 72–79. doi:10.1016/j.ijproman.2008.02.005

Bejan, A., & Lorente, S. (2004). The constructal law and the thermodynamics of flow systems with configuration. *International Journal of Heat and Mass Transfer*, *47*(14-16), 3203–3214. doi:10.1016/j.ijheatmasstransfer.2004.02.007

Bledow, R., Frese, M., Anderson, N. R., Erex, M., & Farr, J. L. (2009). A dialectic perspective on innovation: Conflicting demands, multiple pathways, and ambidexterity. *Industrial and Organizationsl Psychology*, *2*(3), 305–337. doi:10.1111/j.1754-9434.2009.01154.x

Boal, K. B., & Schultz, P. L. (2007). Storytelling, time, and evolution: The role of strategic leadership in complex adaptive systems. *The Leadership Quarterly*, *18*(4), 411–428. doi:10.1016/j.leaqua.2007.04.008

Borzillo, S., & Kaminska-Labbe, R. (2011). Unravelling the dynamics of knowledge creation in communities of practice though complexity theory lenses. *Knowledge Management Research and Practice*, *9*(4), 353–366. doi:10.1057/kmrp.2011.13

Botticchio, M., & Vialle, W. J. (2009). Creativity and flow theory: Reflections on the talent development of women. In J. Shi (Ed.), *International conference on the cultivation and education of creativity and innovation* (pp. 97-107). Xi'an, China: Institute of Psychology of Chinese Academy of Sciences.

Cagle, K. (2019). The end of Agile. *Forbes*. Retrieved from https://www.forbes.com/sites/cognitiveworld/2019/08/23/the-end-of-agile/#594af0820713

Chiva, R., Ghauri, P., & Alegre, J. (2014). Organizational learning, innovation and internationalization: A complex adaptive system model. *British Journal of Management*, *25*(4), 687–705. doi:10.1111/1467-8551.12026

Connell, G., Newland, I., & Guzzanti, P. (2017). In and out of *Flow!* improvisatory decision-making in dance and spoken word. *Choreographic Practices*, *8*(2), 259–277. doi:10.1386/chor.8.2.259_1

Cormack, R. (2020). Tesla, GM and Ford offer to make ventilators if there's a shortage due to Covid-19. *Robb Report*. Retrieved from https://robbreport.com/motors/cars/tesla-gm-and-ford-offer-to-make-ventilators-if-theres-a-shortage-due-to-covid-2906439/

Crammer, J. (2020). Retired Gen. Stanley McChrystal says 'tremendous lack of teamwork' ails pandemic response. *CNBC*. Retrieved from https://www.cnbc.com/video/2020/03/27/retired-gen-stanley-mcchrystal-says-pandemic-fight-requires-teamwork.html

Craven, M., Liu, L., Mysore, M., & Wilson, M. (2020). COVID-19: Implications for business. *McKinsey*. Retrieved from https://www.mckinsey.com/business-functions/risk/our-insights/covid-19-implications-for-business

Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*. New York: Harper Collins.

Csikszentmihalyi, M. (1996). *Creativity: The psychology of discovery and invention*. New York, NY: Harper Perennial Modern Classics.

Deming, E. W. (2000). *Out of the crisis*. Cambridge, MA: The MIT Press. (Original work published 1982)

Denning, S. (February 5, 2011). Why lean programs fail - - Where Toyota succeeds: A new culture of learning. *Forbes*. Retrieved from https://www.forbes.com/sites/stevedenning/2011/02/05/why-lean-programs-fail-where-toyota-succeeds-a-new-culture-of-learning/#47e8db677472

Denning, S. (2018). *The age of Agile: How smart companies are transforming the way work gets done*. New York, NY: AMACOM.

Denning, S. (Aug. 25, 2019). Why Agile's future is bright. *Forbes*. Retrieved from https://www-forbes-com.cdn.ampproject.org/c/s/www.forbes.com/sites/stevedenning/2019/08/25/why-the-future-of-agile-is-bright/amp/

Denning, S. (Oct 13, 2019). World afility forum celebrates excellence, flays fake agile. *Forbes*. Retrieved from https://www.forbes.com/sites/stevedenning/2019/10/13/world-agility-forum-celebrates-excellence-attacks-fake-agile/#3473648f8f84

Drucker, P. F. (2007). *People and performance: The best of Peter Drucker on management*. Boston, MA: Harvard Business School Press.

Edmondson, A. C. (2019). The fearless organization: Creating psychological safety in the workplace for learning, innovation, and growth. Hoboken, NJ: Wiley.

Ford, C. M. (1996). A theory of individual creative action in multiple social domains. *Academy of Management Review*, *21*(4), 1112–1142. doi:10.5465/amr.1996.9704071865

Goldstein, J., Hazy, J. K., & Lichtenstein, B. B. (2010). *Complexity and the nexus of leadership: Leveraging nonlinear science to create ecologies of innovation*. New York, NY: Palgrave Macmillan. doi:10.1057/9780230107717

Kersten, M. (2018). *Project to product*. Portland, OR: IT Revolution.

Kurtz, C. F., & Snowden, D. J. (2003). The new dynamics of strategy: Sense-making in a complex and complicated world. *IBM Systems Journal*, *42*(3), 462–483. doi:10.1147j.423.0462

Leenders, R., & Dolfsma, W. A. (2016). Social networks for innovation and new product development. *Journal of Product Innovation Management*, *33*(2), 123–131. doi:10.1111/jpim.12292

Liang, D. W., Moreland, R., & Argote, L. (1995). Group versus individual training and group performance: The mediating role of transactive memory. *Personality and Social Psychology Bulletin*, *21*(4), 384–393. doi:10.1177/0146167295214009

Linberg, C., & Schneider, M. (2013). Combating infections at Maine Medical Center: Insights into complexity-informed leadership from positive deviance. *Leadership*, *9*(2), 229–253. doi:10.1177/1742715012468784

Mathieu, J. E., Marks, M. A., & Zaccaro, S. J. (2001). Multiteam systems. In N. Anderson, D. S. Ones, H. K. Sinangil, & C. Viswesvarin (Eds.), *Handbook of industrial, work and organizational psychology* (Vol. 2, pp. 289–313). Thousand Oaks, CA: SAGE.

McChrystal, S., Collins, T., Silverman, D., & Fussell, C. (2015). *Team of teams: New rules of engagement for a complex world*. New York, NY: Penguin.

McGregor, J. (2020). Who will succeed in the autho revolution. *Forbes*. Retrieved from https://www.forbes.com/sites/tiriasresearch/2020/01/03/who-will-succeed-in-the-auto-revolution/#44232aba74fe

Meinyk, S. A. (2007). Lean to a fault? *Supply Chain Quarterly*. Retrieved from https://www.supplychainquarterly.com/topics/Logistics/scq200703lean/

Meuser, J. D., Gardner, W. L., Dinh, J. E., Hu, J., Liden, R. C., & Lord, R. G. (2016). A network analysis of leadership theory: The infancy of integration. *Journal of Management*, *42*(5), 1374–1403. doi:10.1177/0149206316647099

Richardson, K. A. (2008). Managing complex organizations: Complexity thinking and the science and art of management. *Emergence*, *10*(2), 13–26. Retrieved from https://journal.emergentpublications.com/

Rigby, D. K., Sutherland, J., & Noble, A. (2018). Agile at scale: How to go from a few teams to hundreds. *Harvard Business Review*, *96*(3), 88–96. Retrieved from www.hbr.org

Rosing, K., Frese, M., & Baush, A. (2011). Explaining the heterogeneity of the leadership-innovation relationship: Ambidextrous leadership. *The Leadership Quarterly*, *22*(5), 956–974. doi:10.1016/j.leaqua.2011.07.014

Rosso, B. D. (2014). Creativity and constraints: Exploring the role of constraints in the creative processes of research and development teams. *Organization Studies*, *35*(4), 551–585. doi:10.1177/0170840613517600

Salas, E., Tannenbaum, S. I., Kozlowski, S. W. J., Miller, C. A., Mathieu, J. E., & Vessey, W. B. (2015). Teams in space exploration: A new frontier for the science of team effectiveness. *Current Directions in Psychological Science*, *24*(3), 200–207. doi:10.1177/0963721414566448

Schippers, M. C., West, M. A., & Edmondson, A. C. (2017). Team reflexivity and innovation. In E. Salas, R. Rico, & J. Passmore (Eds.), *The Wiley Blackwell handbook of the psychology of team working and collaborative processes* (pp. 459–478). Malden, MA: Wiley Blackwell. doi:10.1002/9781118909997.ch20

Schwab, K. (2019). *Davos Manifesto 2020: The universal purpose of a company in the fourth industrial revolution*. Retrieved from https://www.weforum.org/agenda/2019/12/davos-manifesto-2020-the-universal-purpose-of-a-company-in-the-fourth-industrial-revolution

Shih, W. (2020). Global manufacturing during the Coronavirus crisis: Supply shock meets demand shock. *Forbes*. Retrieved from https://www.forbes.com/sites/willyshih/2020/03/20/global-manufacturing-supply-shock-meets-demand-shock/#9e03857729bd

Shipley, L. (2020). How Tesla sets itself apart. *Harvard Business Review*. Retrieved from https://hbr.org/2020/02/how-tesla-sets-itself-apart

Shuffler, M. L., DiazGranados, D., & Salas, E. (2011). There's a science for that: Team development interventions in organizations. *Current Directions in Psychological Science*, *20*(6), 365–372. doi:10.1177/0963721411422054

Smith, C. (2020). Honeywell, 3M, and GE ramp up effort to produce hospital supplies in Coronavirus fight. *Barron's*. Retrieved from https://www.barrons.com/articles/honeywell-3m-and-ge-ramp-up-effort-to-produce-hospital-supplies-in-coronavirus-fight-51584658374

Snowden, D. (2020). *Cynefin St. David's day 2019 (5 of 5).* Retrieved from https://cognitive-edge.com/blog/cynefin-st-davids-day-2019-5-of-5/

Snowden, D. J. (2012a). *The origins of Cenefin - Part 6*. Retrieved from http://cognitive-edge.com/blog/entry/3452/part-six-origins-of-cynefin

Snowden, D. J. (2012b). *The origins of Cynefin - Part 1*. Retrieved from http://cognitive-edge.com/blog/entry/3505/part-one-origins-of-cynefin

Snowden, D. J. (2012c). *The origins of Cynefin - Part 2*. Retrieved from http://cognitive-edge.com/blog/entry/5656/part-two-origins-of-cynefin

Snowden, D. J. (2012d). *The origins of Cynefin - Part 3*. Retrieved from http://cognitive-edge.com/blog/entry/3455/part-three-origins-of-cynefin

Snowden, D. J. (2012e). *The origins of Cynefin - Part 4*. Retrieved from http://cognitive-edge.com/blog/entry/3454/part-four-origins-of-cynefin

Snowden, D. J. (2012f). *The origins of Cynefin - Part 5*. Retrieved from http://cognitive-edge.com/blog/entry/3453/part-five-origins-of-cynefin

Snowden, D. J. (2012g). *The origins of Cynefin - Part 7*. Retrieved from http://cognitive-edge.com/blog/entry/3451/part-seven-origins-of-cynefin

Stahl, G. K., Maznevski, M. L., Voight, A., & Jonsen, K. (2010). Unraveling the effects of cultural diversity in teams: A meta-analysis of research on multicultural work groups. *Journal of International Business Studies*, *41*(4), 690–709. doi:10.1057/jibs.2009.85

Stokols, D. (2018). *Social ecology in the digital age: Solving complex problems in a globalized world*. San Diego, CA: Academic Press.

To, M. L., Ashkanasy, N. M., & Fisher, C. D. (2017). Affect and creativity in work teams. In S. Eduardo, R. Rico, & J. Passmore (Eds.), *The Wiley Balckwell handbook of the psychology of team working and collaborative processes* (pp. 441–457). West Sussex, UK: John Wiley & Sons. doi:10.1002/9781118909997.ch19

Travis, G. (2019). How the Boeing 737 max disaster looks to a software developer. *IEEE Spectrum*. Retrieved from https://spectrum.ieee.org/aerospace/aviation/how-the-boeing-737-max-disaster-looks-to-a-software-developer

Turner, J. R., & Baker, R. (2019). Complexity theory: An overview with potential applications for the social sciences. *Systems, 7*(4), 23. doi:10.3390ystems7010004

Turner, J. R., & Baker, R. (in press). Doing the do: A case study testing creativity and innovative processes as complex adaptive systems. *New Horizons in Adult Education and Human Resource Development*.

Turner, J. R., & Thurlow, N. (2020). *The flow system: Key principles and attributes*. The Flow Consortium.

Turner, J. R., Thurlow, N., & Rivera, B. (2019). *The Flow System Guide*. Retrieved from https://flow-guides.org/index.php

Turner, J. R., Thurlow, N., & Rivera, B. (2020). *The Flow System Guide*. The Flow Consortium.

Waldrop, M. M. (1992). *Complexity: The emerging science at the edge of order and chaos*. New York, NY: Simon & Schuster Paperbacks.

West, M. A. (2002). Sparkling fountains or stagnant ponds: An integrative model of creativity and innovation implementation in work groups. *Applied Psychology*, *51*(3), 355–424. doi:10.1111/1464-0597.00951

West, M. A., & Farr, J. L. (1989). Innovation at work: Psychological perspectives. *Social Behavior: An International Journal of Applied Psychology*, *4*, 15–30.

Wharton. (2020). Coronavirus and supply chain disruption: What firms can learn. *Knowledge@Wharton*. Retrieved from https://knowledge.wharton.upenn.edu/article/veeraraghavan-supply-chain/?utm_source=kw_newsletter&utm_medium=email&utm_campaign=2020-03-17

Woodman, R. W., Sawyer, J. E., & Griffin, R. W. (1993). Toward a theory of organizational creativity. *Academy of Management Review*, *18*(2), 293–321. doi:10.5465/amr.1993.3997517

Wu, L., Wang, D., & Evans, J. A. (2019). Large teams develop and small teams disrup science and technology. *Nature*, *566*(7744), 378–382. doi:10.103841586-019-0941-9 PMID:30760923

Zhou, J. (2006). A model of paternalistic organizational control and group creativity. In Y.-R. Chen (Ed.), Research on managing groups and teams: Vol. 9. *National culture and groups* (pp. 75–94). Bingley, UK: Emerald. doi:10.1016/S1534-0856(06)09004-9

KEY TERMS AND DEFINITIONS

Complexity: Being in a state of uncertainty, where the characteristics and conditions of the environment or the variables related to a problem are continually changing and are unpredictable. The complex domain involves unknown unknowns, ambiguity, nonlinearity, with no clear definition of the problem and solution. Issues in the complex domain are identified as being complex adaptive systems.

Complexity Thinking: The ability to utilize the appropriate methods, techniques, and tools to address complex problems and to manage in complex environments. Complexity thinking involves the following two steps: 1) Understand the characteristics of complex systems. 2) Have a worldview or perspective that systems, entities, and events are complex adaptive systems (Turner & Thurlow, 2020; Turner et al., 2019).

Creativity: The act of generating a new or original useful idea. The act of creativity has been classified as being an individual, team, or organizational construct.

Distributed Leadership: A hybrid leadership model that is distributed, top-down, bottom-up, and horizontally, bringing the decision-making capabilities to those closest to the problem. Distributed leadership consists of self-leadership at the individual level, shared leadership at the team level, functional leadership at the multiteam system level, and instrumental, global, and strategic leadership at the executive levels.

Flow: A state of being involved, being 'in-the-moment'. Flow is achieved at the organizational level when employees feel free to interact, adapt, learn, and evolve to address environmental changes or threats. Flow in organizations can be achieved through the interconnectivity of the three helixes of complexity thinking, distributed leadership, and team science: The Triple Helix of Flow.

Flow System: A conceptual system of understanding that provides a list of methods, techniques, and tools that are available for organizations to use when dealing with complex and ambiguous problems and environments. For more information relating to The Flow System, a free online guide is available at https://flowguides.org/guide.php, translated into ten or more languages at the time of this writing. This guide provides a description of each of the tools listed in The Flow System, its purpose, and core principles.

Innovation: The act of bringing a new idea or product to market or a larger audience or population. Innovation has been classified as being a collective construct taking place at the team, organizational, or community levels of analysis.

Innovative Processes: The processes of creativity and innovation are considered two different stages of the same method used to ideate, design, and develop a new idea or product. Creativity is the first step in the innovative process; the act of generating a new idea or adding to an existing one. Innovation is the second step in the innovative process; applying or developing the original idea or product and bringing it to market for distribution. The innovative process has been identified as being a complex adaptive system.

Multiteam System: Two or more teams are working independently toward their own team goals (proximal goals) and interdependently toward a higher collective goal (MTS goal or distal goal). The boundaries of a multiteam system are permeable (e.g., product, process) and managed by a functional leadership model that fosters leader-to-team interactions rather than leader-to-follower relationships.

Team: Two or more people working independently and interdependently toward a common goal.

Team Science: A multidisciplinary field that researches teams in the workplace. Research in this discipline focuses on the knowledge, skills, abilities, and other characteristics that make up effective teams and multiteam systems.

APPENDIX: QUESTIONS FOR REFLECTION

1. Apply the two steps of complexity thinking to a current issue in the news or a current problem that you are familiar with. Identify which domain the problem resides (disorder, clear, complicated, complex, chaos) using the Cynefin framework and explain reasoning for this decision. Identify the methods and tools that could be used for the chosen domain. Last, how should this issue or problem be viewed if it was a complex adaptive system? Is it a complex adaptive system? Explain.
2. Identify specific steps that should be taken to integrate the three helixes presented in the Triple Helix of Flow (complexity thinking, distributed leadership, team science). How might an organization integrate each of these helixes to achieve organizational flow?
3. The innovative process requires an organization, and its employees, to be in a state of flow. Identify a list of inhibiting constraints that may hinder the innovative processes and a list of enabling constraints that may support the innovative processes. List five to ten constraints for each and explain how these constraints could be managed to support the innovative processes in your organization or institution.

Chapter 15
A Leadership Coaching Case Study:
Shifting Mindsets, Building Practices, Improving Performance

John B. Lazar
John B. Lazar and Associates, Inc., USA

EXECUTIVE SUMMARY

Barbara, Manager of Talent Development for a business-to-business sales operations outsourcing company, was badly underperforming. Her manager had received complaints about the quality of her customer service and collaboration with peers. Her manager endorsed coaching to improve critical skills and related performance. Barbara enthusiastically accepted the chance to be coached. Client and coach co-designed an individual development plan with goals. The client completed self-assessments and the coach structured 360 interviews and debriefed the data. Client and coach refined the development plan and goals. Coaching calls were held regularly, with learning assignments made and regular reviews done for progress, challenges, and lessons learned. Overall, the client progressed in several emotional intelligence skills, delivered better customer service, and collaborated better. When reassigned to an individual contributor role, she adapted well, led, and contributed to two critical projects.

ORGANIZATION BACKGROUND

A2Z was founded 12 years ago by a top salesman and a sales industry consultant. Initially, the business solved specific sales industry market needs. Over time, the offering expanded to address the entire sales operations lifecycle. More recently, offerings have evolved further to improving and enabling operational excellence, and beyond that to providing market leadership and exceptional customer experience. The company has grown to more than 2,000 employees in the US, China and India. It was purchased by a venture capital company three years ago. There are aggressive growth and profitability targets to meet for the next three years.

DOI: 10.4018/978-1-7998-3673-5.ch015

Helen Shumaker has been Vice President of Global Talent for the past three years. Formerly Vice President of Human Resources, she worked in China for six years as an expat, building a human resources infrastructure and a somewhat more Western-style management culture. Now back in the US located at headquarters, she has four direct reports. Global Talent is accountable for designing, developing and delivering on key talent initiatives in the US and India, its most recent overseas location. China predominantly operates on its own with its own set of management practices. Most of the training is to support onboarding and develop technical skills. In the past five years, Global Talent has supported leadership coaching for the Chief Executive Officer and five of his direct reports as well as three middle managers.

CASE DESCRIPTION

Barbara Johnson, promoted a year earlier to Manager of Talent Development, is struggling to perform well. She is accountable for developing Human Resources content and implementing policy and procedure, as well as developing her three direct reports. Initially an individual contributor for two years. she has taken on her managerial duties without any training or mentoring in management or leadership, often the case (Witt, 2020).

Since she has been in her new role, she tended to complete and deliver work on time but it was incomplete and mistake-riddled, requiring rework and diminishing her trustworthiness with her customers, including the Chief Executive Officer and Chief Operating Officer (Covey, 2006). At the same time, she was very concerned about tasks being done right and tended to micromanage, leading to dissatisfaction from her direct reports. She often overreacted emotionally in challenging situations, triggering defensiveness and dissatisfaction in those with whom she interacted.

Her manager, Helen, suggested a coaching intervention to improve Barbara's performance and produce greater satisfaction for all concerned. A coach (author) had been providing leadership coaching with the Chief Executive Officer and four vice presidents on the senior leadership team. The client accepted the opportunity to receive leadership coaching, recognizing that her performance was below standard (Goldsmith, 2007). By her own admission, she tended to be emotionally volatile, rigid in approach and only moderately successful in delivering internal client satisfaction on human resources issues. She viewed this as an important opportunity worth fully embracing.

About Coaching and Leadership Coaching

According to the Institute of Coaching, "Coaching is an interpersonal process that helps people achieve positive change and growth. By harnessing innate strengths, uncovering intrinsic motivations, and asking empowering questions, coaching fosters self-generated insight, vision and goal clarity. This process can be used by anyone seeking to make a positive difference in themselves or in the world around them." There doesn't seem to be a universally agreed on definition of leadership coaching. That said, Lee & Frisch (2011, pp. 49-50) offer their working definition: "an employer-sponsored … relationship between a coach and a leader in an organizational context aimed at enhancing or improving some combination of the leader's current performance, future development, or transition to a new role." For leadership, executive and business coaching, once there is an agreement between coach and organization for work to be done that benefits both client (coachee) and customer (organization) (see Schlosser, Steinbrenner, Kumata, & Hunt, 2006), a commitment-based structure is established within which coaching can occur.

Having one's manager knowledgeable and aligned with development efforts contributes to the success of the engagement (Steinbrenner, Kumata, & Schlosser, 2007). The coach is the keeper of the structure and conductor of the process, consistent with the protocols established by the customer.

Steven Covey's adage, "Start with the end in mind," is always a relevant perspective. Certain activities and intentions set the stage for subsequent activities. For example, when getting started, act to create a warm, respectful and trusted working relationship in a safe psychological space with the client (Cuddy, Kohut, & Neffinger, 2013; Edmondson, 2019) while discussing and discovering their goal for coaching. Ask questions to understand the client and their world: What are areas worth improving and getting better at? Why look at particular areas for improvement? What would success look like at end of project? What would be the impact on you (i.e., changes in your behavior)? What might be the impact on your team? What might be the impact on the business? In addition, discuss and align the work with the client's manager for optimum support (Steinbrenner et al, 2007). Quantify (and qualify, when possible) measures of progress and success (Guerra-Lopez, 2008; Phillips, Phillips, & Edwards, 2012). Establish milestones with success criteria as a way of gauging progress and process success. Identify the key skills and attitudes to build and likely learning events to develop them (Lazar, Gillum, & Mortenson, 2016).

One of the early activities is to gather data about the client and her/his situation. More objective data provides additional perspectives and perceptions that can inform goal creation and refinement. The data may describe past performance, current accountabilities and future career direction and aspirations. They may reveal dynamics about how the person thinks, feels and operates in the world of work, what their preferences and interests are, and how they behave under expected (normal) and unexpected (stressful) circumstances. Self-assessments, when completed and discussed, allow for affirmation of what's already known and identification of unknown territory. The dialog with a coach, especially about data from the 360 interviews debriefing, can foster new awareness and opportunities for reflection, and develop insights about oneself, a view typically less available. This can lead to an expanded range of options from which to choose a different and potentially better behavior to experiment with. It is often the most impactful and insightful experience of the entire coaching project.

It's important to schedule periodic coaching conversations that allow for self-awareness, mindful reflection, insight, choice, experimentation and learning. Several attributes of the coaching situation support conditions conducive for self-reflective learning: respect, nonjudgment, rapport, authenticity (Schlosser et al, 2006; Reiss, 2018), open-ended questions (Schein, 2013; Sieler, 2003; Hull, 2019), and action learning assignments (Dotlich & Noel, 1998). Cadence is optimal when it enables focus and motivation. That said, the most important learning work done by the client occurs *between* coaching conversations. This is when they are in their work world, exercising self-leadership while on their learning journey (Lazar & Slatter, 2018). That is the time to try on being a different, new "observer" (Dunham, 2009), experimenting with new ways of thinking, sense-making and behaving, then noticing what happens next (Hull, 2019; Maurer, 2004).

The next coaching conversation will include discussion of what's been experienced and learned, as well as any current or acute situation that requires attention. Often the acute situation must first be discussed before the recent experiences; otherwise, emotions may be overwhelming and distracting (Campbell, 2019; David, 2016; Goleman, Boyatzis, & McKee, 2002; Sieler, 2007). The coach is responsible for reading the needs of the client and orchestrating the focus of the conversations well. In fact, in the author's opinion, the coach is responsible for ensuring that all the needed conversations for the client's learning to occur happen well.

Sometimes, additional root causes, located in the performance environment, have been identified that may adversely impact the development work. When that is the case and there is a possibility of mitigating their impact, consider doing so when designing coaching. It is seldom a matter of directly changing the environment (something over which the client may have no control). More often, it is a matter of shifting perspective, narrative or attitude, and adopting a new way of thinking and behaving. It is the same self-leadership the client will exercise as they address the challenges of upgrading their identity, practices and capabilities.

Examples of Models and Frameworks that Support Leadership Coaching

A coach will often use models and frameworks to deepen understanding and frame new distinctions and possible ways of making sense. Coaching is designed to enable the client to develop a new way of looking at themselves, others and the world (a new "observer"); this leads to new options, choices and chances for experimentation and learning. Over time, the client develops new knowledge, skills and attitudes better fitted to their current environment; she performs at a higher level. Models and frameworks identify new objects and relationships, bringing relevant features to the foreground. Here are some of the models used with this client.

The field of ***human performance technology*** takes an approach that is systemic, evidence-based, results-oriented and value-producing for its multiple stakeholders (Gilbert, 2007; Mager & Pipe, 1970; Rummler & Brache, 1995; Stolovich & Keeps, 1999). The field of study focuses on aligning and improving performance at societal, organizational, process and performer levels. The range of performance improvement methodologies is drawn from many different disciplines. For any current or anticipated performance problem, rigorous analysis enables identification of root cause(s), appropriate intervention(s) and evaluation of results against given requirements.

To better understand the client's performance in context, this perspective is as interested in the performance environment as the performer. Rather than only looking at what coaching tactics might be used to achieve the client's identified learning, development and performance improvement goals, the environment is also analyzed to see whether it is aligned with and supports desired performance. Identification of misaligned or insufficient environmental support variables often leads to designing and including mitigation elements into a coaching intervention.

Research on ***adult development*** (Anderson & Adams, 2016; 2019) indicates that majority (75%) of managers/leaders are not operating effectively – they tend to express their reactive tendencies rather than creative competencies. Moving from socialized to self-authoring (and self-transforming) levels of mental complexity requires making mindset shifts as well as upgrades in behavioral repertoires (Berger, 2019; Boston & Ellis, 2019). Reactive tendencies to certain degree (up to 30%) can support effective leadership; beyond that, they detract and actively interfere with effective leadership (see also Goldsmith, 2007). Reactive tendencies are negatively correlated (r=-.68) with leadership effectiveness. Conversely, creative tendencies are positively correlated (r=.93) with leadership effectiveness (Anderson & Adams, 2016).

Ontological coaching is based on the philosophical work of Martin Heidegger, speech act theory as developed by J.R. Austin and J.J. Searle (Austin, 1975; Searle, 1970), as well as cognitive biologist Humberto Maturana (Maturana & Varela, 1988), Fernando Flores, Rafael Echeverria and Julio Olalla (see, for example, Winograd & Flores, 1986), and more recently Alan Sieler (2003, 2007, 2012). It takes the view that human beings are human observers who don't simply see the world independent of themselves but change their structure while interacting with their environment which also includes

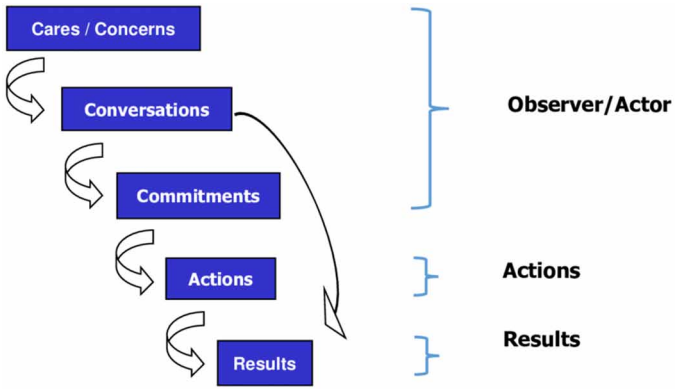
other humans. Language, speaking and listening are at the center of social engagement and commitment (Dunham, 2009; Sieler, 2003).

Generative leadership was developed by Robert Dunham (Dunham, 2009) out of the ontological coaching work described above and applied it to organizations, thought of as a network of commitments. It focuses on the interactions between leaders and their team members, as well as between team members, enabled (or not) by the quality of the conversations had. The intent is to build communities of learning and aligned, motivated, coordinated and high-performing teams and organizations.

Within this approach and ontological coaching, the ***Observer/Actor/Results (OAR) model*** argues that everything we do as humans is connected to our care for what matters most to us. There is an ***anatomy of action*** that describes the key relationships among elements as follows (see Figure 1, below). Our cares and concerns give rise to the conversations we have with ourselves and others. These, in turn, lead to our commitments, where we choose to put our attention, intention and energy. Those translate to our committed actions which either produce (or don't produce) our intended results. Thus, we can understand that the direction and quality of our life is shaped by what we care about and the quality of the conversations we have or don't have.

While we often tend to focus on changing our actions when we don't produce desired results, this model suggests that we look further upstream at what we care about most. Have our priorities changed? Are our commitments still relevant and appropriate? By becoming a different observer/agent with new eyes, how the world occurs (context) changes as does our range of choices, actions and possible impacts.

Figure 1.



Research on ***emotional intelligence*** (EI) over past 25 years shows that emotional intelligence contributes more to high performance and business results than intelligence quotient (IQ) and even leverages the effect of intelligence quotient (Bar-On, Handley, & Fund, 2006; Goleman, 2001; Mount, 2006; Spencer, 2001). Several different models of and assessments for EI (for example, Bar-On, 2000; Goleman, 1995; Boyatzis, Goleman, & Hay Group, 2001; Mayer, Salovey, & Caruso, 2002) have been developed by different researchers, but seem to have similar constructs. For example, Goleman's emotional/social competence inventory (ESCI) has four domains: self-awareness, self-management, social awareness and relationship management, and 21 distinct competencies. Other models differ somewhat in domains and

competencies. All have to do with awareness (of self and others), management (of one's own impulses and ways of understanding and engaging others) and developing effective working relationships.

One of the most important dynamics in any coaching relationship is creating a space of ***psychological safety*** where the client feels sufficiently secure and safe to explore and challenge their own current motivations, assumptions, expectations, beliefs and identity. This safe space, when created by a leader (or a coach), is similarly necessary for employees to give discretionary effort, collaborate well, and exercise resilience and flexibility (Edmondson, 2012; Edmondson, 2019). It is what we want our leaders to provide and what good leaders do provide by who they are and how they behave (Edmondson, 2019). Edmondson's research over 20 years has identified eight leadership behaviors that cultivate psychological safety (see Edmondson, 2012, p. 139) and provide guidance for coaches in their leadership coaching. Two examples include Acknowledge the limits of current knowledge and Highlight failures as learning opportunities.

Greater ***mental and emotional complexity*** and maturity are needed to successfully address the increasing velocity, uncertainty, complexity and ambiguity of the environment. It is possible to design for and develop oneself to a new level of mental complexity (Peterson & Hicks, 1995). A range of developmental activities (such as mentoring, coaching, education, training, stretch assignments, etc.) can be used by managers to further develop the cognitive/emotional functioning of people (Campbell, 2019; Hull, 2019; Johnson, 2018). On the other hand, there are many ways in which personality challenges can lead to poor performance and derailed careers (de Haan & Kasozi, 2014; Kets de Vries, Korotov, & Florent-Treacy, 2007).

As the experienced pace of events accelerates and the interconnectivity of people and things increases, aspects of our knowable world increasingly becomes unknowable and complex (Bergquist & Mura, 2005; Snowden, 2014; Snowden and Boone, 2007). Yet we still must be able to lead (Dunham, 2010). With ***complexity***, cause-and-effect relationships no longer hold, the past doesn't predict the future, and best practices don't work as intended. To cope effectively under these circumstances, our mental complexity has to increase commensurately (Anderson & Adams, 2016). There are ways to increase our cognitive capability and develop new habits (see Berger, 2019; Berger & Johnston, 2015; Boston & Ellis, 2019). For problem-solving situations, for example, they include seeking multiple perspectives, asking different questions, thinking systemically, upgrading limiting mindsets and running small, safe-to-fail experiments to better understand and navigate an unknown and uncertain environment (Berger, 2015; Lawrence, 2013; Snowden & Boone, 2007).

Self-determination theory (SDT; see Ryan & Deci, 2017) has had more than a thousand research studies conducted on this area of human motivation. It has been repeatedly demonstrated that the top three motivators for engaging employees in organizational settings are autonomy, relationship/belonging, and competence/mastery. The more leaders (and coaches) can create the conditions where these motivators are present and leveraged, the more motivated, engaged and satisfied people are as they work.

Edgar Schein, organizational psychologist and consultant, has been working for more than 40 years in the field of organization development, culture and leadership. One of his more recent books reflects his theory of ***humble inquiry*** (Schein, 2013; see also Bungay Stanier, 2020, for a perspective on advice). He defines it as "the fine art of drawing someone out, of asking questions to which you do not know the answer, of building a relationship based on curiosity and interest in the other person." Asking questions from a place of curiosity is the wheelhouse of coaching. Giving advice, on the other hand, seldom fosters learning, authorship and personal responsibility.

Hicks and Peterson (1999) described a valuable perspective: the ***development pipeline***, the necessary and sufficient conditions for learning to occur. These include insight (do people know what to develop?), motivation (are they willing to invest the time and energy it takes?), capabilities (do they have the capabilities they need?), real-world practice (do they have opportunities to apply their capabilities where it matters?) and accountabilities (do they internalize their capabilities and feel accountable to actually improve performance and results?). More recently, Peterson (2011) added a sixth necessary condition: the coach-client relationship (does the relationship support trust, understanding and acceptance/support for the client's agenda?). These are useful meta-questions for a coach to ask oneself and allow the answers to guide the coaching process.

Coaching the Client

Though smart and motivated, Barbara's approach to doing her work (get it done fast, strictly defend policies and procedures, privilege rules at the expense of the people being served, micromanage direct reports) created distrust in her work products and the experience of a non-supportive work environment. Her high-energy style was often a mismatch and overwhelming to others' lower key pace. She seemed not to care about others' cares and concerns.

Early in the coaching work, the client completed two self-assessment instruments. Barbara took the Birkman Method Assessment (Birkman Fink & Capparell, 2013) and completed a values inventory (see Lapin, 2012). The Birkman provided a picture of her ways of perceiving and operating, highlighting the range of normal behavior and needs, as well as her interests. It normalized her particular, unique approach, providing affirmative statements about her best behavior and the interests that shaped her approach to work. It also offered an interpretation of her stress behaviors as less productive behavior she was capable of when her social expectations of needs weren't met. The values inventory uses a structured process to identify and prioritize one's values and primary value driver, then create a narrative about how all the values fit together in a coherent way. This instrument allowed the client to observe herself and values, better understanding how they played out in her work and other environments.

For the first year of leadership coaching, Barbara selected (with the alignment and concurrence of her manager) three focus areas for coaching: (1) managing her emotions and emotional energy to create a psychologically safe space for effective communications, (2) completing assignments to the customer's standard, and (3) delegating well.

Based on her decision about the above targeted areas for improvement, the coach drafted questions for a 360 multi-rater interview process to develop a range of perspectives and perceptions about the client. Respondents were identified by the client and confirmed by her manager for inclusion. The interviews, completed five months into the engagement, generated both qualitative (thematic response groupings) and quantitative (5-point Likert-scale ratings which gave range and means) data to review, make sense of, discuss and decide how to use the information wisely. When the 360-interview data were presented and the client asked what the data meant to her, she was shaken and thoughtful about the comments and scores. While there were some areas where she operating at a high level (for example, Supports me in achieving my professional and/or business goals; Holds others [including me] accountable for their promised deliverables; Has tough conversations [due to different priorities and/or perspectives] respectfully), there were others where she clearly was performing less well (for example, Builds trust with those she works; Builds collaborative working relationships; Operates consistent with the A2Z culture and values). This was apparent in both mean scores and specific comments.

Coach and client set a bi-monthly cadence of coaching calls to work her development plan. Initially, the intent was to build self-awareness of and insight about her underlying performance dynamics. Here are four examples of how underlying beliefs and narratives were holding Barbara back.

When questioned about why her work products had errors in them, upon reflection she noted that she had a belief that what was most important was getting her work done quickly. This was a long-held belief. When asked what she thought her customers thought was most important about her work, she reflected, then said that completeness and accuracy, more than speed, were the highest priority. This would be even truer since errors required rework, lengthening the cycle time to completion. Barbara had a flash of recognition and insight that this old habit of thinking and acting no longer served her. She could choose to create a different commitment and story (Campbell, 2019; Drake, 2017) to guide her behavior and began practicing taking the time needed to complete assignments that were on time, accurate and complete.

Barbara's high energy and forceful approach to her human resources work often failed to blend (David, 2016; Sieler, 2007; Strozzi Heckler, 2007) with that of her customers. When asked about how she thought about her approach to work and serving her customers, she became emotional and seemingly irrational (Ariely, 2009; Goldsmith, 2015). She shared that several years earlier, her brother had been killed in a gang shooting while an innocent bystander. As a result of this trauma, she apparently had made a subconscious decision that she needed to protect her customers. This took the form of taking very strong stands about policy and procedure, focusing on that rather than listening to customers' concerns and seeing how to take care of them. Once aware, she had a choice. Her elevated arousal, though deeply overlearned, would become potentially subject to interruption by her – if she could recognize and act within 0.3 seconds (Rock & Schwartz, 2006). If/when she could interrupt, she then could choose a different response (David, 2016). Over time and with mindful practice, she did shift her level of arousal to one commensurate with the situation and was better able to modulate her actions. She was able to lower her energy level, put her attention on her customer, listen better to their concerns and breakdowns, and behave more responsively and commensurate with the circumstance. She began to rebuild trust and deliver value.

Barbara had never managed others. She hadn't received any training or mentoring on how to manage (Witt, 2020). What she knew about managing came from watching others manage and lead (role models were likely managing reactively; see Anderson & Adams, 2016), then making her own determination of whether those were behaviors and attitudes she wanted to emulate or not. When she delegated, she tended to micromanage. She missed many opportunities to delegate or give stretch assignments, feeling more comfortable doing the task herself. Discussions uncovered some of her underlying assumptions (others aren't competent or trustworthy) and stories (when in doubt, do it yourself). Upon challenge, she could see that her ways of thinking about her direct reports (DRs) was having an impact on her behaviors and others' reactions. When she completed an assigned reading of an article (Livingston, 2002), she recognized what she was contributing to the situation, perhaps even creating. When she completed an exercise to identify and write down current and desired state statements for her delegating, she could clearly see the shifts she was committed to making. She began conscious observation and mindful, committed practice of new behaviors, rather than navigating off her familiar feeling of comfort. She took on a different attitude towards her people, started delegating with a lighter touch, and even looked to give stretch assignments that would be developmental for that person and her. With practice and persistence, she started to become a better manager. Delegation increased, micromanaging decreased and frequency of finding or creating developmental opportunities for her people increased.

One of the situations Barbara had to deal with repeatedly was requests from Frank Culpepper, the Chief Operating Officer, for special projects with short timelines. She had no control over if or when such requests would come in. She had little chance to decline the request. She felt powerless to manage her work responsibly and to do good work. Coaching conversations explored what was possible for her to do to act with compassion and accountability. She recognized limiting assumptions and shifted her perspective. She came to the conclusion that while she couldn't decline Frank's requests, she could counteroffer, lobbying for sufficient conditions to do her work well. This meant she could communicate about and reorder her priorities with Helen, resetting expectations accordingly and communicating with others who would be affected by her shift in priorities. She could also potentially renegotiate Frank's conditions of satisfaction to be more workable for her. This provided a sense of autonomy and competence (Ryan & Deci, 2017) she hadn't experienced before. Even in the face of uncertainty, she felt empowered and had an affirmative path forward. She also became aware of how her environment affected her mood and her performance, either supporting her or creating barriers. She began to anticipate what conversations she would need to have to proactively avoid obstacles and misalignment. She began thinking strategically about her working relationships and what her customers wanted and needed.

Over the course of the year, Barbara had numerous similar experiences, epiphanies of recognition and insight. New choices emerged – difficult ones but ones that would take her in her desired direction. She had many opportunities to exercise self-leadership (Lazar & Slatter, 2018), and took advantage of them. Old habits, whether of thinking or doing, are difficult to change (Berger, 2019; Duhigg, 2016). Unlearning and relearning can be uncomfortable or even painful. There is no substitute for resilience, perseverance, flexibility and practice in the face of challenge.

As planned, an end-of-engagement conversation was held with Barbara and Helen, facilitated by the coach. It was a chance to review the work completed to date, progress made, results produced, lessons learned and next steps to take. Both parties were very pleased. Better working relationships were being forged with internal customers as well as direct reports. Better work products were being delivered, along with higher levels of customer satisfaction. When asked, Barbara wanted to continue working with the coach. The manager concurred and a new contract was drafted for coaching in the second year.

Shortly after Barbara began her second year of coaching, her job changed. Because of earlier dissatisfaction from the Chief Operating Officer with her performance, she was removed as a manager and placed as an individual contributor. She no longer had direct reports but had new opportunities to play a prominent role on two mission-critical, enterprise-wide projects. Her access to coaching was reduced by half. The two areas she identified for coaching focus were (1) work through her upset over her demotion while maintaining a positive attitude and find learning lessons; and (2) develop better customer relationships while delivering value on each of her projects.

Initial coaching discussions and questioning centered on her own stories and interpretations about her change in status; she was gripped by negative stories that depressed and distracted her from the important work ahead. Over two months, Barbara was able to shift her internal conversation, reframing the work change as positive, recognizing her strengths and providing a chance for contribution (Campbell, 2019; Hull, 2019). Once she made that shift, a self-imposed constraint fell away and she was fully available to seize the opportunities in front of her. This shift accelerated her collaborative work with others on the projects she was leading. She was thoughtful and proactive, inviting team members to fully engage in the complex work and push through the challenges when they arose. She reached out to her internal project customers, clarifying conditions of satisfaction, priorities and cadence of conversations. She anticipated breakdowns, collaboratively developed contingency plans, made requests for support, kept

her customer regularly apprised of progress, managed their expectations and managed her mood. In the end, both projects were rolled out on time, under budget and without incident. Her customers (now new champions) were delighted to declare a major success.

There were numerous factors that contributed to Barbara's learning and progress on her developmental journey:

- Her motivation to learn and improve;
- Her courage to dig deep and challenge her old, automatic (habitual) assumptions, beliefs, stories and behaviors (Carson & Moore, 2015; Goldsmith, 2007);
- The regular cadence of coaching conversations;
- A clear direction and observable description of what success would look like;
- Alignment with her manager about coaching focus (Schlosser et al, 2006);
- Clarity about how the manager could support her throughout the process (Steinbrenner et al, 2007);
- The creation of psychologically safe space for coach and client to have challenging conversations (Edmondson, 2019);
- The use of feedforward to gather periodic data and suggestions from selected colleagues in her performance environment (Goldsmith, 2009);
- Rigorous debriefing and discussion of what was tried, noticed, learned and shifted (Lazar & Slatter, 2018); and
- Practice of new ways of thinking, feeling and behaving that could eventually become practices and new habits (Boston & Ellis, 2019; Duhigg, 2016; Peterson, 2011).

ISSUES, CONTROVERSIES AND PROBLEMS

In any organization, managers play a critical role in their people's performance environment. On average, 70-80% of the variance contributing to performance comes from the environment, not individual factors (Gilbert, 2007). Managers, both in their policies and procedures and their management/leadership style, are the proxy for the full range of management practices. 70-75% of managers, according to recent research (Anderson & Adams, 2016) are ineffective leaders, leading in a way that produces even fewer results than the effort expended to produce them.

Note: The observations and assessments about leadership shared in this and the next section are based on more than six years' of coaching experience with the A2Z Chief Executive Officer, five senior managers and three managers.

Through the lens of leadership style (Goleman, 2000), Marty Hutchinson, the Chief Executive Officer, has a primary authoritative style. In other words, this style mobilizes others towards a vision, as if he's saying, "Come with me." In addition, he uses a coercive style, initially very hands-on (directive and micromanaging, "Do what I tell you") with his direct reports until they became sufficiently competent. Then he would take a laissez faire stance (completely hands off) unless their performance declines. At that point, he would step in to solve their problems for them (pacesetting style) and manage coercively again.

Regardless of functional area, such as marketing, sales, or operations, he was willing to actively jump in and try to contribute at a detailed level. Annual strategic planning efforts led by Marty tended

to produce long lists of 'priorities that needed to be owned and implemented by his senior leadership team. Priorities were often changed and added.

In addition to his vision, charisma and other strengths, Marty had a number of challenges in his management and leadership approaches. A partial list includes these:

- Sometimes got angry, judgmental, yell and demean managers in front of others; as a result, managers tended to feel unsafe raising issues and concerns;
- Often 'played favorites' among the managers and was willing to bend or break rules for them;
- Sometimes ignored and acted contrary to published human resources policy or process to take desired actions;
- Sometimes jumped to conclusions and made quick decisions that attempted to address symptoms, without soliciting others' opinions and considering broader impacts and unintended consequences.

Taken together, the above patterns of behavior created uncertainty and worry among the Chief Executive Officer's direct reports and other managers such as Barbara. Some were sensitive to verbally abusive behavior and upset by having their accountability undermined. Many were thrown off-balance by changing or additional priorities declared without rationale or regard for capacity limitations. Helen, Barbara's manager, was often yanked in different directions by Marty's changing leadership focus and was challenged to buffer and translate his communications into actionable requests. In turn, Barbara felt she was in ambiguous but dangerous territory with the Chief Executive Officer, unsure of the assessments she would receive and whether they would be abusive in tone.

SOLUTIONS AND RECOMMENDATIONS

It seems that the leadership coaching solution provided for this particular performance problem was well fitted, well executed and produced a desired result. That said, it was insufficient to address more systemic and managerial issues that were part of the client's performance context (but not part of what was contracted to deliver; see Lazar, Greenblatt, & Robu, 2017).

Within six months, the Chief Executive Officer and Chief Operating Officer decided to disband Global Talent. Helen is retiring and members of her unit were fired. Learning and development was reassigned to the regions, as was compensation and benefits, and there were no longer enterprise-wide Human Resources initiatives or practices. This can be viewed as taking a problem-solving approach to a polarity-management situation (Johnson, 2014).

There are, however, recommendations to offer to other leaders reading this chapter. The majority of leaders don't operate effectively (Anderson and Adams, 2016). Yet they need to perform well in order to maximize the opportunities for their organization since it can't perform at a higher level than the consciousness of its collective leadership (Anderson & Adams, 2019). The leaders of many organizations recognize the gap. For example, in the 2019 Global Human Capital Trends survey, 80% of respondents rated leadership a high priority for their organizations, but only 41% said they thought their organizations were ready or very ready to meet their leadership requirements (Volini, Schwartz, Roy, Hauptmann, Van Durme, Denny, & Bersin, 2019).

Investments in leadership development, especially when done thoughtfully and systemically (for example, DDI, 2020), can lead to sustainable performance improvements and competitive advantage.

Leadership coaching is an important tool in the development toolkit that can be used both as an independent intervention but, more importantly, as an accelerant as part of a blended solution.

Amidst the complexity and uncertainty that is increasingly a regular part of our lives, the leadership for leadership – developing talent in general and effective leadership and requisite bench strength in particular – is a necessity, not a luxury. It will take courage, vision and commitment to stay the course while talent and supportive practices are built. Those who persevere are likely to reap the benefits.

FUTURE TRENDS IN LEADERSHIP COACHING

There are seven trends worth mentioning:

- **Influx of Consultants and Psychotherapists Calling Themselves Coaches:** As leadership coaching becomes increasingly recognized, valued and accepted, there has been an attraction from other professions. Therapists, counselors and consultants have been drawn to coaching as a venue where they can play, contribute and be financially successful. On the other hand, when making a transition across careers, they do not necessarily complete any coaching training and may have only a subset of the coaching skills and frameworks required to perform well. This presents an ongoing challenge for organizations which attempt to qualify their coach candidates and match 'best' coach with client.
- **Cost of Coaching:** The cost of leadership coaching, typically delivered one-on-one by itself or as part of a programmatic leadership development effort, is relatively expensive. Yet such coaching continues to be assessed as highly valuable and worth the investment. At the same time, there are multiple efforts to reduce cost while maintaining effectiveness. One approach is to use artificial intelligence-enabled coaching as a delivery modality. This is likely to become increasingly popular as the technology continues to improve. Other choices include taking a one-to-many approach to coaching: group and team coaching (see below). Another is to have coaching conversations virtually, either synchronously (by phone or videoconference) or asynchronously (by email or similar application). These approaches simplify logistics and reduce the costs of travel to be in-person. Finally, an increasingly popular option is to train and coach leaders to be coach-like as one of their leadership styles (Atad & Grant, 2020; Lazar, 2020),
- **Evidence Basis for Coaching Methodology:** Over the past 15-20 years, a number of universities, professional organizations and publications have been intent on testing, documenting and evaluating various coaching methodologies. This includes studies on efficacy, relationship to theory and to underlying biological and neurological mechanisms. For example, the Coaching Psychology Program at the University of Sydney, the Coaching program at Columbia University's Teachers College, the Institute of Coaching, the Neuroleadership Institute, the *Leadership Quarterly*, the *International Journal of Evidence Based Coaching and Mentoring*, and *Coaching: An International Journal of Theory, Research and Practice* all teach, research and/or publish rigorous evidence-based studies.
- **Convergence of Coaching Practice and Supporting Scientific Evidence:** Over the past twenty years, the body of research literature has grown that provides explanatory evidence for underlying neurological and psychological mechanism that make coaching effective. This includes the positive impact of mindfulness (developed through training) on emotional reactivity, stress man-

agement and psychological well-being (Goleman & Davidson, 2017); the role of emotions on decision making, motivation and interpersonal interactions (Barrett, 2017); the role of empathy in establishing social connections, and building motivation and trust (Reiss, 2018); the self-management of reactive tendencies from triggers that then allow making informed choices (Duhigg, 2012; Goldsmith, 2015; Rock, 2008); the neurology of conversations, neurotransmitters and social interactions (Glaser, 2013); and brain functioning related to effective interpersonal practices (Rock, 2009).

- **Evaluation of Coaching Methodology, Engagements, and Programs:** There is always a question of whether any particular methodology, engagement or program is proven to be effective (see Desrosiers & Oliver, 2009, for the partnership that can be created between coach and organization to support evaluation). Organizational customers want to know whether their investment was successful and, if so, produced a return but lag in fulfilling that intention. The predominant tendency is still to use "smiles sheets" to determine what the participants' reaction was to the program, learning environment and instructor/coach. On the other hand, there are numerous methodologies (for example, success case method, return on expectations [ROE], business impact and return on investment [ROI]; see Brinkerhoff, 2003; Guerra-Lopez, 2008; Kirkpatrick, 2006; Phillips, Phillips, & Edwards, 2012, respectively) that have been used and can be used to demonstrate efficacy. Researchers and educators have identified the range of evaluation issues that need to be addressed for determining coaching effectiveness (Ely & Zaccaro, 2011).
- **Virtual Coaching:** Well before the Coronavirus pandemic, cost and logistics considerations elevated the option of conducting coaching conversations virtually. From email to phone to videoconferencing, virtual coaching provides similar access without proximity, though not with the same effectiveness. Videoconferencing most closely approximates live, in-person interactions but doesn't access the social energy and rapport-building influences that happen when you are with the other person. This is most important when a coaching engagement is starting, the time to develop trust, respect and safety. Videoconferencing also supports one-to-many situations (group and team coaching) without requiring geographical proximity.
- **Group and Team Coaching:** Learning and development has many formats. Virtual coaching can be applied in a group setting, for teams learning how to team better and for workgroups interested in learning the same leadership content. If done virtually, the cost and logistics considerations provide commensurately more benefits than when done with an individual. Learning from others and learning in small group settings (breakout rooms) are two advantages to learning in a group setting. Leading, facilitating and coaching in these settings, however, requires additional skills and frameworks some coaches may need to develop.
- **Coaching/Consulting Blended Solutions:** Coaching has been demonstrated to be an effective intervention when used by itself and in conjunction with other interventions like training (Olivero, Bane, & Kopelman, 1998). Since most performance problems tend to have multiple root causes and associated interventions (Gilmore, 2008), there is a case to make that a blended solution, an integrated, synergistic set of interventions, may provide the most cost-effective and sustainable approach to the issues under consideration (Lazar, Greenblatt, & Robu, 2017). As different stakeholders (customers) across organizational silos communicate and coordinate, blended solutions become value-adding options.

CONCLUSION

This chapter presented a leadership coaching case study in a context larger than simply trying to solve the presenting performance problem. The larger organizational setting and a range of tools used when coaching were described. Any coach will have latitude, given what matters most to their client, about what tool to select and when to use it, the same as what part of the client conversation and distinction to focus on.

Given the client's goals, the coach sought to better understand the shape and boundaries of the client's world. This was not only the outer, performance environment but the client's inner world – their beliefs, assumptions, expectations, mindsets and stories. Open-ended questions led to new self-awareness, reflection and insights. To quote French novelist Marcel Proust, "The journey of discovery is not to travel to new lands but to see with new eyes." With new eyes, the client identified the world she was living in, the current contingencies and their limitations, and was motivated to design something better. She experimented, noted what worked well and not so well, and made design choices about how to learn and improve her performance. She shifted her behavior and personal narrative to support and sustain this new path and was successful in her efforts.

Leadership coaching has been proven to work. It works in individual and group settings, whether delivered in person or virtually. This case study provides another affirmative data point for that argument. The challenge and opportunity, especially given today's uncertainty and emergent disruptions, is to develop a relevant, compelling business case for the organization as potential customer. The customer must assess that such an investment will deliver better value relative to other alternatives and decide that developing their leaders, which requires sustainable effort, will add competitive advantage. Game on.

REFERENCES

Anderson, R. J., & Adams, W. A. (2016). *Mastering leadership*. Hoboken, NJ: John Wiley & Sons.

Anderson, R. J., & Adams, W. A. (2019). *Scaling leadership*. Hoboken, NJ: John Wiley & Sons.

Ariely, D. (2009). *Predictably irrational*. New York, NY: HarperCollins.

Atad, O. I., & Grant, A. M. (2020). How does coach training change coaches-in-training? Differential effects for novice vs. experienced 'skilled helpers.' *Coaching*, 1–17. doi:10.1080/17521882.2019.1707246

Austin, J. R. (1975). *How to do things with words* (2nd ed.). Boston, MA: Harvard University Press. doi:10.1093/acprof:oso/9780198245537.001.0001

Bar-On, R. (2000). Emotional and social intelligence. Insights from the Emotional Quotient Inventory (EQ-i). In R. Bar-On & J. D. A. Parker (Eds.), *Handbook of emotional intelligence* (pp. 363–388). San Francisco, CA: Jossey-Bass.

Bar-On, R., Handley, R., & Fund, S. (2006). The impact of emotional intelligence on performance. In V. U. Druskat, F. Sala, & G. Mount (Eds.), *Linking emotional intelligence and performance at work* (pp. 3–19). Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.

Barrett, L. F. (2017). *How emotions are made: The secret life of the brain*. Boston: Houghton Mifflin Harcourt.

Berger, J. G. (2015, April). *Simple habits for complex times: Supporting leaders to thrive in complexity.* Webinar presentation for monthly Australasian ICF meeting.

Berger, J. G. (2019). *Unlocking leadership mindtraps*. Stanford, CA: Stanford University Press.

Berger, J. G., & Johnston, K. (2015). *Simple habits for complex times: Powerful practices for leaders*. Stanford, CA: Stanford University Press. doi:10.1002/ltl.20201

Bergquist, W., & Mura, A. (2005). *10 themes and variations for postmodern leaders and their coaches*. Sacramento, CA: Pacific Soundings Press.

Birkman Fink, S., & Capparell, S. (2013). *The Birkman method. Your personality at work*. San Francisco, CA: Jossey-Bass.

Boston, R., & Ellis, K. (2019). *Upgrade. Building your capacity for complexity*. London, UK: Leaderspace.

Boyatzis, R. E., & Goleman, D.Hay Group. (2001). *The emotional competence inventory (ECI)*. Boston, MA: Hay Group.

Brinkerhoff, R. (2003). *The success case method*. San Francisco, CA: Berrett-Koehler Publishers.

Bungay Stanier, M. (2020). *The advice trap*. Toronto, Canada: Box of Crayons Press.

Campbell, R. (2019). *Scientists in every boardroom*. McPherson's Printing Group.

Carson, S., & Moore, M. (2015, January). *Organize your mind for coaching*. Webinar presented for Institute of Coaching.

Covey, S. M. R. (2006). *The speed of trust*. New York, NY: Free Press.

Cuddy, A. J. C., Kohut, M., & Neffinger, J. (2013). Connect, then lead. *Harvard Business Review*, *91*(7/8), 54–61. PMID:24730169

David, S. (2016). *Emotional agility*. New York, NY: Avery.

DDI. (2020, January). T*he art of prioritization: How to build your multi-level leadership development program.* Webinar presentation. Pittsburgh, PA: Developmental Dimensions International.

de Haan, E., & Kasoki, A. (2014). *The leadership shadow*. London, UK: Kogan Page Limited.

Desrosiers, E., & Oliver, D. H. (2011). Maximizing impact. Creating successful partnerships between coaches and organizations. In G. Hernez-Broome & L. A. Boyce (Eds.), *Advancing executive coaching* (pp. 123–147). San Francisco, CA: John Wiley & Sons.

Dotlich, D. L., & Noel, J. L. (1998). *Action learning*. San Francisco, CA: Jossey-Bass Publishers.

Drake, D. B. (2017). *Narrative coaching: The definitive guide to bringing new stories to life* (2nd ed.). Petaluma, CA: CNC Press.

Duhigg, C. (2012). *The power of habit: Why we do what we do in life and business*. New York, NY: Random House.

Dunham, R. (2009). The generative foundations of action in organizations: Speaking and listening. *The International Journal of Coaching in Organizations*, *7*(2), 42–63.

Dunham, R. (2010). *The power of not-knowing*. Unpublished paper. Boulder, CO: Institute for Generative Leadership.

Edmondson, A. C. (2012). *Teaming*. San Francisco, CA: Jossey-Bass.

Edmondson, A. C. (2019). *The fearless organization*. Hoboken, NJ: John Wiley & Sons.

Ely, K., & Zaccaro, S. J. (2011). Evaluating the effectiveness of coaching. A focus on stakeholders, criteria, and data collection methods. In G. Hernez-Broome & L. A. Boyce (Eds.), *Advancing executive coaching* (pp. 319–349). San Francisco, CA: John Wiley & Sons.

Gilbert, T. F. (2007). *Human competence: Engineering worthy performance*. San Francisco, CA: Pfeiffer.

Gilmore, E. R. (2008). *An evaluation of the efficacy of Wile's taxonomy of human performance factors* (Dissertation). Indiana University. Retrieved April 4, 2016 from https://search.proquest.com/docview/304606414

Glaser, J. E. (2013). *Conversational intelligence: How great leaders build trust and get extraordinary results*. London, UK: Routledge.

Goldsmith, M. (2007). *What got you here will get you there*. New York, NY: Hyperion.

Goldsmith, M. (2009, March 17). Try feedforward instead of feedback. *IJTD Coaching e-Newsletter, 27.*

Goldsmith, M. (2015). *Triggers*. New York, NY: Crown Business.

Goleman, D. (1995). *Emotional intelligence*. New York, NY: Bantam.

Goleman, D. (2000, March-April). Leadership that gets results. *HBR On Point,* Reprint 4487.

Goleman, D. (2001). Emotional intelligence. Issues in paradigm building. In C. Cherniss & D. Goleman (Eds.), *The emotionally intelligent workplace* (pp. 13–26). San Francisco, CA: Jossey-Bass.

Goleman, D., Boyatzis, R., & McKee, A. (2002). *Primal leadership*. Boston, MA: Harvard Business School Press.

Goleman, D., & Davidson, R. J. (2017). *Altered states. Science reveals how meditation changes your mind, brain, and body*. New York, NY: Avery.

Guerra-Lopez, I. O. (2008). *Performance evaluation: Proven approaches for improving program and organizational performance*. San Francisco, CA: Jossey-Bass.

Hicks, M. D., & Peterson, D. B. (1999). The development pipeline. *Knowledge Management Review*, *9*, 30–33.

Hull, J. (2019). *Flex*. New York, NY: Tarcher Perigee.

Johnson, B. (2014). *Polarity management: Identifying and managing unsolvable problems*. Amherst, MA: HRD Press, Inc.

Johnson, W. (2018). *How to build an A team*. Boston, MA: Harvard Business Review Press.

Kets de Vries, M. F. R., Korotov, K., & Florent-Treacy, E. (2007). *Coach and couch*. New York: Palgrave Macmillan.

Kirkpatrick, D. L. (2006). *Evaluating training programs: The four levels* (3rd ed.). San Francisco, CA: Berrett-Koehler Publishers.

Lapin, D. (2012). *Lead by greatness*. Avoda Books.

Lawrence, K. (2013). *Developing leaders in a VUCA environment*. Chapel Hill, NC: UNC Executive Development.

Lazar, J. B. (2020, February). *Developing emotional intelligence: A coaching approach to leading well in complex times.* Conference presentation at EITRI annual conference, Corpus Christi, TX.

Lazar, J.B., Gillum, T., & Mortenson, K. (2016, September). *Changing the game: Game-changing strategies that unleash performance improvement*. Pre-conference workshop for ISPI EMEA Conference, Bonn, Germany.

Lazar, J.B., Greenblatt, E., & Robu, D. (2017, September). *Multiple root causes and blended solutions: Two case studies and lessons learned.* Pre-conference workshop for ISPI EMEA conference, Bologna, Italy.

Lazar, J.B., & Slatter, J. (2018, September). *Self-leadership and collaboration by design*. Pre-conference workshop at ISPI EMEA conference, Gothenburg, Sweden.

Lee, R. J., & Frisch, M. H. (2011). Learning to coach leaders. In G. Hernez-Broome & L. A. Boyle (Eds.), *Advancing executive coaching: Setting the course for successful leadership coaching* (pp. 47–81). San Francisco, CA: Jossey-Bass.

Livingston, J.S. (2002). Pygmalion in management. *Harvard Business Review.* HBR OnPoint reprint 1768.

Mager, R. F., & Pipe, P. (1970). *Analyzing performance problems*. Belmont, CA: Fearon Pitman.

Maturana, H. R., & Varela, F. J. (1987). *The tree of knowledge*. Boston, MA: New Science Library.

Maurer, R. (2004). *The kaizen way*. New York, NY: Workman Publishing.

Mayer, J. D., Salovey, P., & Caruso, D. R. (2002). *Mayer-Salovey-Caruso emotional intelligence test (MSCEIT)*. Toronto, Canada: Multi-Health Systems.

Mount, G. (2006). The role of emotional intelligence in developing international business capability: EI provides traction. In V. U. Druskat, F. Sala, & G. Mount (Eds.), *Linking emotional intelligence and performance at work* (pp. 97–124). Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.

Olivero, G. B., Bane, K. D., & Kopelman, R. E. (1997). Executive coaching as a transfer of training tool: Effects on productivity in a public agency. *Public Personnel Management*, *26*(4), 461–469. doi:10.1177/009102609702600403

Peterson, D. B. (2011). Good to great coaching: Accelerating the journey. In G. Hernez-Broome & L. A. Boyce (Eds.), *Advancing executive coaching: Setting the course for successful leadership coaching* (pp. 83–101). San Francisco, CA: Jossey-Bass.

Peterson, D. B., & Hicks, M. D. (1996). *Leader as coach*. Minneapolis, MN: Personnel Decisions International.

Phillips, P. P., Phillips, J. J., & Edwards, L. A. (2012). *Measuring the success of coaching*. Alexandria, VA: ASTD Press.

Reiss, H. (2018). *The empathy effect*. Boulder, CO: Sounds True.

Rock, D. (2008). SCARF: A brain-based model for collaborating with and influencing others. *NeuroLeadership Journal*, *1*, 44–52.

Rock, D. (2009). *Your brain at work*. New York, NY: Harper Business.

Rock, D., & Schwartz, J. M. (2006). A brain-based approach to coaching. *The International Journal of Coaching in Organizations*, *4*(2), 32–43.

Rummler, G., & Brache, A. (1995). *Improving performance: How to manage the white space on the organization chart* (2nd ed.). San Francisco, CA: Jossey-Bass.

Ryan, R., & Deci, R. (2017). *Self-determination theory. Basic psychological needs in motivation, development, and wellness*. New York, NY: Guilford Press.

Schein, E. H. (2013). *Humble inquiry*. San Francisco, CA: Berrett-Koehler Publishers, Inc.

Schlosser, B., Steinbrenner, D., Kumata, E., & Hunt, J. (2006). The coaching impact study: Measuring the value of executive coaching. *The International Journal of Coaching in Organizations*, *4*(3), 8–26.

Searle, J. L. (1970). *Speech acts: An essay in the philosophy of language*. Cambridge, UK: Cambridge University Press.

Sieler, A. (2003). Coaching to the human soul.: Vol. 1. *The linguistic basis of ontological coaching*. Blackburn, Australia: Newfield Australia.

Sieler, A. (2007). Coaching to the human soul.: Vol. 2. *Emotional learning and ontological coaching*. Blackburn, Australia: Newfield Australia.

Sieler, A. (2012). Coaching to the human soul.: Vol. 3. *The biological and somatic basis of ontological coaching*. Blackburn, Australia: Newfield Institute.

Snowden, D. (2014, June 12). Managing under conditions of uncertainty, lessons from the natural sciences. *State of the net 2014*. Retrieved August 24, 2015 from https://www.youtube.com/watch?v=APB_mhpsQp8

Snowden, D. J., & Boone, M. E. (2007). A leader's framework for decision making. *Harvard Business Review*, *85*(11), 68–76. PMID:18159787

Spencer, L. (2001). The economic value of emotional intelligence competencies and EIC-based HR programs. In C. Cherniss & D. Goleman (Eds.), *The emotionally intelligent workplace* (pp. 45–82). San Francisco, CA: Jossey-Bass.

Steinbrenner, D., Kumata, E., & Schlosser, B. (2007). Commentary on The coaching impact study: Measuring the value of executive coaching. *The International Journal of Coaching in Organizations*, *5*(1), 164–167.

Stolovich, H., & Keeps, E. (1999). What is human performance technology? In H. Stolovich & E. Keeps (Eds.), *Handbook of performance improvement technology* (2nd ed., pp. 3–23). San Francisco, CA: Jossey-Bass.

Strozzi-Heckler, R. (2007). *The leadership dojo*. Berkeley, CA: Frog Press.

Volini, E., Schwartz, J., Roy, I., Hauptmann, M., Van Durme, Y., Denny, B., & Bersin, J. (2019). *Leading the social enterprise: reinvent with a human focus*. Deloitte. Retrieved March 9, 2020 from https://www2.deloitte.com/content/dam/insights/us/articles/5136_HC-Trends-2019/DI_HC-Trends-2019.pdf

Winograd, T., & Flores, F. (1986). *Understanding computers and cognition: A new foundation for design*. Norwood, NJ: Ablex Publishing Corporation.

Witt, D. (2020). *2020 leadership development trends, challenges, and opportunities*. Retrieved January 8, 2020 from Ken Blanchard ignite! newsletter, https://resources.kenblanchard.com/research-insights

APPENDIX: QUESTIONS

1. **Blended Solution:** Given the description of the presenting performance problem and one or more of the other managerial dynamics you select, draft what a blended solution (combination of coaching and consulting) might look like that addresses the issues synergistically and interdependently?
2. **Business case for Proposed Intervention:** Given the description of the presenting performance problem, what kind of business case might you create to deliver value-adding work? What would need to be included? To whom would you be presenting your case?
3. **Evaluation for Engagement Success:** Given the description of the presenting performance problem, how would you set up an evaluation plan, and what and how would you evaluate?

Chapter 16
Applying Appreciative Inquiry, Performance Improvement, and Positive Psychology:
Assessment of Non-Profit Sustainability

Nancy Crain Burns
Crain Burns Associates LLC, USA & International Society for Performance Improvement, USA

EXECUTIVE SUMMARY

As a member of multiple organizations, one may find that there are relationships and situations that span those organizations. When reviewing the intersection of those relationship/situations, it is a good idea to use innovative principles and practices of performance improvement to offer recommendations. This case study describes the approach to reach a positive recommendation for a non-profit, faith-based organization. By using concepts of appreciative inquiry, the ten principles of human performance improvement (ISPI), and positive psychology as described in Flow by (Csikszentmihalyi in 1990, the practitioner was able to "step back" and view the big picture. The situation required reviewing whether the church daycare could continue to sustain operations despite a challenging financial outlook. Some members of the church council were concerned about the financial reports while others thought that the daycare was a valuable ministry that should be continued. The council president appointed a task force to review viability of the daycare organization.

ORGANIZATION BACKGROUND

Established in the 1970's, by the early 2000's, Mission Lutheran Church (a pseudonym) was an active congregation with 280 members. During that time, the church's mission stated, "*Enlightened by the Holy Spirit, we are a family of Christians dedicated to serving Christ and sharing God's promise of salvation.*" Mission Lutheran Church Daycare fit into the ministry of sharing Christ's love with the community.

DOI: 10.4018/978-1-7998-3673-5.ch016

- **Mission Lutheran Church Daycare Mission Statement:** Mission Lutheran Church Christian Daycare seeks to provide for the spiritual, intellectual, physical, emotional, and social development of the whole child, with Christ as the central focus throughout the process.

Mission Lutheran Church Daycare is a nonprofit daycare, non-discriminatory in both hiring and enrollment practices, licensed by the State of Tennessee for 49* children ages 2 months-5 years old. It is sponsored and supported by, and accountable to, Mission Lutheran Church as a 501c(3) nonprofit, and it is evaluated by the Tennessee Department of Human Services and the Mission Lutheran Church Early Childhood Ministry Board. The daycare provides Christian-based curriculum, teaching, and caregiving. (*Note: Current capacity and staffing are adequate for a maximum of 44 children.)

Nonprofit Organization (Structure)

Mission Lutheran Church Christian Daycare is owned and supported by Mission Lutheran Church as a 501c(3) nonprofit. Within the Church organization, an Early Childhood Ministry Board (ECM) hires a director to manage the daycare with the help and support of Mission Lutheran Church. The Early Childhood Ministry Board is accountable to the Church Council and Congregation of Mission Lutheran Church.

The Early Childhood Ministry Board determines policies and, together with the director, establishes a budget. Because it has responsibility for the daycare and provides financial support, the Mission Lutheran Church Council must approve the budget.

SETTING THE STAGE

In the early 2000's, Mission Lutheran Church Daycare was added as a part-time ministry. Within three years, the daycare grew to a full-time program. During 2016, capacity for the daycare was 44 children. But enrollment dropped from 42 to 34, raising some concerns.

Current church council members were not familiar with the history of the daycare's formation. They did know that the Board of Stewardship allocated funding to special ministries and missions. And for many years, the church had agreed to allocate funds for the daycare.

So due to the downturn in revenue, Gary Burnstone (pseudonym) requested additional funds ($40,000) for the following fiscal year. This seemed to be a substantial portion of the annual budget. Church Council President Charlie Newburg (pseudonym) appointed a Mission Daycare Task Force to explore the financial situation and make recommendations to the council. Task force members included Board Chairs of Church Growth, Stewardship, Finance, Early Childhood Ministry, and the Church Council, ensuring representation by a cross-section of leadership.

At this point, an understanding of the roles and responsibilities of the council task force members is essential.

Church Council

The Church Council consisted of the President, Vice-President, Recording Secretary, Treasurer, Financial Secretary, President of the Lutheran Women's Missionary League, and the Chairpersons of the Boards of Elders, Finance, Church Property, Christian Education, Stewardship, Youth Ministry, Christian

Fellowship, Early Childhood Ministry, Senior Ministry, Technology, and Church Growth. The Pastor, Recording Secretary, Financial Secretary, and President of the Lutheran Women's Missionary League were non-voting members.

Positions and Boards

The President is the Executive Director of the program. He/she presides at Voters/Council meetings and ensures that the management and control of the congregation is in accordance with the Mission Lutheran Church constitution and by-laws.

In the absence of the President, the Vice-President presides at meetings of Voters or Church Council. He/she assists the President as required.

The Board of Finance is composed of the Chairperson, Treasurer, Vice-Treasurer, and Financial Secretary. They supervise the congregation's cash flow, aid boards in preparing budgets, and oversee disbursements in connection with payroll, insurance, mortgage, supplies and equipment, office inventory, copy machine, and supplies. The Board supplies financial reports to the Council.

The Board of Church Growth leads the congregation in programs to win unbelievers for Christ and promote membership to prospective members.

The Board of Stewardship, as "Stewards" or "Managers" in the congregation, is concerned with the overall program of the congregation as it affects growth in Christian living and giving.

The Board of Early Childhood Ministry directs the activities of the Early Childhood Ministry (Mission Lutheran Church Daycare), ensuring Christian teaching and nurturing of students in concert with the Board of Christian Education (Mission Lutheran Church website, 2020).

CASE DESCRIPTION

In Fall 2016, the Early Childhood Ministry Board (ECM) requested that the church council review Mission Lutheran Church Daycare's operations. ECM members wanted an unbiased opinion of results to ensure that all aspects were properly understood and managed. This dovetailed with a request for Mission Lutheran Church support for the daycare as wise financial stewardship in response to ongoing needs. A task force was established with members from the Boards of Church Growth, Stewardship, Early Childhood, Finance, and Church Council.

In addition, as part of the annual church budgeting process, the Board of Church Stewardship allocated funds to special ministries and missions of the Church. Several years prior, it had been agreed that budgeting for Church funds targeted for Mission Church Daycare would be allocated through this process. When the amount requested was larger than the amount typically budgeted, it was decided to request a partial amount for budget allocation, with another review after the first quarter of 2017.

Because many lives were impacted by this ministry, the task force felt compelled to analyze the situation thoroughly.

CURRENT CHALLENGES FACING THE ORGANIZATION

Due to lower than expected enrollment, the Mission Lutheran Church Council was concerned about the viability of the Mission Church Daycare. Since the church subsidized the daycare's operation, they needed to review the situation and determine the best process to preserve the mission while considering fiscal responsibility. Many gave opinions, but no one understood the complete situation.

In 2000, Mission Lutheran Church decided to offer the congregation and community of Centerville a two-hour preschool (ages 3-5) program sponsored by the church. After the first year, market research determined that the Centerville community was in need of a full-day program. For a 9-month period in 2001, Mission Lutheran Church used a smaller facility to offer a full daycare program for ages 3-5. By 2003, the daycare expanded to a full-year program. By enlarging the facility, it was able to accommodate six toddlers, ages 1-3 and 18 more preschoolers, ages 3-5.

In 2006, the church pledged sponsorship and commitment to the daycare as a local community ministry. This meant that the church supplied the building and its maintenance; the grounds for play areas and its maintenance, including lawn service; payment for all utilities; financial and payroll record-keeping services; an Early Childhood Ministry Board to oversee the daycare operations; office supplies, including a copy machine; the church building for worship; and financial support when necessary. The church also offered support and guidance in spiritual and pastoral leadership; musical enhancement; volunteers; curriculum; fundraising; and public relations (community involvement).

But by late 2016, enrollment had fallen from the desired maximum capacity of 44 children to 36 children. This caused a concern for church leaders, especially when asked to increase operational support. The many new members who had joined the church, quite a few of whom were serving on the church council, were unaware of the history and agreements that had been established during previous administrations.

Task Force Formation and Intervention Approach

As explained earlier, Church Council President Charlie Newburg (pseudonym) appointed a Mission Daycare Task Force to explore the financial situation and make recommendations to the council. The Stewardship Chair and Task Force Member, Dr. Nedra Sams (pseudonym) suggested that they take a systemic and systematic approach in analyzing the situation. Dr. Sams was familiar with Van Tiem, Moseley, and Dessinger's book, *Fundamentals of Performance Improvement* (2012), and found a case study on *St. Luke Lutheran Church and School*. While reading the chapter, she learned that there were similar processes that could be applied to the Mission Church case. Dr. Sams considered tools for performance improvement as she met with the task force.

According to Roger Chevalier, it was important to develop "clear expectations, a vision and course of action" (2007, p. 80) to ensure common understanding. Dr. Sams encouraged the task force to agree on the approach that they would take in reviewing the situation and requirements. As a Certified Performance Technologist, Dr. Sams followed the *Ten Standards of Performance Improvement* when facilitating the sessions. She also encouraged taking an Appreciative Inquiry approach and suggested that team members consider the positive aspects of both the church and the daycare organizations. From the first meeting, team members cooperated in the proposed positive approach.

First, task force members met and brainstormed questions, concerns, and observations. In this way, they were taking a "systemic and systematic" view of the situation and "determining the need or opportunity" as noted in standards 2 and 5 of the International Society for Performance Improvement. Team members categorized the ideas as Mission, Community, Financial, Opportunities, and Challenges. To facilitate discussion, these items were captured by a scribe and could be seen on a display screen. The two meetings were held within a two-week period to enable the task force to move rapidly through the process. A congregational voters' meeting would be held the following month, so the schedule was also important. The Council President had asked the task force to report by the end of the current month in order to have a presentation ready for that meeting. At this stage, the task force was focused on the outcome of their work without trying to determine solutions. This was consistent with taking a solution-neutral approach when determining the initial need.

Since many task force team members were retired and traveled frequently, they discussed travel schedules and roles/responsibilities. This contributed to a steady process in reaching determined goals. They decided that analysis would be completed through a variety of methods, including brainstorming, fact-finding, benchmarking, observation, financial review, community survey review, and assessment review.

In order to determine the strategy, team members planned to review the current situation and desired results. They agreed to consider task force and members' questions. They decided that their strategy would consider knowledge management, education, training, documentation, job descriptions, continuous improvement, coaching, strategic planning, and financial forecasting.

APPLIED METHODOLOGY

The approach for the project followed the ten standards of human performance technology as defined by the International Society for Performance Improvement (ISPI). The team also used an Appreciative Inquiry outline when conducting interviews and meetings. For example, interview questions focused on trends that were going well in the daycare rather than on problem statements. Presenters employed positive psychology when creating PowerPoint slides and holding discussions with church members. This included using positive words to describe the situation while also stating the facts obtained. According to Csikszentmihalyi (1990) "flow is ….a state of ultimate experience" (p. 4). By using words that convey an optimistic outlook, the presenter helped the congregation understand the message in a more hopeful perspective. Csikszentmihalyi (2003) further discussed strategy for enhancing happiness in an organization by "providing conditions that make it conducive for [members] to experience flow" (p. 108). In addition, he stated that Collins and Porras discussed the importance of building an organization correctly to encourage productivity.

Performance Improvement

According to the International Society for Performance Improvement, "there are ten standards that competent practitioners follow in the practice of human performance technology" (ISPI, 2013). The term "technology" in relation to the standards is the "science behind the application" of the principles (Pershing, 2006, p.xxxi). The following descriptions are based on a summary of standards as shown in the *Handbook of Improving Performance in the Workplace*:

Focus on results and help clients focus on results.
Look at situation systematically, taking into consideration the larger context, including competing pressures, resource constraints, and anticipated change.
Add value in how you do the work and through the work itself.
Utilize partnerships or collaborate with clients and other experts as required.
Be systematic in all aspects of the process, including the assessment of the need or opportunity.
Be systematic in all aspects of the process, including the analysis of the work and workplace to identify the cause or factors that limit performance.
Be systematic in all aspects of the process, including the design of the solution or specification of the requirements of the solution.
Be systematic in all aspects of the process, including the development of all or some of the solutions and their elements.
Be systematic in all aspects of the process, including the implementation of the solution.
Be systematic in all aspects of the process, including the evaluation of the process and the results (Moseley and Dessinger, 2010; www.ispi.org*, 2019).*

Further details regarding application of the human performance technology principles and standards can be found on the International Society Performance website under the "Get Certified" section (www.ispi.org; Burns and Ziegler, 2019).

Appreciative Inquiry

One of the benefits of practicing Appreciative Inquiry is exploring the positive aspects of an organization. It is often easy to focus on the negative or problems, but that approach may not give a clear picture of the situation. Cooperrider, Whitney and Stavros (2003) assert that there are components of the practice: "Inquiry into the 'art of the possible' in an organization should begin with appreciation; inquiring into what is possible should yield information that is applicable; inquiry into the possible should be provocative; inquiry into the human potential of organizational life should be collaborative" (p. 4).

There are four steps in the Appreciative Inquiry cycle: "Discovery, Dream, Design and Destiny" (Cooperrider, Whitney and Stavros, 2003, p. 5). These steps align with principles of performance improvement. Discovery is an effort to understand the need (needs assessment). Dream consists of looking at the big picture and a desired state (focus on results). Design is the effort to find the right solution(s) for the opportunity. Destiny consists of reaching the desired result and evaluating success. According to Cooperrider and Whitney, "the underlying assumption of Appreciative Inquiry (AI) is that an organization is a 'solution to be embraced' rather than a 'problem to be solved'" (2003, p. 9).

Dr. Sams encouraged taking a positive approach throughout the project. By focusing on the background and aspects of the daycare, the task force was able to use an appreciative inquiry mind-set to find the appropriate facts of the case. By "discovering" the current state and "dreaming" about a desired future state, they were able to envision a more efficiently run daycare. They were also able to convey future direction and solutions by taking a neutral approach rather than jumping to conclusions.

TIMELINE AND RESULTS PHASE I

The task force created a timeline that would keep the project moving. Since the congregation president had appointed the task force during the September 2016 Council meeting, he expected to have a report for the congregation at the November meeting.

The task force meetings were held on October 12 and October 21. During the congregational meeting on November 17, Dr. Nedra Sams explained the cross-section of task force members from the Boards of Church Growth, Finance, Early Childhood Ministry, Stewardship, and Elders. She told church members that considerations included faith, mission, community, finance, challenges, opportunities, and a request (Sams, November 2016).

The emphasis on faith and mission illustrated the church's mission statement, prayer, following God's lead for the congregation, and the belief that all lives and possessions come from God (Deuteronomy: 8:18, in Hoerber, 1986, p. 255). The task force took community needs into consideration. According to Roger Kaufman (2019), it is important to review the "mega" picture so that society's needs are considered. In *Community Vital Signs*, Kaufman (2019) considers the elements that help communities "survive and thrive" (p. 29). Based on the community assessment, Dr. Sams shared the following observations:

- There is a large mission field in Central County (a pseudonym).
- Mission Lutheran Daycare is well-regarded in the community as the "best daycare".
- Mission Lutheran Daycare fits the church's mission of sharing Christ's love in the community.
- Request for prayer and opportunity to serve the community.

Emphasis from the community perspective included:

- Mission Lutheran Daycare is the only daycare in town to accept infants.
- There is a waiting list where parents reserve spots for the future.
- Centerville City (a pseudonym) has a need for quality daycare.
- Reputation of Mission Lutheran Daycare has created goodwill in the community.
- Mission Lutheran Daycare would like dedicated volunteers to help read to children. This fits with Central County Schools- *Readers Become Leaders* Program.

The financial and business considerations were presented as a work in progress. More information would be gathered. In this meeting, the following was shared:

- Goodwill is an intangible asset that can be included in the balance sheet. (The) reputation in the community is essential for (the) church's growth and progress to fulfill her mission.
- The task force recognizes the importance of being responsible for the congregation.
- The Stewardship budget supports the daycare as a mission of the church.

Challenges were noted from the initial assessment:

- Mission Lutheran Daycare wages were low, leading to loss of quality teachers.
- Low wages create a need for a hiring/training cycle. (Regulations require 74 hours of training for new hires.)

- Regulations created public programs and further requirements for Mission Lutheran Church and other daycare facilities. (In general, the state providing free pre-K reduced enrollment.)
- Early Childhood Ministry Board determined that Mission Lutheran Daycare could have a maximum of 48 children.
- Best financial results occur at a minimum of 43. Current enrollment was 34.

Opportunities presented were as follows:

- Share Christ's love with families in this community (mission field).
- Support Youth Programs.
  - New Pastor
    - Sunday School (Pastor and Church member are working on progress.)
    - Children may join Youth Group in the future.
- Children and Youth are the future of Mission Lutheran Church.
- Opportunity for Lutheran Church district funding may be available for local daycares.
- Opportunity to brainstorm solutions.

Requests for Congregation:

- Pray for the ministry.
- Support for the next three months so that the Mission Lutheran Church Task Force can further review and make recommendation.
- Acknowledge that people in the local community have as many needs as some foreign missions that the church supports. (There is a ripe mission field in Centerville City/Central County.)
- Families need quality daycare, especially with a Christian perspective. (Sams, N. 2016)

As a result of this work, the congregation voted to fund the first three months ($10,000) as requested and to allow the task force to continue further research.

Task Force Research: Interviews, Discussions, Information Review

In addition to board members, interviews and discussions were also held with several people who were involved with the daycare ministry. For example, a task force member met several times with the daycare director to discuss regulations, schedules, and responsibilities, and to observe facility operations. During the visit, observers noted the need for the director to be very flexible due to constant interruptions and emergencies. These interruptions included sick children, death in a staff member's family, appointments from those serving the daycare in various capacities, teachers with illness, finding substitutes, etc. These situations were handled professionally and patiently. The director had a great responsibility for reading, documenting, and complying with regulations, and observers noted that she did a wonderful job in this area. All areas of inspection, regulation, etc. were managed, and proper action was taken as needed.

Operations Review

Dr. Nedra Sams took time to review operations at the daycare facility. She noted the following:

- To let the congregation know how much their support was appreciated, the director made additional presentations during the worship service.
- The director maintained her qualifications through service and education.
- The director spends a significant amount of time ensuring that the daycare is in compliance with regulations. She maintains and updates manuals consistently. Assessments include Infant Toddler Education Requirements Scale (ITERS), Early Childhood Education Rating Scale (ECERS), Federal Food program assessment, Fire Marshall review, Health Department Inspections, and State Licensing (Department of Human Services). Proposed regulations pending from the State of Tennessee are pending.
- During the most recent review, the state assessor found some irregularities that resulted in the loss of the center's 3-star rating. Tennessee's Daycare Star program ranged from one to three stars, depending on the daycare center's annual state evaluation. The director said that an inspector may perceive a minor misstep that may cause a downgrade. The director was addressing the root cause and remedying the situation. After the remediation, the daycare center submitted the update to the state for review. This process took some time and was not an immediate upgrade.

Interview Findings

To gain insight into the facility's start-up, other interviews were held with past leaders who had been involved with the daycare center. Discussions with past and present leaders involved in child care in a town forty miles away determined that most children there were not members of the church. Church membership was not a high priority for their ministry. In contrast, Mission Lutheran Church believed that the priority was to bring the word of God to children.

Insight was gained through interviews with those who were on the church staff, those who regularly volunteer at Mission Lutheran Church, and through observation of chapel time. Some church members expressed the importance of keeping Mission Lutheran Church operations as a priority. Some members asked questions that were reviewed and researched. All questions raised were reviewed, and the task force concluded that these were satisfactorily resolved.

Outside expertise was sought, including conversations with a former director of a childcare center. She provided insight regarding changes in Centerville through the years as well as the impact of federal programs on private daycare providers. In her experience, parents would choose the federally funded (free or lower cost programs) and leave the private facilities. This caused an overall downturn in enrollment for private enterprises.

Information Review

Information from Mission Lutheran Church archives was reviewed, including some past church council minutes and documentation of business plan/daycare establishment. A nonprofit plan was created to encompass operation of the daycare. Each member of the task force provided insight from the viewpoint of his/her respective Board representation.

The Board of Church Finance noted that there were considerations for overhead costs. As shown above, this was part of the 2006 agreement. There was excellent oversight as the Early Childhood Ministry/Finance Boards worked with separation of duties and due diligence on financial operations. The Board noted that monitoring would continue.

The Board of Early Childhood Ministry held fundraisers for the ministry, while Stewardship allocated funds according to Mission Lutheran Church's objectives. It was recognized that finances may fluctuate during the year due to additional payroll weeks and delay of federal funds. Use of contingency funds could be appropriate during these times.

From a Board of Church Growth perspective, this was a recognized ministry that created goodwill in the community.

Mission Lutheran Church members volunteered by reading to children, maintaining the facility, preparing food, and other activities, as appropriate.

Mission Lutheran Church Daycare was regarded by many in the community as "best daycare" available.

THE MEGA VIEW

Roger Kaufman (2019) noted the importance of seeing a "mega" or societal view of a situation. This entailed looking beyond the local entity and into the overall church denomination perspective. It also required reviewing the local community as a whole. In that way, the task force could gain insight regarding Mission Lutheran Church and Daycare's role from a higher level.

Since the church and daycare were also part of a larger organizational structure, the Lutheran Church Missouri Synod (LCMS), the task force considered the denomination's view. A synod provides overall doctrine and practices for a church body. Therefore, the denomination's perspective on having congregational daycare facilities was important to explore.

Lutheran Church Missouri Synod (LCMS) District Research and Article

The task force met via conference call with Edgar Pressman (a pseudonym), the Lutheran Church Missouri Synod (LCMS) District Representative for Lutheran Schools. Mr. Pressman provided some competitive analysis and an article on the state of Lutheran Church schools. He said that the information in the article remains relevant.

Following are some highlights from *Issues in Christian Education* (The State & Future in Schools in the Lutheran Church Missouri Synod, 2008, Christian, J. and Bergman, M., pp. 8-18):

God has given the Lutheran Church Missouri Synod (LCMS) congregations and early childhood programs an unprecedented opportunity to nurture and shape children and their families for services in His kingdom by introducing Jesus to children at an early age. In the midst of numerical decline in other areas of children's ministry, the Lutheran Church Missouri Synod early childhood programs enrolled nearly 132,000 young children and their families (Lutheran Church Missouri Synod, School Statistics, 2006-07). To gain perspective, there are more children attending early childhood programs than are enrolled in grades 1-8 in Lutheran Church Missouri Synod elementary schools.

Lutheran early childhood centers are "in mission" with their affiliated congregations and ought to be established and supported with that understanding. The question is not one of serving congregations or congregations serving centers; rather, it is one of being in Christ's mission together. Lutheran early childhood centers serve a growing population of non-Lutheran children as well as children whose families openly claim no church membership. Among the 132,000 children, 20% claim no church membership

and 52% are reported to be non-Lutheran. Congregations with early childhood centers have been given the opportunity to exercise God-given responsibility to provide positive first-hand experiences that by the power of the Holy Spirit nurture the faith of children and their families. The question ought not to be one of "who serves whom?"; rather it is one of "how best to unite in mission and purpose."

A needs assessment study of Lutheran Church Missouri Synod early childhood programs conducted in 1995 revealed that nearly 80% of Lutheran Church Missouri Synod early childhood programs are to operate as a ministry of the congregation (Hall and Bushing, 1995). However, when put into practice, the study found that among early childhood centers' needs, the need for strengthening the relationship between congregation and early childhood program ranked highest.

The most recent Lutheran School Statistics report indicates that early childhood centers receive 12% of their income from the congregation; however, a number of centers receive 0% support from the congregation, and many are charged with paying rent, utilities, or the mortgage on the building and property. Tuition represents 81% of financial support, with income from other sources coming to 7% of the total budget (Lutheran statistics 2006-07). This reliance on tuition to support the operational budget often limits the types of groups served by Lutheran Church Missouri Synod early childhood centers, and has implications for staff salaries and benefits, staff professional development, and ultimately the quality of care and education of young children.

For the future of Lutheran Early Childhood Centers: *"This is not a time to isolate ourselves from the world or to conform to the world. Rather it is a time to set ourselves apart---being people who wholeheartedly proclaim Christ as Savior" (Christian, J; Bergman, M. 2008, p. 8-18).*

Community Research and Assessment

A task force member's knowledge of the Centerville City/Central County *Vision 2030/Community of the Future Initiative* (pseudonym) recognized that daycare needs in the community were cited as a most important area. Through this affiliation/communication, other area leaders working on this issue were contacted. A city- and county-wide group formed to review current needs across the community. Again, this was further reflective of Roger Kaufman's mega view that societal implications must be considered. A representative of Head Start shared the most recent community assessment.

Community Assessment 2017-2018 (Head Start):

The population of Central County as of 2015 was 58,229. The number of available children identified as eligible for childcare centers as of 2015 was 2,821. The number of children eligible (in Central County) and not served by Head Start or other early childcare programs are shown as 1,468.

Community Assessment 2017 2018 (Head Start) Excerpts:

Central County covers 684.97 square miles. The land area covers 681.03 square miles. The water area covers 3.94 square miles. There were 68.7 persons per square mile according to 2000 census data versus 82.3 persons per square mile according to the 2010 census data. It is located on the west-central margin of East Tennessee. It is part of the Central Plateau Province. Its total area makes it the largest county in

this division of the State of Tennessee. This area is known for having several solutional karstic valleys, known as coves, These, for the most part, are completely surrounded by their higher and more rugged terrain. All of the coves are large sinkholes or karst valleys. Grassy Cove is considered the largest karst valley in North America and one of the more interesting ones in the world.

The population of Central County as of 2015 was 58,229. The number of available children identified as eligible for childcare centers as of 2015 was 2,821. The number of children eligible (in Central County) and not served by Head Start or other early childcare programs are shown as 1,468.

Of the 253 parents who responded to the survey, work schedules are shown as: Days, M-F, varies from 7 AM to 5 PM; Online, M-F varies; M-F 8 AM to 3 PM. The City/County-wide group investigating child care needs has also identified shift work at several area plants that cause a situation of employment eligible women who cannot find child care that meets the need for 2nd and 3rd shifts. Medical workers also often need to start work early, creating a potential childcare gap.

Other statistics: Central County 2014 marriage rate was 6.4%; divorce rate was 4.9%. Per capita income in 2014 was $33, 039; 2015 unemployment rate 7.2%. Central County population enrolled in SNAP (supplemental nutrition assistance program) in 2015 18.9%; TennCare 22.2%.

These statistics indicated the level of income and the social condition of the area at the time of the report. The Head Start assessment also covered the situation in the local community with consideration of the daycare facilities in public schools.

Organizational Research

Both nonprofit and corporate organizations can be affected by intangible assets. Many church members were not aware of the daycare's positive reputation in the local community. Based on Dr. Sam's work with the Vision 2030 Initiative, she had heard several citizens speak about the daycare. These citizens noted that they were more familiar with the daycare than with the church. This provided goodwill in the community. According to Kurt (2014), goodwill can have a positive impact since "sometimes a company's most valuable assets are things that are impossible to touch or see" (para. 1).

Another consideration was the positive impact that a spiritual atmosphere can have on an organization and society, as a whole. This factor may be found to assist future business and society, as well. In *A Whole New Mind*, Daniel Pink (2005) discussed the findings of Ian Mitroff and Elizabeth Denton in their study "*A Spiritual Audit of Corporate America"*. He said that Mitroff and Denton "interviewed nearly 100 executives about spirituality in the workplace" (Pink, 2005, p. 314). They found that executives defined spirituality as "the basic desire to find purpose and meaning in one's life" (p. 314). According to Pink, "Mitroff and Denton…found companies that acknowledged spiritual values and aligned them with company goals outperformed those that did not" (2015, p. 315). According to Mitroff and Denton, "Spirituality is its own fuel. It provides the abiding hope, boundless energy, and enthusiasm needed to surmount all the obstacles that always lie in its path" (1998, p. 181). This study is further evidence of the value of a spiritual education for children who will be in the future workplace.

TIMELINE AND RESULTS PHASE II

In February of 2017, the task force reported progress during a congregational meeting. The current mission of the church, "*Knowing + Sharing + Living in Christ*" acknowledged that the daycare was still part of fulfilling that mission. The congregation prayed for the Lord's direction in these decisions. Children of all faiths were welcomed into the daycare.

Dr. Sams summarized the research that was completed. After discussion with the Lutheran Church Missouri Synod (LCMS) District Representative for Education, the team reviewed a competitive analysis. They also read that there was a positive impact for churches with associated daycares or schools. Council President Charlie Newburg completed a local competitive analysis of schools in the area. The Early Childhood Ministry Chairperson and Daycare Director met with Three Rivers Lutheran Church and reviewed their daycare operation. Several church members attended the "Reaching Your Rural Community for Christ" workshop. The research findings led to a conclusion that having a church-affiliated daycare or school could have a positive impact on the church's ministry. The team agreed to continue reviewing the financials.

The task force also reviewed policies and procedures. To answer some church members' questions, task force members verified that job descriptions existed for all daycare employees. A performance review process was in place. The Early Childhood Ministry Chair worked with the Mission Daycare director's performance review. The daycare director provided performance reviews for staff members. The task force confirmed that the director ensured compliance with state, federal, and local regulations, a very important aspect of her responsibilities.

Since the formation of the task force, positive trends were reported by the Board of Early Childhood Ministry:

- The 3-Star rating was reinstated.
- Enrollment increased from 34 (November 2016) to 42 (February 2017).
- Food program was reimbursed.
- 35% of budgeted raises were implemented.
- New positions were filled.

The task force identified the next steps as continued research, financial analysis, and observations. They agreed to review congregational questions and to continue listening to concerns. Since several church members voiced concerns about not being able to attend the February meeting, the task force agreed to plan an interim meeting (before the next scheduled congregational meeting). That special meeting was held in March and opened for questions. At that time, the task force requested time to keep the investigation going through the first quarter of the year so that a complete picture could be seen. Due to the increased enrollment, the task force recommended and the President announced the following:

"Originally, we as a congregation authorized $10,000 for the first three months of the year. It was felt that we would have to vote on possible additional funding at the end of the first quarter. Due to several favorable circumstances, increased enrollment, return of the 3-Star rating, and collection of some money from the food program, it is possible to postpone an actual vote on any additional funding at this time. Also, the task force has requested more time so that they would have a full quarter's information on which to report back to vote" (Newburg, 2017).

TIMELINE AND RESULTS PHASE III

The task force continued to meet, research, and analyze the data. In November 2017, task force members made recommendations to the Church Council. The Council agreed to the recommendations and presented them to the Congregation at the next meeting.

Dr. Sams (November 2017) provided the historical context, reviewed task force research, and provided observations and recommendations. She presented the following information to the congregation:

- Background, History, Commitment
  - Early Childhood Ministry founded in 2000
  - Church re-committed to ministry in 2006
    - Building and maintenance, financial record-keeping, utilities, oversight, financial support
    - Spiritual guidance, pastoral leadership, musical enhancement, volunteers, curriculum, fundraising
  - Mission Lutheran Daycare operates under Mission Lutheran Church 501-c3.
    - A nonprofit operations plan was created.
- Task Force Research
  - Interviews/Discussions
    - Task force interviewed and listened to those who are involved with Mission Daycare ministry.
    - Congregation member questions reviewed with Early Childhood Ministry and/or Director.
    - Successful resolutions were reached in all cases.
    - External expertise sought. Discussion with other early childhood operations.
  - Observations/Operations Review:
    - Task force members spent time observing Mission Daycare operations, reviewing documentation and regulations.
    - Director and staff daily responsibilities require professionalism, flexibility, and attention to regulations.
    - Director was forthcoming with information.
  - Lutheran Church Missouri Synod (LCMS) Mid-South District Executive for Education and Pre-schools
    - Offered competitive analyses.
    - Offered some research on positive impact for Lutheran churches with daycare/schools.
  - Local Daycare Research
    - Head Start shared information. (1.468 children are not served.)
    - Early Childhood Ministry Chair and Mission Lutheran Church Daycare Director visited and observed another school's operation.
  - Each task force member added perspective:
    - **Finance:** Considerations for overhead costs (Part of 2006 agreement).
    - **Early Childhood Ministry:** Offers oversight, works with director, manages food inventory; holds fundraisers.

        - Finance and Early Childhood Ministry work together with appropriate separation of duties, "checks and balances" to ensure finances are reviewed regularly.
        - **Growth:** Mission Lutheran Church Daycare is a recognized ministry that creates goodwill in the community. Mission Daycare is regarded by many as the "best daycare".
        - **Stewardship:** Allocates funds according to Mission Lutheran Church Ministry/Mission objectives.
    - Boards and Members
        - **Property:** Maintains facility.
        - **Members:** Volunteer by reading to children.
        - Staff support
    - Task Force Workshop Attendance (Community interest)
        - *Reaching Your Rural Community for Christ*
        - *Each One, Reach One*
        - Workshops indicated desire to reach children and families for Christ rather than an emphasis on church membership
- Synod View
    - "God has given LCMS [Lutheran Church Missouri Synod] Congregations and early childhood programs an unprecedented opportunity to nurture and shape children and their families for services to His kingdom, by introducing Jesus to children at an early age" (Christian, J; Bergman, M., 2008, pp. 8-18).

At the conclusion of the presentation, Dr. Sams reiterated the task force's conclusion that those who had been giving the responsibilities were properly managing and monitoring operations. She asked congregation members to consider God's blessings on the church and board members. She also requested church members to trust the board members and the daycare director to fulfill their responsibilities in functional areas.

SOLUTIONS AND RECOMMENDATIONS

Implementation

The task force determined that daycare operation could remain viable with a level of nonprofit support.

The Early Childhood Ministry (ECM) Board implemented strategy and guidelines for daycare operation. Gary Burnstone worked with the daycare director on financials. The church agreed to provide support where necessary.

CONCLUSION

Task force findings were that Mission Lutheran Church Daycare (with oversight by the Board of Early Childhood Ministry) was being administered properly in regard to scheduling, regulations, and overall operations. Challenges faced in the Fall of 2016 (lower enrollment, loss of 3-Star Rating, and backlog

of federal fund receipts) had been resolved. The Center now had full enrollment, recovery of the 3-Star Rating, and had collected federal funds due.

The Finance Board also had appropriate checks and balances to ensure that proper accounting standards were followed for a nonprofit organization.

Task force members found that Mission Lutheran Church Daycare continued to be a valuable ministry that added goodwill to the church. The report noted that goodwill can have a potential impact on financial statements (Kurt, 2014). They conveyed their findings to the church council. Appropriate board members were asked to review their respective areas and determine recommendations to honor commitments to this early childhood ministry.

Congregation members were asked to consider God's blessings on the church and trust board members, as well as the director to fulfill responsibilities according to their functional areas.

Operations should continue to be reviewed on a periodic basis. This will ensure that the situation remains manageable.

Outcomes

The task force determined:

- Daycare was valuable to the community.
- Daycare could remain viable with agreed level of support.
- Enrollment numbers were important to success.
- Periods of lower enrollment required a plan.
- Changes in the external environment should be identified as risks.

Evaluate Approach

Throughout the process, Dr. Sams emphasized the need to keep a positive outlook and approach the daycare sustainability project with a sense of Appreciative Inquiry (focus on the positive aspects of the situation) and Positive Psychology (present the facts with appropriate words to highlight the good aspects) to work toward a successful outcome. The task force did present all of the facts, but often the verbiage used can make a difference. By applying the Ten Standards of Performance Improvement, the task force focused on results, presented recommendations, and later evaluated the impact.

Follow Up

Approximately three years (2019) after the Church Council recommended that task force findings were adopted to the general church voting membership, Dr. Sams interviewed the Early Childhood Ministry Council Chair, Gary Burnstone (Personal communication, July 1, 2019). Following are questions from the interview, followed by Mr. Burnstone's remarks:

1. How do you think having the task force take a systematic approach helped the congregation understand the benefits of "looking beyond the numbers" when evaluating daycare viability?
2. Please describe the importance of having a cross-functional team when reviewing the service and financial benefits and challenges of a church-based daycare.

3. What do you think was important about reviewing the "big picture" in relationship to the church and daycare rather than focusing on one problem?
4. What would you have liked to see in addition to the work completed by the task force?
5. What advances have taken place since the congregation supported the task force recommendations.
6. How can taking an approach that includes looking at facts, positive aspects of the organization, and taking intangible benefits into consideration continue to help the organization in the future?
7. Please share any additional observations with the process and teamwork that can help the organization(s) (church/daycare) in the future.

Since Mr. Burnstone was an integral member of the original task force, he reflected on the project presentations. He also shared activities that were implemented and the current state of the daycare.

First, he mentioned that only a few church members voiced concerns during the initial task force meetings. By sitting with them during congregational meetings, Mr. Burnstone was able to address concerns personally, and he thought this was helpful in changing perspectives. This was another way that appreciative inquiry and positive psychology were applied to the situation. He felt that recognizing those who had strong positions and giving them the opportunity to present were important steps in the process.

Mr. Burnstone reiterated that "relationships matter", and that hearing all concerns along with positive feedback in an open forum was vital to finding possible solutions. He commented that explaining the daycare as a ministry of the church had never been done at the corporate level (explaining multiple perspectives and overall operations).

This project provided an opportunity to look at the big picture. Concerns were aired and addressed in an open forum. Mr. Burnstone noted that everyone seemed to be able to see outside of the box when brainstorming possible solutions. Having a solution-neutral approach was important to the success of the process.

It was also helpful to have someone who offered the community perspective (dual role of Stewardship Chair and Vision 2030 (pseudonym) Community Initiative Steering Committee Chair. The Vision 2030 Community Initiative was a community project that involves three city governments, the local chamber of commerce, and a cross-section of community leaders.) Having a church member closely involved with this initiative enabled exploration of local resources and reports. Knowing that the community had a great need for quality childcare facilities was a driving force in this project. Although the church task force recommendations could not completely solve the community's challenges in daycare, the church daycare could definitely be part of the solution.

Mr. Burnstone mentioned that having a cross-functional team provided a broader perspective, avoided bias, and recognized future opportunity. Realization of the overall community perspective was beneficial in looking at the situation in a more global manner. He said, "If you have the best facility in town, but not what they (the people) want, no one will care. It is important to look at what is needed in the community." The church needed to look at this as a ministry and outreach. According to Burnstone, "We knew we had a waiting list, but did not know how that translated into community needs" (Personal communication, July 1, 2019).

Dr. Sams and Mr. Burnstone also discussed the political implications of the community situation. The state offered free childcare, and this impacted enrollment at the private daycare (contributing to the root cause of the problem). Offering free services often takes away from incentive. It is better to "teach people to fish" (Burnstone, personal communication, July1, 2019). This also falls in line with a *Bridges*

Out of Poverty (Payne, DeVol, Smith, 2009) program, where Dr. Sams learned the value of programs that provide incentive to move out of poverty rather than discouraging people from moving forward.

Following recommendations from the task force, the Early Childhood Ministry team reallocated space to accommodate more toddler care and a potential after-school program. This would provide a way for children to receive care after normal school hours. The daycare director and Early Childhood Ministry Chair began "scenario-testing" to stress-test enrollment numbers, meant to bring the conversation closer to actual operations' situations. They considered the implications of changing the numbers. For example, there is a state mandated student/teacher ratio. How many teachers would be required for a higher student enrollment? Building the model would help evaluate the capacity sooner and properly fund the effort.

Evaluate Results

After the task force made recommendations to the church council and congregation, they met again to discuss results. They realized that looking at the overall situation, reviewing external factors, assessing the situation without bias, avoiding emotion when reviewing facts, and presenting clear information to the membership were essential factors for success.

During the interview with Mr. Burnstone (Personal communication, July 1, 2019), more intangible considerations were discussed. If the task force had chosen to complete the process differently, he felt that it may have been helpful to let people know in advance where "the task force planned or proposed to go." There may be a "fault when people don't tell or people don't ask." He mentioned that it is important to "be intentional. If you want people to know, you have to tell them…educate in advance. It is important to involve people in change management and increase understanding" (Burnstone, personal communication, July 1, 2019).

As of January 2020, the daycare facility has a capacity of seventy children, and fifty-eight students are enrolled. This was aligned with the Strategic Ministry Plan (Vision 2020) outlined by Mission Lutheran Church leaders in 2011. At that time, the vision for Mission Lutheran Church and Daycare stated: "The Vision of Mission Lutheran Church in Centerville, Tennessee, for the year 2020, is to be a strong, vibrant congregation, which proclaims God's saving grace through Jesus Christ to the people of Center County and surrounding areas. It is a service church with many outreach activities to aid the many seniors who live in the area as well as young families, other needy groups, and global ministries. The Mission Lutheran Church Daycare is known as the best in the upper central state area and one of the best in the state, serving over 60 children in a strong Christian environment" (Mission Lutheran Church, 2011).

The Early Childhood Ministry Board has several new members, including a teacher, former school principal and a Doctor of Education who has owned a daycare and understands grant-writing. This level of background, brainpower, and experience provides more knowledge for strategizing and analyzing available information.

The daycare director now reports to the congregation quarterly, increasing the church members' understanding and creating a closer relationship with the ministry.

Simultaneous growth in the congregation has enabled more sustained financial support. Fundraising has also contributed to this support.

There are many volunteer opportunities to read to the children, help with activities, and assist the staff when needed. This has also created a closer tie to the congregation. Those who are involved can see the value of this important community ministry.

According to Mr. Burnstone, having a "trusting, faith-based" organization is an essential element in the success of the daycare. Community factors, such as the "Readers Become Leaders" program instituted by the Director of Center County Schools, also play a role. Due to the Vision 2030 Community Initiative county-wide program, the daycare also proudly displays the importance of reading to children.

Future Considerations

When faced with analyzing opportunities in the workplace, follow a systemic and systematic approach. View the situation with results in mind. Review the overall situation (systemic view) for a more accurate assessment. Look beyond the surface. Research original intentions. Present accurate information to decision-makers. Apply an appreciative inquiry and performance improvement approach to future situations to determine the best solutions.

REFERENCES

Bergman, M. (2008). Issues in Christian Education. Volume 42, No. 1. Concordia University. Seward, Nebraska.

Chevalier, R. (2004, April). Evaluation: The Link Between Learning and Performance. *Performance Improvement*, *43*(4), 40–44. doi:10.1002/pfi.4140430410

Christian, J. (2008). The State of Early Childhood Education in the LCMS. Issues in Christian Education, 43(1).

Cooperrider, D., Whitney, D., & Stavros, J. (2003). *Appreciative Inquiry Handbook*. Bedford Heights, OH: Lakeshore Publishers.

Czikszentmihali, M. (1990). Flow: The Psychology of Spiritual Experience. New York, NY: Academic Press.

Czikszentmihali, M. (2003). *Good business: Leadership, Flow and the Making of Meaning*. New York, NY: Penguin Group.

Hoeber, R. (1986). Concordia Self-study Bible. New International Version. Concordia Publishing House.

International Society for Performance Improvement. (2019). *Get Certified page*. Retrieved from: https://www.ispi.org/ISPI/Get_Certified/ISPI/Credentials/Certification_and_Accreditation.aspx?hkey=cb14c09d-a1df-4eb5-926b-2c7988a43345

Kaufman, R. (2019). Community Vital Signs. *Performance Improvement Journal*, *58*(7).

Kurt, D. (2014). *How does goodwill affect financial statements?* Retrieved: https://www.investopedia.com/articles/investing/100914/how-does-goodwill-affect-financial-statements.asp

Mission Lutheran Church. (2011). *Mission Lutheran Church Strategic Plan*. Internal Communication.

Mission Lutheran Church. (2020). *Mission Lutheran Church website*. Author.

Mitroff, I., & Denton, E. (1999). *A Spiritual Audit of Corporate America*. San Francisco, CA: Jossey-Bass.

Moseley, J., & Dessinger, J. (2010). Handbook of Improving Performance in the Workplace: Volume 3: Measurement and Evaluation. International Society for Performance Improvement.

Payne, R., DeVol, P., & Smith, T. (2009). Bridges Out of Poverty: Strategies for Professionals and Communities. aHA Process, Inc.

Pershing, J. (2006). *Handbook of Human Performance Technology: Principles, Practices, Potential*. San Francisco, CA: International Society for Performance Improvement. Pfeiffer.

Pink, D. (2003). *A Whole New Mind*. New York: Penguin Group.

Sams. N. (2017). *Mission Lutheran Church presentation*. Academic Press.

Van Tiem, M. J., & Dessinger, J. (2012). Fundamentals of Performance Improvement (3rd ed.). International Society for Performance Improvement. John Wiley and Sons.

KEY TERMS AND DEFINITIONS

Appreciative Inquiry: An approach that reviews the positive aspects of a situation before considering a problem. Spurred by Cooperrider and Srivasta's 1987 article (Case Western Reserve University's Department of Organizational Behavior), this method encourages inquiry methods that generate ideas rather than focusing on problem-solving.

Flow: In modern psychology, flow represents an "ideal mental state" that allows free-flowing ideas and a sense of accomplishment. In 1990, Csikszentmihalyi suggested that seeking this "ideal mental state" would create better results.

Intervention: This term is used in many disciplines, including medicine, behavioral issues, military, etc. In the context of this chapter, the term applies to using a disciplined approach to review a situation to determine the best way to resolve it.

Synod: The synod is a church body assembled to review church matters of doctrine and to advise/govern/administer the denomination.

Three Star: A grant program in the State of Tennessee that assists communities in developing a better future. In conjunction with a Child Care Report Card and the Star Quality Program, licensed childcare agencies are evaluated annually and receive ratings of one, two, or three quality stars. This star rating determines state funding for allowed reimbursements at 5%, 15%, or 20% respectively, above the state's base rate.

APPENDIX: CASE STUDY QUESTIONS

1. What were the benefits for the Task Force's systematic approach when reviewing the non-profit daycare's operations?
2. Why was it important to assign a "cross-functional" team to the Task Force?
3. Why was it important to take a "systemic" (big picture) view of the situation before making recommendations?
4. How were elements of Appreciative Inquiry applied in the case?

Chapter 17
Root Solution:
Seeking the Right Answers in Management

George Limin Gu
Shanghai Management Improvement Consulting Co., Ltd., China

Hui Ding
Shanghai Management Improvement Consulting Co., Ltd., China

EXECUTIVE SUMMARY

There are three kinds of solutions to business problems: symptom solution, pattern solution, and root solution. Symptom is simply visible phenomena; they are not problems; therefore, symptom solution is only temporary, such as adding cold water to a boiled water. Pattern solution looks alright, but it is not sustainable, costly, and sometimes risky; therefore, it also won't help the business in the long run, such as adding cold water through a thin pipe to the same boiled water. Root solution is powerfully simple, because it dives to the bottom of the issue, such as turning the stove off. Obviously, businesses need to seek root solutions. For years, Company Q has been trying to seek the "right" answers to manage the company, but facts have always left them disappointed, until they found out that the GPS-IE® Management Improvement System is truly systematic, logic- and result-driven, and sustainable.

ORGANIZATIONAL BACKGROUND

Company Q is a leading manufacturer in the construction industry in China. The company was founded in 1999 and grew very fast due to the real estate development during that time. Between 1999 and 2010, China's Gross Domestic Product (GDP) enjoyed fast growth with an amazing annual average of 10.11%. And among all the economic miracles, real estate played an important role – it was widely considered one of the pillars of the national economy.

In 2008, the financial crisis impacted worldwide, and China was no exception. The central government implemented a huge economic stimulus plan which saved the economy. Its major lever was to inject huge cash reserve and adjust economic policies. Due to the overall stimulus package, the national economy bounced back and remained healthy; the company's growth rate continued.

DOI: 10.4018/978-1-7998-3673-5.ch017

In 2010, ten years after it was founded, the company went public at the Shanghai Stock Exchange, which is the biggest and considered a barometer of China's economy. Between 2010-2014, with extra investment from the public, especially with the growth of real estate industry, the company continued to thrive. During these five years, its sales enjoyed a steady increase of USD33 million per year, and net profit annual growth rate was 14%. It is obvious that the company's growth was mainly attributed to China's booming economy.

SETTING THE STAGE

However, in 2014, under the new administration's policy, the real estate industry cooled down. Housing prices started to fluctuate, and people were not certain where the trend would end. GDP growth rate in 2011 dropped to 9.5%, and in 2012 it decreased to 7.9%. The economic slowdown continued, between 2013 and 2014, GDP growth rate slowed down to 7.77% and 7.30%. Real estate industry growth also declined from 5.4% in 2011 to 1.2% in 2012. People started to buckle up because the economy would take a roller-coaster ride. The following table shows the China's GDP growth rate between 1998-2018.

Table 1. China's GDP growth rate, 1997-2018

Year	GDP Growth (%)	Annual Change
2018	6.60%	-0.16%
2017	6.76%	0.02%
2016	6.74%	-0.17%
2015	6.91%	-0.39%
2014	7.30%	-0.47%
2013	7.77%	-0.09%
2012	7.86%	-1.69%
2011	9.55%	-1.09%
2010	10.64%	1.24%
2009	9.40%	-0.25%
2008	9.65%	-4.58%
2007	14.23%	1.51%
2006	12.72%	1.32%
2005	11.40%	1.28%
2004	10.11%	0.08%
2003	10.04%	0.91%
2002	9.13%	0.79%
2001	8.34%	-0.15%
2000	8.49%	0.82%
1999	7.67%	-0.17%
1998	7.84%	-1.39%

Source: Wikipedia.org (Historical GDP of China, 2019)

It was in 2014 that the company started to feel the chill. Even though sales figures continued to soar; they were not confident whether the steady growth would last. The deep worry from top management was that, with the downturn of the national economy and real estate, market demand would shrink, and the company would lose high growth thus the company's investor's confidence would shake.

With all the lessons they have learned during the past 15 years, the company decided to turn to "smarter" and pragmatic management methodologies for solutions. This decision meant that their fast and wild growth during the past 15 years must transform to a more logical and systematic fashion. In the past, rapid growth relied upon business opportunities that almost "fell into their laps," heavy investment and costs, and the sacrifices of employees. Top management understood those risks and decided to seek more sustainable solution to continue the growth.

It was either serendipitous or destiny, the Company Q met Improvement Consulting, or IC, an innovative management consulting firm that independently owns intellectual property rights for their own findings. After several rounds of communication, the top management of Company Q was convinced that Improvement Consulting's methodology is what they have been looking for because it is logical, systematic, result-driven and sustainable. Therefore, they decided to pilot with their sales department. Mr. R, is the head of the Sales Department of the pilot city, City T Branch.

GPS-IE® MANAGEMENT IMPROVEMENT SYSTEM INTRODUCTION

The innovative management methodology was developed by the two co-founders of IC. It is called GPS-IE® Management Improvement System, or the GPS-IE® Management Theory. The two co-founders met in 2009, soon they decided to work together to create a more realistic and truly systematic way of gaining results for business clients. They combined their respective learning and experimentation in the past and co-created the model in the summer of 2011 in Shanghai. Since then, GPS-IE® has been applied to many organizations. The methodology's characteristics of being logical, systematic, result-driven, and sustainable have been verified. In 2014, both founders brought GPS-IE® methodology to the U.S. and debuted it at the annual conference of International Society for Performance Improvement (ISPI). Since then, GPS-IE® system has received wide recognition from experts and practitioners from U.S., Canada, Europe, Korea, Africa, and Taiwan, etc. Since then the model has been presented at various conferences such as the International Society for Performance Improvement (ISPI) and Association for Talent Development (ATD), let alone hundreds of domestic conferences, seminars, etc.

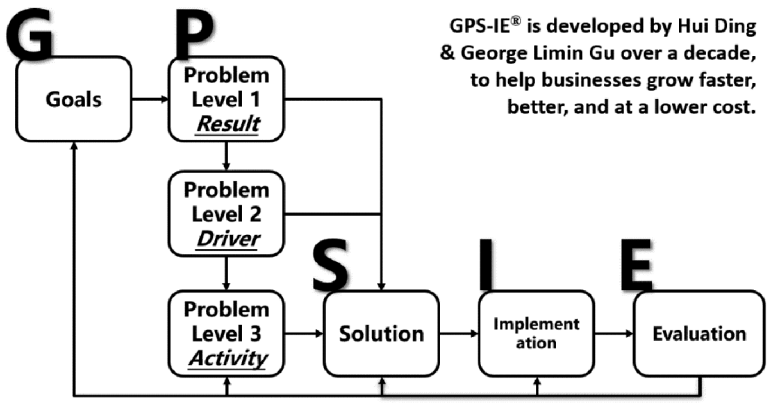
Goal

In the performance improvement process, departments or job holders in organization must reach strategic consensus by establishing long term, integrated and consistent direction through the strategic perspective of organization. This is the condition before departments or job holders to improve.

Problem

Each department must clarify its own problems when strategic goals are made. The problems include result (Level 1), driver (level 2), and activity (level 3) which cascade from top to bottom while each Level closely connected and support each other.

Figure 1. GPS-IE® management improvement system
GPS-IE® is acronym of five letters in which G (goals) is for goal clarification, P (problem) for critical problem identification, S (solution) for solution design, I (implementation) for implementation and E (evaluation) for result evaluation.



Solution

When the problem is clarified and measured, each department must screen out its own critical problem to identify causes with best possible solutions. If the pilot run of solution has been successful, solution can be mass replicated and proliferated.

Implementation

Solutions must be translated into workable, logical steps which will be further optimized through implementation, supervision and continuous review before process, standards or best practices can be compiled to elicit wisdom of organization.

Evaluation

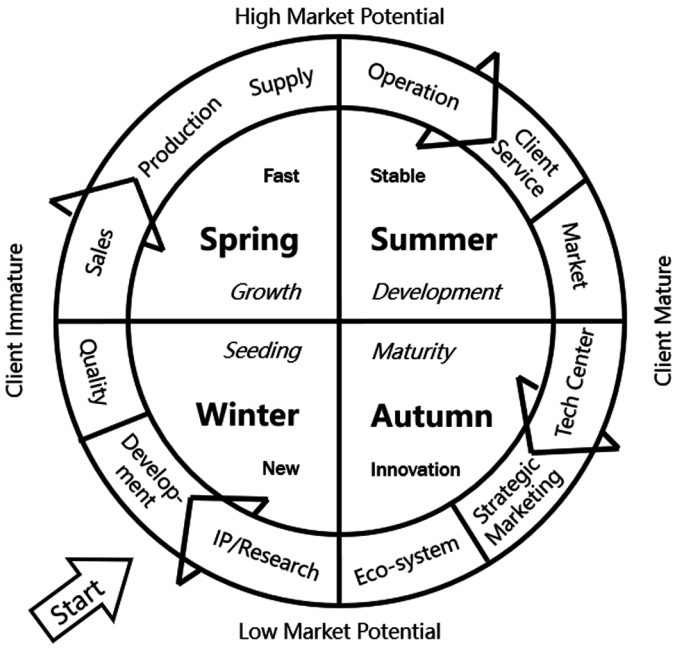
Evaluation must be done at organization, team and individual levels during implementation. The purpose is not only for performance review but also for continuous improvement. Evaluation includes process and result evaluation.

THE BUSINESS LIFECYCLE

In order to manage a business well, one must first be familiar with how a business grows. It can be depicted on 2*2 matrix with “client maturity” on X- axis and “market potential” on Y-axis. (Figure 2)

- **Seeding Stage (Winter):** New market small and clients immature
- **Growth Stage (Spring):** New market big and clients immature
- **Development Stage (Summer):** New market big and clients mature
- **Mature Stage (Autumn):** New market small and clients mature

Figure 2. Business lifecycle



Seeding Stage: IP Driven

A start-up business is featured by novelty, so everything is new, such as new technology, new products, new models, new markets, etc. The new business is destined a challenging journey ahead as it has little precedential experience or data as reference, so everything must start from scratch. A new business is like a seed under the thick winter snow, barren on the surface, but potentially may bloom in the coming spring. At this stage, there are no clients in sight, no supply chains, and future is only a word of concept. But there is still hope, and that is its own ideas or invention. If someone invests at this stage, they are called angel investors.

Growth Stage: Sales Driven

The growth stage of business is spring when temperature has increased, and everything is recovering. At this stage the signal of market demand can be captured, and new market is expanding fast so rivals begin to follow as they have also found the business opportunity. The feature of this stage is quick, i.e., quick to expand, quick in market demand change, quick in competitor's response, quick in policy adjustment and quick growth of staff. As business has entered flourishing period, the spirit of team is high. At this stage, the key is to launch full-scale sales effort to obtain a stronghold in the very promising market and establish mental recognition among clients.

Development Stage: Operation Driven

Now summer of business has come. Plants can grow quick and strong in the sunshine and water drops, but natural disasters and risks such as tornado, landslide, flood, storm or scotching sunlight are also frequent visitors in summer. At this stage, business can develop as the market is expanding and clients are more matured who may have rational knowledge of the business. The entry level of the business has been lifted as more and more organizations have to contemplate how to survive in the challenges from old clients. The core of this stage is the internal organizational capability including efficiency to cope with potential risks of any kind.

Maturity Stage: Technology Driven

The harvest season is autumn when crops are collected from farmland. Autumn is so important that sufficient storage have to be prepared for coming winter. Business at this stage will face the new challenges when market potential is not that attractive anymore and clients have grown very familiar with almost every move you make. The theme of this period is innovation from within its own mother ship, to foster new ideas and even incubate them. Such as innovation in technology, products, business models, mechanism, etc. Businesses at this stage must be driven by innovation to start a new cycle, because the goal of almost any business is to establish a self-sufficient biological system of its own. Many business cycle models end with stage called bottleneck, withering, plateau, or even end stage. But according to GPS-IE®, almost all successful business ventures end up expanding to build their own biological system, large or small, by incubating smaller venture upstream or/and downstream, or even encouraging members of organization to start their own effort. Businesses do that because at this stage, they can gather and utilizing resources; and it is also natural to beget smaller similar ventures of the same gene family. Only in that way, could business be not only bigger, but stronger, and even sometimes “too big to fail.”

THREE MODELS OF BUSINESS PROFIT

Price Difference Model: Sales Driven, Mostly Happen in Spring

Most traditional transaction business uses this business model to make profit by buying low and selling high. The core of the model is transaction, namely, time, space, and information differences. The advantage of the model is it can be scalable. The disadvantage of the model is that it is so simple, therefore entry barrier is low. It is almost a human instinct to buy low and sell high for profit. Many rivals can participate thus a price war is inevitable. The business potential of this model may look big, but the risk is also high, and margin will be forced to shrink due to competing price, high account receivable, stock and price fluctuation, etc.

Service Fee Model: Service Driven, Mostly Happen in Summer

Organization makes profits by providing service which can also cover the price difference of original products. When price difference model cannot sustain, organizations may consider transformation to provide more service. For example, system integration vendors may consider information technology

(IT) service, furniture vendors may provide design service while large equipment suppliers may extend to post sales service. The transformation may look good; however, the process is challenging. As heavy investment is needed, and short-term return cannot be seen in near future. The service model cannot work for the sake of service; instead it has two purposes to satisfy: the organization must prepare to upgrade service model in the future and collect data arisen during the service. The efforts on these two aspects will pave the way for platform model.

Platform Model: Technology Driven, Mostly Happen in Autumn

This model tends to exploit the current resources to make derivative profits. Platform can be used for selling their own products or new products or exchange resources to gain value. The rapid growth of the internet has motivated many organizations to shift business online. Even though many of them are still in the stage of price difference (spring), they have a dream to build up platforms. Platform is a warrior's game featured by winners taking all, so only very few players can survive. Most participants have two choices ahead: either becoming Number 1 or disappearing, because Number 2 can hardly survive on the internet. The process to build platform is a fierce competition. Participant can hardly finish the last mile in the race without the committed vision, abundant resources, persistent character and sound quality.

In the future no matter the organization buys others or being merged by others, logical-and algorithm-driven business data will be more valuable than ever before. No matter which track or competing field investors choose, the investment logic is logical business data.

DRIVING FORCES BEHIND BUSINESS STRATEGY

Business strategy must be driven and delivered by functional departments. However, at different stages, these driving departments changes. If driving forces cannot be correctly identified, business may hardly move fast.

- At seeding stage (winter), the main driver is business opportunity, therefore business development must conduct market survey, attend industry forum and benchmark rival organizations to collect information and identify new business opportunities.
- The startup stage (spring) is featured by high market potential and immature clients, sales department must play the key role by finding new client. At this stage R&D department has to support sales department to develop new client and encourage more purchase. Sales department is the main driving force at this stage.
- With the development of business and more clients are attracted, organization has come into development stage (summer). The organization must increase internal operation capability to retain old clients and attract new clients. The main driving forces are operational capability and individual ability, which in all is organizational capability. To uplift operation capability can not only improve client satisfaction but also prevent business risks.
- At maturity stage (autumn), we need to think what is the reason behind client's repeated purchase? Is it because of their good relationship with sales department? Better service? Or is it because of better products developed by R&D department? The answer is more related to R&D department. Now clients expect more on products expanded and upgraded value than before. The driving force

at this stage is the R&D department. Therefore, sales department must position R&D department as internal client. The focus has to change from market development function to client service and consultant function, namely from developing client, visiting client and making the first order in the startup stage to collecting information of client demands, competitor movement, identifying new business and product opportunity. The purpose is to assist R&D department for better products to encourage repeated purchase.

- Please see the following table for the four stages of business lifecycle. (Table 2)

Table 2. Business driving forces relationship chart

Stage	Metaphor	Driving Force	Business Profit Model	Critical Factor	Key Value
Seeding	Winter	Business opportunity	--	Agility	To collect market data
Startup	Spring	Sales	Price difference model	Flexibility	To accumulate client data
Development	Summer	Capability	Service fee model	Stability	To accumulate operations data
Mature	Autumn	Technology	Platform model	Innovation	To accumulate technology data

An example can be found in China's insurance industry which has experienced over 20-year rapid growth. At the beginning, insurance industry was like a blank sheet of paper, so everyone is in a hurry for client development. Business department must rely on cold calls or event sales to acquire clients. Today as most clients have already had their stable agency and service package, market space is much less than before. The result will be worse if old model is not changed. The driving force must be changed from sales department to product design department or service department. In other words, these driving departments become the operational focus of the entire organization. All resources must be adjusted or assembled to give them the full power to lead the entire organization to wade through troubled waters ahead.

Through workshops with Company Q and presenting them the logic behind the GPS-IE® methodology, top management figured out that they are in the late spring season, but need to quickly solidify their sales base (spring), and prepare to transition to the service fee and capability-driven development stage, which is summer. Therefore, Company Q decided to identify the three-level problems and plan all their future works around them.

LEVEL 1 PROBLEM

Focusing on Business Results

It is true that the speed of a train depends on its locomotive. However, this sentence only describes how traditional train runs. The traditional train is driven by locomotive which must rely on its own power to

drive all compartments behind it. In this case each compartment looks like a passive worker waiting to be pulled. That is why traditional train cannot run fast.

Comparatively the new high-speed train in China has upgraded its operation model so each compartment is equipped with its own power system. Under the guidance of the head car, the bullet train can run much faster, because each compartment is like a small self-powered train itself. Like traditional trains, many organizations' functional departments still work passively by waiting for orders from the top as they fail to install their own power systems.

How to design its own power system? Each department must start from analyzing its business target based on its function. When organization strategy is defined, problems must be analyzed. What is problem? Problems are not symptoms nor causes. Instead **problems are data deviation between current and expected situations**. Likewise, problems can be categorized by 3 levels, namely, Level 1, Level 2 and Level 3.

Level 1 Problem: Business results
Level 2 Problem: Drivers to realize results
Level 3 Problem: Activities to realize drivers

Problems mean quantitative gap which needs to be covered. Who will be responsible for narrowing the gap or solving three-level problems? Analysis will start from Level 1 performance problem. One point has to be clarified before analysis. Among 3-level problem system, who should be responsible for Level 1 performance problem? Some people believe that general manager or CEO should be responsible for Level 1 performance problem as it is pertained to overall organization. However, general manager or CEO should be responsible for overall strategy and values. As long as they clarify organization strategy, they will break down their responsibilities to departments below. So, department head should take the responsibility to deliver results. This is why in GPS-IE®, department head or functional leader should be responsible for Level 1 performance problem.

In other words, every level, every department, or every function has their own set of GPS-IE® systems. It is like the chaos theory that each smaller component reflects the pattern of its upper level. Based such a systematical resemblance, a new robust management and operational structure is born.

Underlying Principle: Everything is Business

The core of organization is how to motivate people to deliver results. *The Book of Changes* remarks, "Interests is the accumulation of righteousness." The interpretation is if every stakeholder of the organization works out of the shared vision, the organization can pursue long term interests. The organization must take this principle as guidelines to contemplate all relevant relationships inside or outside. To facilitate understanding, "Everything Is Business" will be employed to justify the meaning. Here "everything" means all relationships of labors and interests inside or outside the organization. No matter what department it is, they must establish a business relationship with the organization.

Outsourcing Perspective

Like a high-speed train, organizations expect all departments can work more proactively like a self-driven locomotive. It is sad to see that many departments are waiting passively for the instruction from top

management. If no instruction is received, there will likely be idling. No organization can tolerate such situation. But if organizations want each department to take responsibility, then "outsourcing thinking" is needed. Who needs us most? Will they continue to renew orders next year? Why they renew orders? And, most importantly, for what value am I paid?

"Outsourcing Thinking" means every department regards itself as an independent vendor or contractor from outside the organization. Traditionally, front-end departments are more likely to embrace such opinions due to their intrinsic nature of data-related business; however, back stage functions may find it hard to accept such an idea; such as, R&D department as a contracted research institute, manufacturing department as an outsourced factory, HR department as a HR outsourcing agency and finance department as a financial consultancy, etc. As long as each department embraces such mindset, the head has to report to the senior management what value the department can bring to the organization in logical and quantitative terms; otherwise the top management may consider to change to another vendor for the same service next year.

Therefore, every department must see themselves as an independent business, they must reply the following five questions. Please refer to the following table. (Table 3)

Table 3. Departmental outsourcing thinking questions

Questions	Explanation
1. Who is our client?	Who will pay for value we created?
2. What is our product?	What is the carrier of value that is independently delivered by our department or function?
3. What is the delivery standard?	What are the deliverables and standards of those results?
4. What is the gain for our team if result is satisfactory?	What is our benefit if delivered successfully?
5. What is our responsibilities if results are not satisfactory?	What are the consequences for delivery failure?

Define Each Department's Business

Through outsourcing, every department can be owner of business. Each department's strategic goals can be made after they have planned its business result in alignment with organization strategy. Each business department can have multiple business lines which can be separated by products, clients, territories and sales forms so different business lines can be different businesses. Likewise supporting departments can be separated by functions, say, HR department can have functions such as recruitment, training or performance review, so HR department may have three businesses.

Typical business of major departments can be summarized as below. (Table 4)

Level 1 Problem Description: Unifying the Management Language

Almost all businesses have a management language problem – that on a daily basis people communicate with each other using the same term but carrying different meanings and sometimes even very different meanings. An organization is an assembly of many lines of industry and occupations. Different depart-

Table 4. Typical departments' businesses redefined (partial)

Department	Functions	Client	Products	Deliverables
Sales Department	Key accounts	Finance department	Sales planning system	Sales turnover of qualified key accounts
	Sales channels	Finance department	Channel operation system	Sales turnover of qualified sales channels
Human Resources	Recruitment	Business department	New employee	Number of qualified new employee on board
	Training	Business department	Qualified staff	Number of qualified staff
	Performance review	Business department	Qualified staff	Number of qualified staff
Finance Department	Finance raising	Business unit or GM	Fund	Ability to raise funds at low interest rates
	Business accounting	Business unit or GM	Reports	The number of qualified reports
	Investments	GM	Programs	ROI of qualified programs
Marketing	Sales supports	Sales department	Potential clients	Number of potential clients
	Market management	GM	Qualified teams	Number of teams achieving sales target
Service	Maintenance	Manufacturing	Maintenance dispatch form	Number of qualified dispatch form
	Service management	GM	Potential problems or accidents	Total amount of quality failure cost
	Sales supporting	Sales department	New demands from the existing clients	New demands from the existing clients

ments and functions often use their own professional or technical jargons that are only fully understandable by people like themselves.

God made human speak different languages thus made The Tower of Babel still a dream today. Because each department or function speak their own set of languages, it creates such a communication mess. It results in no one can understand each other. Then the only thing left to do is to rely on a specific manager's own individual "experience" or "feelings" to manage. Then business operation becomes a gamble – the organization is putting all its employees' career and happiness into the hands of this manager, praying this manager will do the "right" thing. But what is the "right" thing in management? This question or phenomenon has perplexed the business world for decades.

Through experiments, it has been found out that, in business, **everything is algorithm, everything is business, and everything is logic**. To achieve organizational results, we must come back to the way how management should be done.

Now science tells us that everything in this universe can be expressed in a mathematical form. And will it be true in managing a business? Through decade-long experiment, the GPS-IE® model tends do

so. With abundance of detailed and systematical tools, it has helped many businesses in China survive and thrive. But first, let's start with level one problem.

The key to remember here is that Level 1 problem is the deliverables of that department/function. Every department has several Level 1 problems depends on the number of functions each department has. Each business has its own clients and products. In order to unify management language, a sentence in standard format to describe the problem is a must. The sentence contains subject, predicate, object and complement. First person will be the subject (accountable party), predicates is the action verb (task), object is a noun (boundary) and complement is deviation in quantity (gap or degree of measurement).

The example of Level 1 problem at the sales department of Company Q's subsidiary in City T, can be found in Table 5.

Table 5. Company Q's t city branch sales department's level 1 problem description

Subject	Predicate	Object	Complement
The sales department of T City Branch, Company Q	will increase	sales volume	from USD 6 million in 2015 to USD 9 million in 2016.

- **Subject**: Define problem owner and accountable party.
- **Predicate**: Define value proposition within the problem, e.g., verbs like increase, reduce, expand or improve.
- **Object**: Define time and boundary of problem.
- **Complement**: Define deviation gap and is composed of 2 quantifiers. The first quantifier describes the current value while the second one is the expected value.

LEVEL 2 PROBLEM

System Thinking

Systems thinking is a discipline for seeing wholes. It is a framework for seeing interrelationships rather than things, for seeing 'patterns of change' rather than static 'snapshots.;

In *The Fifth Discipline*, Peter Senge (1990) has remarked that people like to see the whole picture at jigsaw puzzle and such holistic picture can always delight people. As system scientist and senior lecturer at MIT Sloan School of Management, he applies system dynamics theory to organization learning. This is why he wrote *The Fifth Discipline*.

Driver Equation

Mathematical management and non-mathematical management discussed earlier alerts readers not to jump from goal to plan and budget due to insufficient consideration of logics in management. The consequence is that process management has been simplified as task management which can hardly promise

results. Non-quantified, non-related, uncontrollable and unstable working process and data can never help us succeed. Business drivers must be identified to interpret the transit from target and task. The mathematical formula that contains drivers is called "Driver Equation.".Driver equation links multiple drivers by the four fundamental arithmetic operations of addition, subtraction, multiplication and division. Therefore, the road to achieve success is depicted in a mathematical way.

How Driver Equation Reflects System Thinking?

Drivers and driver equation can help managers think through the perspective of system thinking so as to uplift the organization's performance. If an organization is compared to an automobile, the automobile has several key sub-systems, namely, steering system, motor system, braking system, suspension system, air-conditioning system, etc. Components and parts within each system are delicately combined to function. The same logic can also be applied to management. As each department has its own functional business target to achieve, elements must be found in formula to represent their systematic relationships.

Future Thinking is the Determining Force

The algorithm of formula has two types of thinking: forward thinking and backward thinking.

- Forward thinking (or development thinking) means identification of elements which can be used to achieve future result.
- Backward thinking (or statistical thinking) is merely a summary of what has been done.

For example: How to represent "average bank loan amount per client"?

- Equation 1 (forward thinking): average bank loan amount per client = total fund needed per client * loan application rate * contracting rate at this bank * pass rate after risk evaluation * rate of fund allocation
- Equation 2 (backward thinking): average bank loan amount per client = total loan amount / number of clients

In "Equation 2", total loan amount and total number of clients cannot get its data only after statistics is completed. In "Equation 1", client service department can advance its action on each driver so as to achieve the target, namely, total fund needed per client (client quality), loan application rate (attractiveness of product), cooperation rate at this bank (attractiveness of this bank), pass rate after risk evaluation (appropriateness of proposal), rate of fund allocation (implementation quality of the program). The result of average loan amount per client is achieved by these five drivers. Obviously, it is more meaningful for the client service department to work on "Equation 1" rather than "Equation 2."

Difference Between Drivers and Influencers

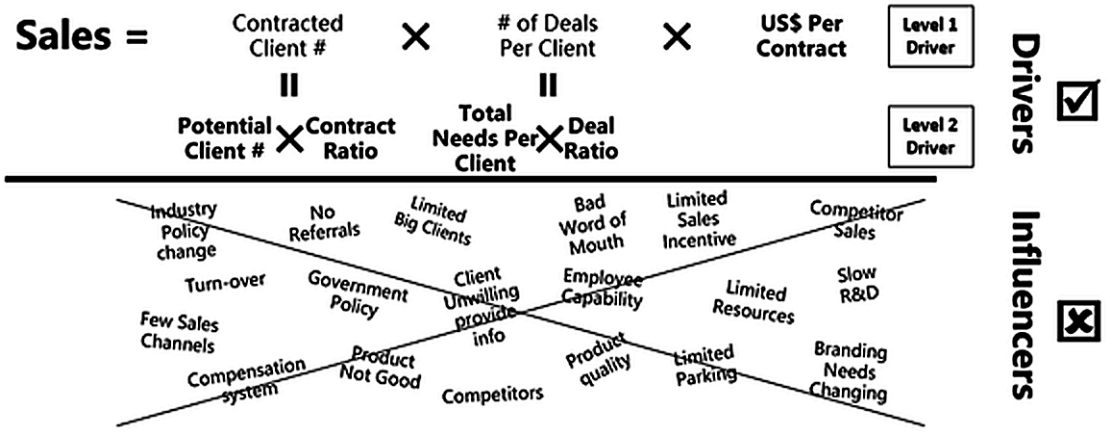
When the sales team in City T branch asked how to realize the target, they came up with the following reasons:

- Central government's strict control on real estate
- High staff turnover
- Few sales channels
- Little references/recommendations by existing clients
- Strong competitors
- Low brand recognition
- Low staff capability
- Long distance to downtown
- Old equipment
- Price reduction by competitors
- Slow new product development, etc.

In fact, all the above replies are influencers which cannot help resolving **ANY** problems. The only advantage of discussing such influencers are participants may feel better after finding so many proofs to justify their failures in achieving sales targets. The correct way is to discuss drivers instead of influencers.

Drivers in an equation means elements' logical combination based on forward thinking. Please see the following driver formula adopted by the City T Branch sales team. (Figure 3)

Figure 3. Driver equation of sales dept, city T branch of company Q



The Four Characteristics of Drivers: SCRM

Compared with influencers, drivers are featured by stable, controllable, result-driven and measurable. The acronym is SCRM.

Stable

Among the 4 level-2 drivers and 1 level 1 driver of the sales department, as long as its main business does not change, these drivers will NOT change over years. No matter who will be in charge, or what

educational background or working experience they may possess, these drivers prevail over time. Whether the new managers want to abide by the rule of the equation or not, it does not matter anymore, because this mathematical equation will always determine the outcome. No matter how much management or environment change, no matter how many staff change, drivers will still be there. In layman's terms, "people come and go, but drivers stay."

Controllable

The performance of drivers can be improved if sales team renders sufficient efforts. Once number of potential clients are listed in drivers, for example, all sales have to make a plan and strategy around number of potential clients so as to increase its targets. In other words, it is "your" problem, and your responsibility, and you are paid to act so.

Result-Driven

Once drivers are identified, the result will be reality in foreseeable future. As long as the three level 1 drivers like number of paying clients, average number of purchases per client, and average value per contract can be improved, the result will almost a guarantee. In business, there should not be such languages such as perhaps, probably, maybe, or it might, etc. Businesses have costs and most of them cannot bear any failure, large or small. Business is a promise. Every action should undoubtedly lead to net profit. "All roads lead to Rome". The less winding road to target, the better.

Measurable

Drivers are quantifiable but influencers are not, or some influencers even though have quantifiable data, but those data are meaningless. As quantifiable data must satisfy dimensions like consistency, activation and comparability at the same time. If drivers are decided, stability can ensure consistency, controllability can promise vitality, and result-driven logic can impact comparability. But influencers cannot have any impacts.

LEVEL 3 PROBLEM

Level 3 problem can be defined as the logical supporting activities to drivers. After expected value, current value and planned value have been defined on the five drivers, deviation among different drivers between current value and planned value can be found.

The reason for having Level 3 problem is that even though drivers can provide a clear road map to achieve target, there is still need to breakdown to actions. Level 3 problems are NOT approaches or tactics, even work plans. Instead, level 3 problem should be done before jumping into work plans and implementation. There are six steps to identify Level 3 problem. Please refer to Table 6.

The biggest deviation of Level 3 problem can be defined as key actions to solve Level 2 problem. Please note that these actions are actions that should be done, instead of any subjective judgements.

Table 6. Six steps to define level 3 problem

Step	Title	Description
Step 1	Level 2 problem description	Actual value lower than planned value in Level 2 problem
Step 2	Key words identification	Key nouns or verbs
Step 3	Nouns categorization	Four-dimension analysis, namely, client, product, time and space
Step 4	Verbs decomposition	Actions with result orientation, logic relationships
Step 5	Historical data validation	Historical value measurement
Step 6	Describe Level 3 problem	Identify actions which have big improvement space or low historical value

Here are the five steps of Level 3 analysis by Mr. R and his team. It shows the five steps to obtain potential client. The purpose is to increase the "Number of Potential Client" in level 2 driver equation.

1. Collect client information → 2. Promote to inform client → 3. Effectively contact client → 4. Gain client consent → 5. Register client.

The following table is an example of the Level 3 problem – how number of potential clients can be improved. Please see the following chart about the number of potential clients achieved by all employees. (Table 7).

Table 7. Level 3 problem example of a sales team, at city T branch, company Q

Tool R5: Driver Name – Number of Potential Client							
Action		Result					
#	Description	Employee A	Employee B	Employee C	Employee D	Employee E	Total
A-1	Collect client information	30	20	35	30	30	**115**
A-2	Promote to inform client	25	16	30	25	25	**96**
A-3	Effectively contact client	20	10	25	23	22	**100**
A-4	Gain client consent	10	6	12	13	12	**43**
A-5	Register client	10	6	12	13	12	**43**
Manager Approval (signature):							
Director Approval (signature):							

SOLUTION

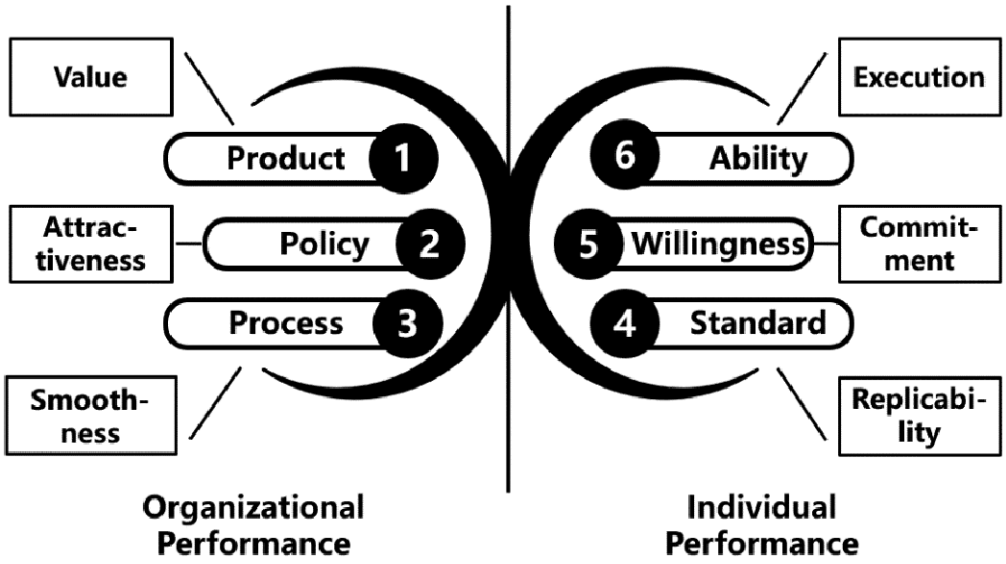
Six-Dimensional Tactics Portfolio

After Level 3 problems are identified, six-dimension tactics portfolio can help find long term and comprehensive solution. Please refer Table 8 and Figure 4.

Table 8. Six-dimension tactics portfolio

3W	Tactics	Definition	Value Proposition
Workplace	Product	Independent vehicle to create value	Value creation
	Policy	Stable promise to stakeholders	Attractiveness
Work	Process	Process to deliver value	Smoothness
	Standard	Best practice to deliver value	Replicability
Worker	Willingness	Commitment of stakeholders in value creation	Commitment
	Ability	Skill elements to create value	Execution

Figure 4. Six-dimension tactics portfolio



Individual Performance

The reinforcement of organization performance system can help improve individual performance while reduce its reliance on staff, client and vendors. Among six-dimension portfolio, value creation is the primary dimension which lies in the center surrounded by another five dimensions. Therefore, team members must reach consensus on value creation before discussing other five dimensions. If this core dimension is not set as preemptive condition in brainstorming, chaotic situation will frequently happen. As everyone will be eager to express their own ideas on policy, process, standards, or willingness through his own assumption of value creation.

Once approaches are identified, work plan should be set up for implementation. Please refer to the follow table of an excerpt of Monthly Work Plan to the sales team at City T Branch. (Table 9)

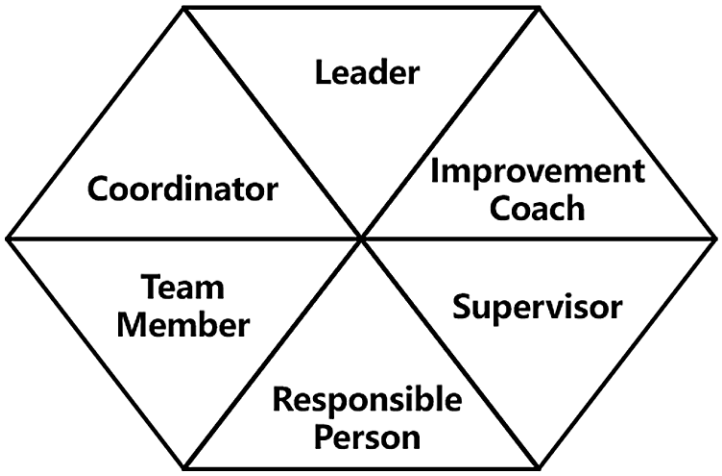
Table 9. Monthly work plan

Level 1	Leve 2	Current Value	Target Value	Level 3	Approach	Work Plan	Deliverable Definition	Accountability	Date	Budget	Status
The sales department of City T Branch, Company Q will increase sales volume from USD 6 million in 2014 to USD 9 million in 2015.	#1: Sales team will increase number of potential clients from 300 on Jan 1, 2016 to 400 on June 30, 2016.	300	400	A-2: Promote to inform client	#1: Individual effort	Cold call	200 New client confirmation	Employee C	March 30	$0	Green
						WeChat circle	100 new messages published,300 words min. each	Employee A	March 15	$0	Red
						WOM	100 new leads from old clients	Employee B	June 15	$0	Yellow
					#2: Industry alliance	Pro-actively seek collaboration	Gain 100 leads from other industries	Employee A	June 15	$0	Green
						Prepare for request of collaboration	Establish whole set collaboration materials	Employee D	April 15	$0	Greem
…	…	…	…	…	…	…	…	…	…	…	…

IMPLEMENTATION

After work plan is established, a management improvement team within each department should be set up. The management improvement team consists of six roles: leaders, coordinators, responsible person, team members, coach, and supervisor (Figure 5).

Figure 5. Roles in a management improvement team



Leader

A leader is also a sponsor, who is usually chairperson, general manager or vice president of a company. A leader shall participate in the discussion of the Level 1 problems (result) and reach a consensus to examine the process and results of the Level 2 problems. They should support the policy optimization and resource supply in the management reform.

Responsible Person

It generally refers to the person in charge of a department of an enterprise, who is responsible for level 2 and Level 3 problems identification and implementation. This role is also responsible for goal setting, rule design, promotion, and design and implementation of the reward and penalty system. **This role is the key** of the entire project team, like a traditional project.

Supervisor

A supervisor is generally the operations manager or employee from human resources department. A supervisor tracks and records process; collects, measures, and analyzes data; and reports results to business managers on a regular basis. At the same time, a supervisor supervises the implementation of the rewards and penalty system of the team.

Coordinator

A Coordinator is the responsible person of human resources, administrative or operation department. He or she coordinates personnel and record the development of management improvement during the whole project process.

Team Members

Team members are employees from various departments. They focus on the Level 2 and Level 3 problems, contribute experience and energy to participate in project discussions and analysis, and provide valuable advice. Only those who have work experience, innovation and insight on management is qualified to be a team member.

Improvement Coach

Improvement coach is usually an internally certified or external professional consultant. They are responsible for process design and seminar organization. They also participate in the institutional optimization process, supportive work of knowledge and skill training. An improvement coach shall not only obtain the technique of management improvement, but also the experience of multiple projects to grasp the methods and principles.

In short, these six roles must support and cooperate with each other among the actual management improvement projects to ensure smooth and sustainable implementation.

The entire Sales Dept of City T Branch set up the project team, of 50 people. And it lasted for the following 4 years during the project with limited turnover rate.

EVALUATION

Evaluation of Results: From Results to Actions

Everything is business. Timely evaluation of process and results is not only vital for reward and penalty system but also for performance improvement. From the beginning of this management improvement project, evaluation must be planned and designed. We can think about these questions: What is the strategic result to be achieved? What functional results are needed to support the strategic results? Who is responsible? What driving factors are necessary to achieve the functional results? How to measure and count these data? Which strategies are the best? What are the key actions? How to match these strategies to various problems? How to discover the relationship deviations? Only in this way, could evaluation be valuable. Evaluation is not an end, but a means towards an end.

Level 1 Problem: Evaluation on Results

The values any client expects are bigger, faster, better, cheaper. To deliver value, the results shall be client-oriented, and the evaluation shall be conducted in a quantified method. Please see the following table for evaluation of Level 1 Problem. (Table 10)

Table 10. Quantitative evaluation of level 1 problems

Attributes of Level 1 Problem	Evaluation Method	Evaluation Period	Evaluation Entity
Scale: bigger	Absolute value	year, month, week	Manager
Efficiency: faster	Time	year, month, week	Client
Quality: better	Ratio	year, month, week	Client
Cost: cheaper	Absolute value or ratio	year, month, week	Financial department

"Faster, better, cheaper" can be transformed into standards as the attributive of "more". Therefore, it is necessary to determine the adjective of "more" and the criteria of "faster, better, cheaper."

Level 2 Problem: Evaluation on Drivers

The most important characteristics of drivers are "SCRM". What does this have to do with evaluation?

- "S" is stable, which make it possible for data to be comparatively assessed. Such long-term comparison of evaluation cannot be conducted without stable data.
- "C" is controllable. It identifies the main body of the evaluation, the person in charge and the person to be evaluated.
- "R" is result-oriented. The result of drivers should be connected with the result of level 1 problems.
- "M" is measurable. All drivers should be measured and evaluated; influencers do not contribute to long-term results.

Level 1 problem evaluation is result evaluation, while level 2 problem is an assessment of drivers.

Level 3 Problem: Evaluation on Activities

There are two purposes of Level 3 problem evaluation, one is to evaluate to find out solutions for strategy adjustment of the next step. The second is to analyze the deviation between the performance and the standards in order to improve the capabilities of teams and employees.

RESULTS OF COMPANY Q

This chapter cites the City T Branch's sales department as an example. The result of this branch was phenomenal. Only over a quarter, sales volume increased 88%. This pilot resulted in a recurring contract between IC and Company Q for the following four years.

The following table depicts the average annual sales increase amount, between 2009-2014 and 2015-2018. Results show that with the guidance of GPS-IE® methodology, its average annual sales increase nearly doubled in the last four years than the previous six years. Please see the following chart. (Table 11)

Table 11. Company Q's average annual sales increase comparison table

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Annual Sales Increase	Without GPS-IE®, Average Annual Sales Increase was USD32.4 million						With GPS-IE®, Average Annual Sales Increased by USD63.4 million. Nearly doubled.			

SUMMARY

Through hundreds of experimenting performance improvement projects, it can be concluded that in business, everything is algorithm, everything is business, and everything is logic. Only when business management return to the truly systematical and mathematic way, could we find the objective "right" answers to business and achieve goals. People are important; but there is a precondition that business logic must be established before we attach great importance to people. We must jump out of the old paradigm of performance improvement and return to mathematics and logic for root solution.

REFERENCES

Ding, H., & Gu, L. (2017). *The Logic of Management*. Beijing, China: Publishing House of Electronics Industry.

Drucker, P. (1973). *Management*. New York: Harper & Row, Publishers.

Senge, P. M. (1990). *The Fifth Discipline*. New York: Doubleday Business.

Wikipedia.org. (2019). *Historical GDP of China*. Retrieved March 1, 2020. https://en.wikipedia.org/wiki/Historical_GDP_of_China

KEY TERMS AND DEFINITIONS

Approach: Different ways to solve discrepancies.

Cause: Measurable factors that lead to symptoms.

Driver Equation: A mathematical formula that all unalienable factors for result are organized for arithmetic operations.

GPS-IE®: A management methodology co-developed by Hui Ding and George Limin Gu (2017) who also co-founded Shanghai Management Improvement Consulting Co., Ltd. (brand: Improvement Consulting, or IC).

Level 1 Problem: BU-level, business strategy-oriented result discrepancies.

Level 2 Problem: BU-level, annual result-oriented driver discrepancies.

Level 3 Problem: BU-level, driver-oriented activity discrepancies.

Problem: Quantified discrepancies between current and expected situations.

Product: BU independently delivered carrier of value.

Result: Output of all plans and inputs.

Symptom: Visible phenomenon.

APPENDIX: CASE STUDY QUESTIONS

1. What are the four stages of a business cycle?
2. What are the definitions of “problem” and “product”?
3. What is the Level 1 business of training department? What deliverables do they offer?
4. What are the four characteristics of a driver?

Compilation of References

Abaci, S., & Pershing, J. A. (2017). Research and theory as necessary tools for organizational training and performance improvement practitioners. *TechTrends*, *61*(1), 19–25. doi:10.100711528-016-0123-7

Abernathy, W. B. (2009). Walden two revisited: Optimizing behavioral systems. *Journal of Organizational Behavior Management*, *29*(2), 175–192. doi:10.1080/01608060902874567

Adler, N. J., & Gundersen, A. (2008). *International Dimensions of Organizational Behavior* (5th ed.). Cengage Learning.

African Union. (2019). *Agenda2063*. Retrieved September 29, 2019 from https://au.int/en/documents/20141012/key-documents-agenda2063

Alleman, E., Cochran, J., Doverspike, J., & Newman, I. (1984). Enriching mentoring relationships. *The Personnel and Guidance Journal*, *62*(6), 329–332. doi:10.1111/j.2164-4918.1984.tb00217.x

Alonso, A., Baker, D. P., Holtzman, A., Day, R., King, H., Toomey, L., & Salas, E. (2006). Reducing medical error in the military health system: How can team training help? *Human Resource Management Review, 16*, 396-415, 396-415. doi:10.1016/j.hrmr.2006.05.006

Althaus, S. (1997). Computer mediated communicated in the university classroom: An experiment with online discussions. *Communication Education*, *46*(3), 158–174. doi:10.1080/03634529709379088

Amabile, T. M. (1997). Motivating creativity in organizations: On doing what you love and loving what you do. *California Management Review*, *40*(1), 39–58. doi:10.2307/41165921

American Marketing Association. (2019). Retrieved October 9, 2019, from https://www.ama.org/

Anderson, A. R., Dodd, S. D., & Jack, S. L. (2012). Entrepreneurship as connecting: Some implications for theorising and practice. *Management Decision*, *50*(5), 958–971. doi:10.1108/00251741211227708

Anderson, N., Potocnik, K., & Zhou, J. (2014). Innovation and Creativity in Organizations: A State-of-the-Science Review, Prospective Commentary, and Guiding Framework. *Journal of Management*, *40*(5), 1297–1333. doi:10.1177/0149206314527128

Anderson, R. J., & Adams, W. A. (2016). *Mastering leadership*. Hoboken, NJ: John Wiley & Sons.

Anderson, R. J., & Adams, W. A. (2019). *Scaling leadership*. Hoboken, NJ: John Wiley & Sons.

Andresen, M. (2009). Asynchronous discussion forums: Success factors, outcomes, assessments and limitations. *Journal of Educational Technology & Society*, *12*(1), 249-257.

Appelbaum, S. H., & Gallagher, J. (2000). The competitive advantage of organizational learning. *Journal of Workplace Learning*, *12*(2), 40–56. doi:10.1108/13665620010316000

Araiba, S. (2019). *Current Diversification of Behaviorism*. Perspectives on Behavior Science; doi:10.100740614-019-00207-0

Archer, S. (2017). UBS: There's about to be 'an inflection point' in the electric car market, and these 7 stocks could win big. *Business Insider*. Retrieved from https://www.businessinsider.com/7-stocks-set-to-take-off-in-the-electric-car-market-2017-6

Ariely, D. (2009). *Predictably irrational*. New York, NY: HarperCollins.

Aritua, B., Smith, N. J., & Bower, D. (2009). Construction client multi-projects - A complex adaptive systems perspective. *International Journal of Project Management*, *27*(1), 72–79. doi:10.1016/j.ijproman.2008.02.005

Atad, O. I., & Grant, A. M. (2020). How does coach training change coaches-in-training? Differential effects for novice vs. experienced 'skilled helpers.' *Coaching*, 1–17. doi:10.1080/17521882.2019.1707246

Austin, J. R. (1975). *How to do things with words* (2nd ed.). Boston, MA: Harvard University Press. doi:10.1093/acprof:oso/9780198245537.001.0001

Bailey, J., & Clegg, S. (2007). *International dimensions of organizational behavior*. Cengage Learning.

Bailyn, L. (2003). Academic careers and gender equity: Lessons learned from MIT 1. *Gender, Work and Organization*, *10*(2), 137–153. doi:10.1111/1468-0432.00008

Baker, R. (2019). The agency of the principal-agent relationship: An opportunity for HRD. *Advances in Developing Human Resources*, *21*(3), 303–318. doi:10.1177/1523422319851274

Ballenger, J. (2010). Women's Access to Higher Education Leadership: Cultural and Structural Barriers. Forum on Public Policy Online, 2010(5).

Banerjee-Batist, R., Reio, T. G. Jr, & Rocco, T. S. (2019). Mentoring functions and outcomes: An integrative literature review of sociocultural factors and individual differences. *Human Resource Development Review*, *18*(1), 114–162. doi:10.1177/1534484318810267

Bar-On, R. (2000). Emotional and social intelligence. Insights from the Emotional Quotient Inventory (EQ-i). In R. Bar-On & J. D. A. Parker (Eds.), *Handbook of emotional intelligence* (pp. 363–388). San Francisco, CA: Jossey-Bass.

Bar-On, R., Handley, R., & Fund, S. (2006). The impact of emotional intelligence on performance. In V. U. Druskat, F. Sala, & G. Mount (Eds.), *Linking emotional intelligence and performance at work* (pp. 3–19). Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.

Barrett, L. F. (2017). *How emotions are made: The secret life of the brain*. Boston: Houghton Mifflin Harcourt.

Bejan, A., & Lorente, S. (2004). The constructal law and the thermodynamics of flow systems with configuration. *International Journal of Heat and Mass Transfer*, *47*(14-16), 3203–3214. doi:10.1016/j.ijheatmasstransfer.2004.02.007

Belcher, D. (2019). Getting personal with learning. *Chief Learning Officer*, 32–33.

Berger, J. G. (2015, April). *Simple habits for complex times: Supporting leaders to thrive in complexity.* Webinar presentation for monthly Australasian ICF meeting.

Berger, J. G. (2019). *Unlocking leadership mindtraps*. Stanford, CA: Stanford University Press.

Berger, J. G., & Johnston, K. (2015). *Simple habits for complex times: Powerful practices for leaders*. Stanford, CA: Stanford University Press. doi:10.1002/ltl.20201

Bergman, M. (2008). Issues in Christian Education. Volume 42, No. 1. Concordia University. Seward, Nebraska.

Bergquist, W., & Mura, A. (2005). *10 themes and variations for postmodern leaders and their coaches*. Sacramento, CA: Pacific Soundings Press.

Bichelmeyer, B. A., & Horvitz, B. S. (2006). Comprehensive performance evaluation: Using logic models to develop a theory-based approach for evaluation of human performance technology interventions. In J. A. Pershing (Ed.), *Handbook of Human Performance Technology* (pp. 1165–1189). San Francisco, CA: Pfeiffer-Wiley & Sons, Inc.

Bierema, L. L., & Hill, J. R. (2005). Virtual mentoring and HRD. *Advances in Developing Human Resources*, *7*(4), 556–568. doi:10.1177/1523422305279688

Binder, C. (2006). *The six boxes™ model-invited tutorial* [PowerPoint presentation]. Retrieved from: obmnetwork.com/wp-content/uploads/2017/05/ABA2006_binder_sixboxes.pdf

Binder, C. (2009). *What is so new about the six boxes?* (Performance Thinking Network white paper). Retrieved from https://www.sixboxes.com/

Binder, C. (2015). *Optimizing human performance in processes with Six Boxes® performance thinking* [White paper]. Retrieved from https://www.sixboxes.com/_customelements/uploadedResources/145137_SixBoxesProcessManagementWhitePaper.pdf

Binder, C. (1998). The Six Boxes™: A Descendent of Gilbert's Behavioral Engineering Model. *Performance Improvement Journal*, *37*(6), 48–52. doi:10.1002/pfi.4140370612

Binder, C. (2016). Integrating organizational-cultural values with performance management. *Journal of Organizational Behavior Management*, *36*(2-3), 185–201. doi:10.1080/01608061.2016.1200512

Birkman Fink, S., & Capparell, S. (2013). *The Birkman method. Your personality at work*. San Francisco, CA: Jossey-Bass.

Bledow, R., Frese, M., Anderson, N. R., Erex, M., & Farr, J. L. (2009). A dialectic perspective on innovation: Conflicting demands, multiple pathways, and ambidexterity. *Industrial and Organizationsl Psychology*, *2*(3), 305–337. doi:10.1111/j.1754-9434.2009.01154.x

Boal, K. B., & Schultz, P. L. (2007). Storytelling, time, and evolution: The role of strategic leadership in complex adaptive systems. *The Leadership Quarterly*, *18*(4), 411–428. doi:10.1016/j.leaqua.2007.04.008

Borzillo, S., & Kaminska-Labbe, R. (2011). Unravelling the dynamics of knowledge creation in communities of practice though complexity theory lenses. *Knowledge Management Research and Practice*, *9*(4), 353–366. doi:10.1057/kmrp.2011.13

Boston, R., & Ellis, K. (2019). *Upgrade. Building your capacity for complexity*. London, UK: Leaderspace.

Botticchio, M., & Vialle, W. J. (2009). Creativity and flow theory: Reflections on the talent development of women. In J. Shi (Ed.), *International conference on the cultivation and education of creativity and innovation* (pp. 97-107). Xi'an, China: Institute of Psychology of Chinese Academy of Sciences.

Boulmetis, J., & Dutwin, P. (2011). *ABCs of evaluation: Timeless techniques for program and project managers*. San Francisco, CA: Jossey-Bass.

Bower, G., & Clark, M. (1969). Narrative stories as mediators for serial learning. *Psychonomic Science*, *15*(4), 181–182. doi:10.3758/BF03332778

Boyatzis, R. E., & Goleman, D.Hay Group. (2001). *The emotional competence inventory (ECI)*. Boston, MA: Hay Group.

Brady, R. C. (2003). *Can failing schools be fixed?* Washington, DC: The Thomas B. Fordham Institute. Retrieved from https://files.eric.ed.gov/fulltext/ED498798.pdf

Brinkerhoff, R. (2003). *The success case method*. San Francisco, CA: Berrett-Koehler Publishers.

Brown, K. (2017). *5 unexpected benefits of group bible study*. Retrieved from https://www.crosswalk.com/faith/bible-study/5-unexpected-benefits-of-group-bible-study.html

Bruffee, K. A. (1993). *Collaborative Learning: Higher education, interdependence, and the authority of knowledge*. Baltimore, MD: Johns Hopkins University Press.

Bryk, A. S., Gomez, L. M., Grunow, A., & LeMahieu, P. G. (2017). *Learning to improve: How America's schools can get better at getting better*. Cambridge, MA: Harvard Education Press.

Buckingham, M., & Goodall, A. (2015). Reinventing performance management. (cover story). *Harvard Business Review*, *93*(4), 40–50.

Bungay Stanier, M. (2020). *The advice trap*. Toronto, Canada: Box of Crayons Press.

Bureau of Labor Statistics. (2020). *Union Members in Hawaii – 2019.* https://www.bls.gov/regions/west/news-release/pdf/unionmembership_hawaii.pdf

Burns, J. M. (1978). *Leadership*. Harper & Row.

Cagle, K. (2019). The end of Agile. *Forbes*. Retrieved from https://www.forbes.com/sites/cognitiveworld/2019/08/23/the-end-of-agile/#594af0820713

Campbell, R. (2019). *Scientists in every boardroom*. McPherson's Printing Group.

Cannon, J. (2019). *2020 projected to be 'a tough year" for trucking*. Retrieved December 16, 2019 from https://www.ccjdigital.com/2020-trucking-industry-forecast/

Carini, R. M., Kuh, G. D., & Klein, S. P. (2006). Student engagement and student learning: Testing the linkages. *Research in Higher Education*, *47*(1), 1–32. doi:10.100711162-005-8150-9

Carson, S., & Moore, M. (2015, January). *Organize your mind for coaching*. Webinar presented for Institute of Coaching.

Carter, E. A. (2018). *Perceived value of professional communities of practice: A case study* (Doctoral Dissertation). Capella University. Available from ProQuest Central. (2135425081). Retrieved from https://search.proquest.com/docview/2135425081?accountid=36783

Castilleja, J. R. (2019). *Using a human performance technology approach to understand high school graduation rate improvement* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses Global database. (UMI No. 13808978)

Charan, R. (2009). *Leadership in the era of economic uncertainty: New rules for getting the right things done in difficult times*. New York: McGraw Hill. doi:10.1177/0974173920090529

Chau, M., & Reith, R. (2019). *Smartphone Market Share*. Retrieved September 14, 2019 from https://www.idc.com/promo/smartphone-market-share/os

Chesler, N. C., & Chesler, M. A. (2002). Gender-informed mentoring strategies for women engineering scholars: On establishing a caring community. *Journal of Engineering Education*, *91*(1), 49–55. doi:10.1002/j.2168-9830.2002.tb00672.x

Chevalier, R. (2004, April). Evaluation: The Link Between Learning and Performance. *Performance Improvement*, *43*(4), 40–44. doi:10.1002/pfi.4140430410

Chevalier, R. (2007). *A manager's guide to improving workplace performance*. New York, NY: AMACOM.

China Telecom. (2019). Retrieved October 9, 2019, from https://www.chinatelecom-h.com/sc/business/business_overview.php

Chiva, R., Ghauri, P., & Alegre, J. (2014). Organizational learning, innovation and internationalization: A complex adaptive system model. *British Journal of Management*, *25*(4), 687–705. doi:10.1111/1467-8551.12026

Chow, A. T., & Moseley, J. L. (2017). Comparisons of Six Sigma, Lean, and Human Performance Technology/Performance Improvement. *Performance Improvement*, *56*(1), 6–13. doi:10.1002/pfi.21677

Christensen, C., Cormack, E., & Spice, B. (2011). Evaluating leadership development in an academic program. *Performance Improvement*, *50*(1), 9–16. doi:10.1002/pfi.20188

Christian, J. (2008). The State of Early Childhood Education in the LCMS. Issues in Christian Education, 43(1).

Chugh, R. (2015). Do Australian Universities Encourage Tacit Knowledge Transfer? *Proceedings of the 7th International Joint Conference on Knowledge Discovery, Knowledge Engineering and Knowledge Management*, 128-135. 10.5220/0005585901280135

Chun, J. U., Sosik, J. J., & Yun, N. Y. (2012). A longitudinal study of mentor and protégé outcomes in formal mentoring relationships. *Journal of Organizational Behavior*, *33*(8), 1071–1094. doi:10.1002/job.1781

Clark, R. C. (2006). Evidence-based practice and professionalization of human performance technology. Handbook of Human Performance Technology, 873-898.

Clark, S. (2018). *Rogers Coverage Map: How it Compares*. Retrieved December 16, 2019, from https://www.whistleout.ca/CellPhones/Guides/rogers-coverage-map

Clark, J. (2001). Stimulating collaboration and discussion in online learning environments. *The Internet and Higher Education*, *4*(2), 119–124. doi:10.1016/S1096-7516(01)00054-9

Class 8 Truck Manufacturer. (2019). *About Us*. Retrieved December 14, 2019 from https://www.paccar.com/about-us/get-to-know-paccar/

Clifford, M. (2013). Learning to lead school turnaround: The Mississippi LEADS professional development model. *Cypriot Journal of Educational Sciences*, *8*(1), 49–62. Retrieved from http://cjes.eu/

Connell, G., Newland, I., & Guzzanti, P. (2017). In and out of *Flow!* improvisatory decision-making in dance and spoken word. *Choreographic Practices*, *8*(2), 259–277. doi:10.1386/chor.8.2.259_1

Cooperrider, D., Whitney, D., & Stavros, J. (2003). *Appreciative Inquiry Handbook*. Bedford Heights, OH: Lakeshore Publishers.

Cormack, R. (2020). Tesla, GM and Ford offer to make ventilators if there's a shortage due to Covid-19. *Robb Report*. Retrieved from https://robbreport.com/motors/cars/tesla-gm-and-ford-offer-to-make-ventilators-if-theres-a-shortage-due-to-covid-2906439/

Cortese, C., & Wright, C. (2018). Developing a Community of Practice: Michael Gaffikin and Critical Accounting Research. *Abacus*, *54*(3), 247–276. doi:10.1111/abac.12137

Coughlin, P.C., & Kelly, S.J. (2009). *Cyprus capacity development program need assessment and intervention design: Final report and recommendations.* Nicosia, Cyprus: Limited Distribution Report.

Covey, S. M. R. (2006). *The speed of trust*. New York, NY: Free Press.

Covey, S. M. R. (2006). *The speed of trust: The one thing that changes everything*. New York, NY: Free Press.

Cowan, J. E. (2012). Strategies for developing a community of practice: Nine years of lessons learned in a hybrid technology education master's program. *TechTrends*, *56*(1), 12–18. doi:10.100711528-011-0549-x

Crammer, J. (2020). Retired Gen. Stanley McChrystal says 'tremendous lack of teamwork' ails pandemic response. *CNBC.* Retrieved from https://www.cnbc.com/video/2020/03/27/retired-gen-stanley-mcchrystal-says-pandemic-fight-requires-teamwork.html

Craven, M., Liu, L., Mysore, M., & Wilson, M. (2020). COVID-19: Implications for business. *McKinsey.* Retrieved from https://www.mckinsey.com/business-functions/risk/our-insights/covid-19-implications-for-business

Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*. New York: Harper Collins.

Csikszentmihalyi, M. (1996). *Creativity: The psychology of discovery and invention*. New York, NY: Harper Perennial Modern Classics.

Cuddy, A. J. C., Kohut, M., & Neffinger, J. (2013). Connect, then lead. *Harvard Business Review*, *91*(7/8), 54–61. PMID:24730169

Cullen, D. L., & Luna, G. (1993). Women mentoring in academe: Addressing the gender gap in higher education. *Gender and Education*, *5*(2), 125–137. doi:10.1080/0954025930050201

Czeropski, S. (2012). Use of asynchronous discussions for corporate training: A case study. *Performance Improvement Journal*, *51*(9), 14–21. doi:10.1002/pfi.21304

Czikszentmihali, M. (1990). Flow: The Psychology of Spiritual Experience. New York, NY: Academic Press.

Czikszentmihali, M. (2003). *Good business: Leadership, Flow and the Making of Meaning*. New York, NY: Penguin Group.

Daniels, W. R., & Esque, T. J. (2006). Performance improvement: Enabling commitment to changing performance requirements. In J. A. Pershing (Ed.), *Handbook of human performance technology: Principles, practices, potential* (pp. 93–110). San Francisco: Pfeiffer.

David, S. (2016). *Emotional agility*. New York, NY: Avery.

DDI. (2020, January). T*he art of prioritization: How to build your multi-level leadership development program.* Webinar presentation. Pittsburgh, PA: Developmental Dimensions International.

de Haan, E., & Kasoki, A. (2014). *The leadership shadow*. London, UK: Kogan Page Limited.

De Janasz, S. C., Sullivan, S. E., & Whiting, V. (2003). Mentor networks and career success: Lessons for turbulent times. *The Academy of Management Perspectives*, *17*(4), 78–91. doi:10.5465/ame.2003.11851850

De Vries, J., Webb, C., & Eveline, J. (2006). Mentoring for gender equality and organisational change. *Employee Relations*, *28*(6), 573–587. doi:10.1108/01425450610704506

DeFrank-Cole, L., Latimer, M., Neidermeyer, P. E., & Wheatly, M. G. (2016). Understanding " why" one university's women's leadership development strategies are so effective. *Advancing Women in Leadership Journal*, *36*, 26–35.

Delgado, D. (2012). The selection metaphor: The concepts of metacontingencies and macrocontingencies revisted. *Revista Latinoamericana de Psicología*, *44*(1), 13–24.

Deming, E. W. (2000). *Out of the crisis*. Cambridge, MA: The MIT Press. (Original work published 1982)

Denning, S. (Aug. 25, 2019). Why Agile's future is bright. *Forbes*. Retrieved from https://www-forbes-com.cdn.ampproject.org/c/s/www.forbes.com/sites/stevedenning/2019/08/25/why-the-future-of-agile-is-bright/amp/

Denning, S. (February 5, 2011). Why lean programs fail - - Where Toyota succeeds: A new culture of learning. *Forbes*. Retrieved from https://www.forbes.com/sites/stevedenning/2011/02/05/why-lean-programs-fail-where-toyota-succeeds-a-new-culture-of-learning/#47e8db677472

Denning, S. (Oct 13, 2019). World afility forum celebrates excellence, flays fake agile. *Forbes*. Retrieved from https://www.forbes.com/sites/stevedenning/2019/10/13/world-agility-forum-celebrates-excellence-attacks-fake-agile/#3473648f8f84

Denning, S. (2018). *The age of Agile: How smart companies are transforming the way work gets done*. New York, NY: AMACOM.

Desrosiers, E., & Oliver, D. H. (2011). Maximizing impact. Creating successful partnerships between coaches and organizations. In G. Hernez-Broome & L. A. Boyce (Eds.), *Advancing executive coaching* (pp. 123–147). San Francisco, CA: John Wiley & Sons.

Dessinger, J. C., Moseley, J. L., & Van Tiem, D. M. (2012). Performance improvement/HPT model: Guiding the process. *Performance Improvement*, *51*(3), 10–17. doi:10.1002/pfi.20251

Dickson, J., Kirkpatrick-Husk, K., Kendall, D., Longabaugh, J., Patel, A., & Scielzo, S. (2014). Untangling protégé self-reports of mentoring functions: Further meta-analytic understanding. *Journal of Career Development*, *41*(4), 263–281. doi:10.1177/0894845313498302

Ding, H., & Gu, L. (2017). *The Logic of Management*. Beijing, China: Publishing House of Electronics Industry.

Directorate-General. (2016). *She Figures 2015: Gender in Research and Innovation.* Luxembourg: European Commission. doi:10.2777/744106

Discenza, R., & Forman, J. B. (2007). *Seven causes of project failure: how to recognize them and how to initiate project recovery.* Paper presented at PMI® Global Congress 2007—North America, Atlanta, GA.

Dotlich, D. L., & Noel, J. L. (1998). *Action learning*. San Francisco, CA: Jossey-Bass Publishers.

Drake, D. B. (2017). *Narrative coaching: The definitive guide to bringing new stories to life* (2nd ed.). Petaluma, CA: CNC Press.

Drucker, P. (1973). *Management*. New York: Harper & Row, Publishers.

Drucker, P. F. (2007). *People and performance: The best of Peter Drucker on management*. Boston, MA: Harvard Business School Press.

DuFour, R., DuFour, R., Eaker, R., Many, T. W., & Mattos, M. (2006). *Learning by doing: A handbook for professional learning communities at work*. Bloomington, IN: Solution Tree Press.

Duhigg, C. (2012). *The power of habit: Why we do what we do in life and business*. New York, NY: Random House.

Dunham, R. (2010). *The power of not-knowing*. Unpublished paper. Boulder, CO: Institute for Generative Leadership.

Dunham, R. (2009). The generative foundations of action in organizations: Speaking and listening. *The International Journal of Coaching in Organizations*, *7*(2), 42–63.

Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011). The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. *Child Development*, *82*(1), 405–432. doi:10.1111/j.1467-8624.2010.01564.x PMID:21291449

Edmondson, A. C. (2019). The fearless organization: Creating psychological safety in the workplace for learning, innovation, and growth. Hoboken, NJ: Wiley.

Edmondson, A. C. (2012). *Teaming*. San Francisco, CA: Jossey-Bass.

Edmondson, A. C. (2019). *The fearless organization*. Hoboken, NJ: John Wiley & Sons.

Ely, K., & Zaccaro, S. J. (2011). Evaluating the effectiveness of coaching. A focus on stakeholders, criteria, and data collection methods. In G. Hernez-Broome & L. A. Boyce (Eds.), *Advancing executive coaching* (pp. 319–349). San Francisco, CA: John Wiley & Sons.

Ely, R. J., Ibarra, H., & Kolb, D. M. (2011). Taking gender into account: Theory and design for women's leadership development programs. *Academy of Management Learning & Education*, *10*(3), 474–493. doi:10.5465/amle.2010.0046

Ely, R. J., & Meyerson, D. E. (2000). Advancing gender equity in organizations: The challenge and importance of maintaining a gender narrative. *Organization*, *7*(4), 589–608. doi:10.1177/135050840074005

Ericsson, K. A., Krampe, R. T., & Tesch-Römer, C. (1993). The role of deliberate practice in the acquisition of expert performance. *Psychological Review*, *100*(3), 363–406. doi:10.1037/0033-295X.100.3.363

Esque, T. J. (1999). *No surprises project management: A proven early warning system for staying on track*. Mill Valley, CA: ACT Publishing.

European Science Foundation. (2008). How mirror neurons allow us to learn and socialize by going through the motions in the head. *Science Daily*. Retrieved July 14, 2019 from https://www.sciencedaily.com/releases/2008/12/081219073047.htm

Feldman, M. D., Steinauer, J. E., Khalili, M., Huang, L., Kahn, J. S., Lee, K. A., ... Brown, J. S. (2012). A mentor development program for clinical translational science faculty leads to sustained, improved confidence in mentoring skills. *Clinical and Translational Science*, *5*(4), 362–367. doi:10.1111/j.1752-8062.2012.00419.x PMID:22883616

Fitchard, K. (2016). *State of Mobile Networks: Canada (January 2016).* Retrieved December 13, 2019, from https://www.opensignal.com/reports/2016/01/canada/state-of-the-mobile-network

Fitchard, K. (2016). *USA Mobile Network Experience Report July 2019*. Retrieved December 13, 2019, from https://www.opensignal.com/reports/2019/07/usa/mobile-network-experience

Fitchard, K. (2019). *CANADA Mobile Network Experience Report August 2019*. Retrieved December 13, 2019, from https://www.opensignal.com/reports/2019/08/canada/mobile-network-experience

Fitchard, K. (2019). *USA Mobile Network Experience Report July 2019*. Retrieved December 13, 2019, from https://www.opensignal.com/reports/2019/07/usa/mobile-network-experience

Fleming, M., House, S., Hanson, V. S., Yu, L., Garbutt, J., McGee, R., ... Rubio, D. M. (2013). The mentoring competency assessment: Validation of a new instrument to evaluate skills of research mentors. *Academic Medicine*, *88*(7), 1002–1008. doi:10.1097/ACM.0b013e318295e298 PMID:23702534

Ford, C. M. (1996). A theory of individual creative action in multiple social domains. *Academy of Management Review*, *21*(4), 1112–1142. doi:10.5465/amr.1996.9704071865

Fowler, C. A. (2019). *Nevertheless, She Persists: Women Leadership in Higher Education* (Doctoral dissertation). Ohio University.

Fu, F. Q., & Jones, E. (2015). Bridging research and practice: How sales training can contribute to new product launch success. *Performance Improvement*, *54*(2), 29–36. doi:10.1002/pfi.21459

Fu, F. Q., Phillips, J. J., & Phillips, P. P. (2018). ROI marketing: Measuring, demonstrating, and improving value. *Performance Improvement*, *57*(2), 6–13. doi:10.1002/pfi.21771

Fu, F. Q., Yi, H., & Zhai, N. (2013). Training to improve new product sales performance: The case of Samsung in China. *Performance Improvement*, *52*(5), 28–35. doi:10.1002/pfi.21346

Fulford, C., & Zhang, S. (1993). Perceptions of interaction: A critical predictor in distance education. *American Journal of Distance Education*, *7*(3), 8–21. doi:10.1080/08923649309526830

Fulmer, R. M., & Goldsmith, M. (2001). *The leadership investment: How the world's best organizations gain strategic advantage through leadership development*. New York: Amacom.

Gallo, C. (2016). The Storyteller's Secret: How TED Speakers and Inspirational Leaders Turn Their Passion into Performance. London: St. Martin's Press.

Gelfand, M. J., Leslie, L. M., Keller, K., & de Dreu, C. (2012). Conflict cultures in organizations: How leaders shape conflict cultures and their organizational-level consequences. *The Journal of Applied Psychology*, *97*(6), 1131–1147. doi:10.1037/a0029993 PMID:23025807

Gelin, P., & Milusheva, M. (2011). The secrets of successful communities of practice: Real benefits from collaboration within social networks at Schneider Electric. *Global Business and Organizational Excellence*, *30*(5), 6–18. doi:10.1002/joe.20391

Gilbert, T. F. (2007). Human competence: Engineering worthy performance (tribute ed.). San Francisco, CA: Pfeiffer.

Gilbert, T. F. (2007). Human competence: Engineering worthy performance (Tribute ed.). San Francisco, CA: Wiley.

Gilbert, T. F. (1978). *Human competence: Engineering worthy performance*. New York, NY: McGraw-Hill.

Gilmore, E. R. (2008). *An evaluation of the efficacy of Wile's taxonomy of human performance factors* (Dissertation). Indiana University. Retrieved April 4, 2016 from https://search.proquest.com/docview/304606414

Gilmore, E. R., & Pershing, J. (2001). *Don't miss! Identify all causes of that performance gap: A review of literature supporting a refinements of Wile's HPT model.* Paper presented at the annual meeting of the International Society for Performance Improvement, San Francisco, CA.

Glaser, J. E. (2013). *Conversational intelligence: How great leaders build trust and get extraordinary results*. London, UK: Routledge.

Glenn, S. S. (2004). Individual behavior, culture, and social change. *The Behavior Analyst*, *27*(2), 133–151. doi:10.1007/BF03393175 PMID:22478424

Glenn, S. S. (2010). Metacontingencies, Selection and OBM: Comments on "Emergence and Metacontingency.". *Behavior and Social Issues*, *19*(1), 79–85. doi:10.5210/bsi.v19i0.3220

Glenn, S. S., Malott, M. E., Andery, M. A. P. A., Benvenuti, M., Houmanfar, R. A., Sandaker, I., ... Vasconcelos, L. A. (2016). Toward Consistent Terminology in a Behaviorist Approach to Cultural Analysis. *Behavior and Social Issues*, *25*(1), 11–27. doi:10.5210/bsi.v25i0.6634

Gok, A., & Law, M. (2017). Performance improvement in the literature. *Performance Improvement*, *56*(1), 14–20. doi:10.1002/pfi.21675

Goldsmith, M. (2009, March 17). Try feedforward instead of feedback. *IJTD Coaching e-Newsletter, 27.*

Goldsmith, M. (2007). *What got you here will get you there*. New York, NY: Hyperion.

Goldsmith, M. (2015). *Triggers*. New York, NY: Crown Business.

Goldstein, J., Hazy, J. K., & Lichtenstein, B. B. (2010). *Complexity and the nexus of leadership: Leveraging nonlinear science to create ecologies of innovation*. New York, NY: Palgrave Macmillan. doi:10.1057/9780230107717

Goleman, D. (2000, March-April). Leadership that gets results. *HBR On Point,* Reprint 4487.

Goleman, D. (1995). *Emotional intelligence*. New York, NY: Bantam.

Goleman, D. (2001). Emotional intelligence. Issues in paradigm building. In C. Cherniss & D. Goleman (Eds.), *The emotionally intelligent workplace* (pp. 13–26). San Francisco, CA: Jossey-Bass.

Goleman, D., Boyatzis, R., & McKee, A. (2002). *Primal leadership*. Boston, MA: Harvard Business School Press.

Goleman, D., & Davidson, R. J. (2017). *Altered states. Science reveals how meditation changes your mind, brain, and body*. New York, NY: Avery.

Gover, L., Halinski, M., & Duxbury, L. (2016). Is it just me? Exploring perceptions of organizational culture change. *British Journal of Management*, *27*(3), 567–582. doi:10.1111/1467-8551.12117

GrammT. (2018). Practice, Practice, Practice [Blog Post]. Retrieved from: https://gramconsulting.ca/blog/

Greenspan, J. (2018, September 1). *Hawaii's monarchy overthrown with U.S. support, 120 years ago.* History. https://www.history.com/news/hawaiis-monarchy-overthrown-with-u-s-support-120-years-ago

Gruenert, S., & Whitaker, T. (2015). *School culture rewired: How to define, assess, and transform it*. Alexandria, VA: Association for Supervision and Curriculum Development.

Gruenert, S., & Whitaker, T. (2017). *School culture recharged: Strategies to energize your staff and culture*. Alexandria, VA: Association for Supervision and Curriculum Development.

Guerra-Lopez, I. O. (2008). *Performance evaluation: Proven approaches for improving program and organizational performance*. San Francisco, CA: Jossey-Bass.

Guldberg, K., & Pilkington, R. (2006). A community of practice approach to the development of nontraditional learners through networked learning. *Journal of Computer Assisted Learning*, *22*(3), 159–171. doi:10.1111/j.1365-2729.2006.00171.x

Hale, J. (2020). *The learning curve*. Retrieved from: http://www.professionalroofing.net/Articles/The-learning-curve--02-01-2020/4622

Hallo, L., Nguyen, T., Gorod, A., & Tran, P. (2020). Effectiveness of Leadership Decision-Making in Complex Systems. *Systems*, *8*(1), 5. doi:10.3390ystems8010005

Hara, N., & Kling, R. (2000). Students 'distress with a web-based distance education course: An ethnographic study of participants' expectations. *Information Communication and Society*, *3*(4), 557–579. doi:10.1080/13691180010002297

Harris, P. (2010). Where people power makes the difference. *Training & Development*, *10*, 32–34.

Hashemi, N., Karami, M., Ahanchian, M. Z., & Chevalier, R. (2018). Applying human performance technology for performance improvement in Afghanistan high schools. *Performance Improvement*, *57*(3), 34–45. doi:10.1002/pfi.21765

Hayes, L. J., & Fryling, M. J. (2007). Towards an interdisciplinary science of culture. *The Psychological Record*, *2009*(59), 679–700. Retrieved from https://opensiuc.lib.siu.edu/cgi/viewcontent.cgi?article=1043&context=tpr

Hein, T. L., & Irvine, S. E. (1998). Assessment of student understanding using on-line discussion groups. *FIE '98, 28th Annual Frontiers in Education Conference, Moving from Teacher Centered Education. Conference Proceedings* (CAT. No. 98CH36214). Retrieved from: https://www.academia.edu/21702535/Assessment_of_student_understanding_using_on-line_discussion_groups

Hezlett, S. A., & Gibson, S. K. (2007). Linking mentoring and social capital: Implications for career and organization development. *Advances in Developing Human Resources*, *9*(3), 384–411. doi:10.1177/1523422307304102

Hicks, M. D., & Peterson, D. B. (1999). The development pipeline. *Knowledge Management Review*, *9*, 30–33.

Hoeber, R. (1986). Concordia Self-study Bible. New International Version. Concordia Publishing House.

Hofstede Insights. (n.d.). *The 6 dimensions of national culture*. https://www.hofstede-insights.com/models/national-culture

Hofstede, G. (1980). *Culture's Consequences*. Sage Publications.

Hofstede, G., Hoftede, G. J., & Minkov, M. (2010). *Cultures and organizations: Software of the mind*. McGraw Hill.

Ho, J. L. Y., Wu, A., & Wu, S. Y. C. (2014). Performance measures, consensus on strategy implementation, and performance: Evidence from the operational-level of organizations. *Accounting, Organizations and Society*, *39*(1), 38–58. doi:10.1016/j.aos.2013.11.003

Holst, A. (2018). *Smartphone penetration rate as share of the population in the United States from 2010 to 2021*s*. Retrieved July 14, 2019, from https://www.statista.com/statistics/201183/forecast-of-smartphone-penetration-in-the-us/

Horst, D. (2015). Actions and accidents. *Canadian Journal of Philosophy*, *45*(3), 300–325. doi:10.1080/00455091.2015.1080045

Houston, M. J. (2019). Faculty mentoring programs at academic institutions: A systematic literature review and suggestions for future mentoring programs. *International Journal of Engineering Technologies and Management Research*, *6*(10), 24–30. doi:10.5281/zenodo.3497478

Howard, J. (2019). US fertility rate is below level needed to replace population, study says. *CNN Health*. Retrieved from: https://www.cnn.com/2019/01/10/health/us-fertility-rate-replacement-cdc-study/index.html

Hull, J. (2019). *Flex*. New York, NY: Tarcher Perigee.

Hung, D., & Chen, D. (2000). Appropriating and negotiating knowledge: Technologies for a community of learns. *Educational Technology*, *40*, 29–32.

International Society for Performance Improvement. (2019). *Get Certified page*. Retrieved from: https://www.ispi.org/ISPI/Get_Certified/ISPI/Credentials/Certification_and_Accreditation.aspx?hkey=cb14c09d-a1df-4eb5-926b-2c7988a43345

International Society for Performance Improvement. (2019). *Mission, Vision, Guiding Principles*. Retrieved August 22, 2014 from https://ispi.org/ISPI/Our_Society/About_ISPI/Mission_Vision/ISPI/About_ISPI/MIssion_Vision.aspx?hkey=ae6821d4-a210-4ab4-9f3e-fc81ebae69a4

International Society for Performance Improvement. (2019). Retrieved October 9, 2019, from http://www.ispi.org/ISPI/Credentials/CPT_Certification/CPT_Standards.aspx

International Society for Performance Improvement. (2020). *10 standards*. Retrieved from: https://ispi.org/page/10Standards

Ittner, C. D., & Larcker, D. F. (1998). Innovations in performance measurement: Trends and research implications. *Journal of Management Accounting Research*, *10*, 205–238.

Jagasia, J., Baul, U., & Mallik, D. (2015). A Framework for Communities of Practice in Learning Organizations. *Business Perspectives and Research*, *3*(1), 1–20. doi:10.1177/2278533714551861

Jarrett, M. (2017). The 4 Types of Organizational Politics. *Harvard Business Review Online*. Retrieved from: hbr.org/2017/04/the-4-types-of-oranizational-politics hbr.org/2017/04/the-4-types-of-oranizational-politics hbr.org/2017/04/the-4-types-of-oranizational-pol

Jewell, D. (2019, June). Today's Learner/Leader is Self-Directed and Intrinsically Motivated. *Chief Learning Officer*, 27–28.

Johnson, B. (2014). *Polarity management: Identifying and managing unsolvable problems*. Amherst, MA: HRD Press, Inc.

Johnson, W. (2018). *How to build an A team*. Boston, MA: Harvard Business Review Press.

Jones, B. (2016). ADVANCE Proposal to the National Science Foundation (note for anonymity purposes, this title was modified).

Jones, D. E., Greenberg, M., & Crowley, M. (2015). Early social-emotional functioning and public health: The relationship between kindergarten social competence and future wellness. *American Journal of Public Health*, *105*(11), 2283–2290. doi:10.2105/AJPH.2015.302630 PMID:26180975

Karau, S. J., & Williams, K. D. (1993). Social loafing: A meta-analytic review and theoretical integration. *Journal of Personality and Social Psychology*, *65*(4), 681–706. doi:10.1037/0022-3514.65.4.681

Kaufman, R. (2006). Mega Planning and Thinking: Defining and Achieving Measurable Success. In Handbook of Human Performance Technology (3rd ed.; pp. 139 – 154). San Francisco, CA. Pfeiffer.

Kaufman, R. (2019). Community Vital Signs. *Performance Improvement Journal*, *58*(7).

Kaufman, R. (2019). A Suggested Evolution of the Gilbert, Rummler, and Binder Frameworks for Major Performance Improvement and Worthy Performance Accomplishment. *Performance Improvement*, *58*(6), 12–16. doi:10.1002/pfi.21883

Kelly, S.J., & Novak, M.M. (2007). Performance issues in international donor-funded development: A starting point for the PI professional. *Performance Improvement Journal, 46*(1).

Kelly, S.J., & Novak, M.M. (2010). Applied performance technology gets results in donor funded development. *Performance Improvement Journal, 49*(3).

Kelly, S. J., Coughlin, P. C., & Novak, M. M. (2012). Making a Difference: The Future of HPT in Sustaining Best-Practice International Capacity Development. *Performance Improvement Quarterly*, *25*(1), 85–98. doi:10.1002/piq.20130

Kelly, S. J., Esque, T. J., Novak, M. M., & Čermáková, A. (2012). *Building a Sustainable Project Management Capacity in Cyprus* (Vol. 51). Performance Improvement Journal.

Kelly, S. J., & Novak, M. M. (2012). *What Cost Development? Building Performance in Transitional Societies*. Performance.

Kendziora, K., & Osher, D. (2016). Promoting children's and adolescents' social and emotional development: District adaptations of a theory of action. *Journal of Clinical Child and Adolescent Psychology*, *45*(6), 797–811. doi:10.1080/15374416.2016.1197834 PMID:27611060

Kerin, R., Hartley, S., & Rudelius, W. (2014). *Marketing*. New York, NY: McGraw-Hill Education.

Kersten, M. (2018). *Project to product*. Portland, OR: IT Revolution.

Kets de Vries, M. F. R., Korotov, K., & Florent-Treacy, E. (2007). *Coach and couch*. New York: Palgrave Macmillan.

Kirkpatrick, D. L. (2006). *Evaluating training programs: The four levels* (3rd ed.). San Francisco, CA: Berrett-Koehler Publishers.

Kirkpatrick, D. L., & Kirkpatrick, J. D. (2005). *Transferring learning to behavior: Using the four levels to improve performance* (1st ed.). San Francisco, CA: Berrett-Koehler.

Kirkpatrick, J. D., & Kirkpatrick, W. K. (2016). *Kirkpatrick's four levels of training evaluation*. Alexandria, VA: ATD Press.

Knoeppel, R. (2017). Zone Mentoring in the College of Education. Presentation to the Trailblazers Mentoring and Leadership Development, Clemson, SC.

Kotler, P., & Armstrong, G. (2013). *Principles of marketing*. Upper Saddle River, NJ: Prentice Hall.

Kurt, D. (2014). *How does goodwill affect financial statements?* Retrieved: https://www.investopedia.com/articles/investing/100914/how-does-goodwill-affect-financial-statements.asp

Kurtz, C. F., & Snowden, D. J. (2003). The new dynamics of strategy: Sense-making in a complex and complicated world. *IBM Systems Journal*, *42*(3), 462–483. doi:10.1147j.423.0462

Kvale, S. (1996). *Interviews: An introduction to qualitative research interviewing*. Thousand Oaks, CA: Sage.

Land, S. M., Draper, D. C., Ma, Z., Hsieh, H., Smith, B. K., & Jordan, R. (2009, October). An investigation of knowledge-building activities in an online community of practice at Subaru of America. *Performance Improvement Quarterly*, *22*(3), 23–36. doi:10.1002/piq.20049

Lapin, D. (2012). *Lead by greatness*. Avoda Books.

Laursen, S., & Rocque, B. (2009). Faculty development for institutional change: Lessons from an ADVANCE project. *Change: The Magazine of Higher Learning*, *41*(2), 18–26. doi:10.3200/CHNG.41.2.18-26

Lawrence, K. (2013). *Developing leaders in a VUCA environment*. Chapel Hill, NC: UNC Executive Development.

Lazar, J. B. (2020, February). *Developing emotional intelligence: A coaching approach to leading well in complex times.* Conference presentation at EITRI annual conference, Corpus Christi, TX.

Lazar, J.B., & Slatter, J. (2018, September). *Self-leadership and collaboration by design*. Pre-conference workshop at ISPI EMEA conference, Gothenburg, Sweden.

Lazar, J.B., Gillum, T., & Mortenson, K. (2016, September). *Changing the game: Game-changing strategies that unleash performance improvement*. Pre-conference workshop for ISPI EMEA Conference, Bonn, Germany.

Lazar, J.B., Greenblatt, E., & Robu, D. (2017, September). *Multiple root causes and blended solutions: Two case studies and lessons learned*. Pre-conference workshop for ISPI EMEA conference, Bologna, Italy.

Lee-Kelley, L., Turner, N., & Ward, J. (2014). Intentionally creating a community of practice to connect dispersed technical professionals. *Research Technology Management*, *57*(2), 44–52. doi:10.5437/08956308X5702150

Leenders, R., & Dolfsma, W. A. (2016). Social networks for innovation and new product development. *Journal of Product Innovation Management*, *33*(2), 123–131. doi:10.1111/jpim.12292

Lee, R. J., & Frisch, M. H. (2011). Learning to coach leaders. In G. Hernez-Broome & L. A. Boyle (Eds.), *Advancing executive coaching: Setting the course for successful leadership coaching* (pp. 47–81). San Francisco, CA: Jossey-Bass.

Leithwood, K., Louis, K. S., Anderson, S., & Wahlstrom, K. (2004). *How leadership influences student learning*. New York, NY: The Wallace Foundation.

Lenskold, J. (2003). *Marketing ROI: The path to campaign, customer, and corporate profitability*. New York, NY: McGraw-Hill.

Levine, R. B., González-Fernández, M., Bodurtha, J., Skarupski, K. A., & Fivush, B. (2015). Implementation and evaluation of the Johns Hopkins University School of Medicine leadership program for women faculty. *Journal of Women's Health*, *24*(5), 360–366. doi:10.1089/jwh.2014.5092 PMID:25871739

Liang, D. W., Moreland, R., & Argote, L. (1995). Group versus individual training and group performance: The mediating role of transactive memory. *Personality and Social Psychology Bulletin*, *21*(4), 384–393. doi:10.1177/0146167295214009

Lieske, J. (1993). Regional subcultures of the United States. *The Journal of Politics*, *55*(4), 888–913. doi:10.2307/2131941

Linberg, C., & Schneider, M. (2013). Combating infections at Maine Medical Center: Insights into complexity-informed leadership from positive deviance. *Leadership*, *9*(2), 229–253. doi:10.1177/1742715012468784

Lincoln, J. R. (1995). Book review—Walter W. Powell & Paul DiMaggio (Eds.): The new institutionalism in organizational research. Social Forces, 73, 1147-1148.

Livingston, J.S. (2002). Pygmalion in management. *Harvard Business Review.* HBR OnPoint reprint 1768.

Lynch, D. J., & Paletta, D. (2018). *Trump announces steel and aluminum tariffs Thursday over objections from advisers and Republicans*. Retrieved December 16, 2019, from https://www.washingtonpost.com/news/business/wp/2018/03/01/white-house-planning-major-announcement-thursday-on-steel-and-aluminum-imports/

Maack, M. N., & Passet, J. E. (1994). *Aspirations and mentoring in an academic environment*. Westport, CT: Greenwood Press.

Maak, T., & Pless, N. M. (2006). Responsible Leadership in a Stakeholder Society – A Relational Perspective. *Journal of Business Ethics*, *66*(1), 99–115. doi:10.100710551-006-9047-z

Mack, O., Khare, A., Krämer, A., & Burgartz, T. (Eds.). (2016). *Managing in a VUCA World*. Springer; doi:10.1007/978-3-319-16889-0

Madsen, S. (2011). Women and leadership in higher education: Current realities, challenges, and future directions. *Advances in Developing Human Resources*, *14*(2), 131–139. doi:10.1177/1523422311436299

Madsen, S. R. (2012). Women and leadership in higher education: Learning and advancement in leadership programs. *Advances in Developing Human Resources*, *14*(1), 3–10. doi:10.1177/1523422311429668

Mager, R. F. (2006) Foreword to the Second Edition. Handbook of Human Performance Technology, xxxvii-xliv.

Mager, R. F., & Pipe, P. (1970). *Analyzing performance problems*. Belmont, CA: Fearon Pitman.

Margherio, C., Horner-Devine, M. C., Mizumori, S. J., & Yen, J. W. (2016). Learning to thrive: Building diverse scientists' access to community and resources through the BRAINS Program. *CBE Life Sciences Education*, *15*(3ar49), 1–12. doi:10.1187/cbe.16-01-0058 PMID:27587858

Marrelli, A. F. (2007). Collecting data through case studies. *Performance Improvement*, *46*(7), 39–44. doi:10.1002/pfi.148

Marshall, G. W., & Johnston, M. W. (2018). *Marketing management*. New York, NY: McGraw-Hill.

Martinko, M.J., Henry, J. W., & Zmud, R. W. (1996). An attributional explanation of individual resistance to the introduction of information technologies in the workplace. *Behavior & Information Technology*, *15*, 313-330.

Martinko, M. J., & Gardner, W. L. (1982). Learned helplessness: An alternative explanation for performance deficits. *Academy of Management Review*, *7*(2), 95–204. doi:10.5465/amr.1982.4285559

Mathieu, J. E., Marks, M. A., & Zaccaro, S. J. (2001). Multiteam systems. In N. Anderson, D. S. Ones, H. K. Sinangil, & C. Viswesvarin (Eds.), *Handbook of industrial, work and organizational psychology* (Vol. 2, pp. 289–313). Thousand Oaks, CA: SAGE.

Matta, N. F., & Ashkenas, R. N. (2003, September). Why good projects fail anyway. *Harvard Business Review*, *§§§*, 109–114. PMID:12964398

Maturana, H. R., & Varela, F. J. (1987). *The tree of knowledge*. Boston, MA: New Science Library.

Maurer, R. (2004). *The kaizen way*. New York, NY: Workman Publishing.

Mayer, J. D., Salovey, P., & Caruso, D. R. (2002). *Mayer-Salovey-Caruso emotional intelligence test (MSCEIT)*. Toronto, Canada: Multi-Health Systems.

McChrystal, S., Collins, T., Silverman, D., & Fussell, C. (2015). *Team of teams: New rules of engagement for a complex world*. New York, NY: Penguin.

McCue, T. J. (2018). E Learning Climbing To $325 Billion by 2025 UF Canvas Absorb Schoology Moodle. *Forbes.* Retrieved May 31, 2019, from https://www.forbes.com/sites/tjmccue/2018/07/31/e-learning-climbing-to-325-billion-by-2025-uf-canvas-absorb-schoology-moodle/#1d0036a63b39

McGaghie, W., Issenberg, S., Cohen, E., Barsuk, J., & Wayne, D. (2011, June). Does simulation-based medical education with deliberate practice yield better results than traditional clinical education? A meta-analytic comparative review of the evidence. *Academic Medicine*, *86*(6), 706–711. doi:10.1097/ACM.0b013e318217e119 PMID:21512370

McGandy, A. (2019). Two dozen Engaged Faculty Fellows announced. *Cornell Chronicle.* Retrieved from https://news.cornell.edu/stories/2019/10/two-dozen-engaged-faculty-fellows-announced

McGregor, J. (2020). Who will succeed in the autho revolution. *Forbes*. Retrieved from https://www.forbes.com/sites/tiriasresearch/2020/01/03/who-will-succeed-in-the-auto-revolution/#44232aba74fe

McQuiggan, S. W., Rowe, J. P., Lee, S., & Lester, J. C. (2008). Story-based learning: the impact of narrative on learning experiences and outcomes. In B. P. Woolf, E. Aïmeur, R. Nkambou, & S. Lajoie (Eds.), Lecture Notes in Computer Science: Vol. 5091. *Intelligent Tutoring Systems. ITS 2008*. Berlin: Springer. doi:10.1007/978-3-540-69132-7_56

Meinyk, S. A. (2007). Lean to a fault? *Supply Chain Quarterly*. Retrieved from https://www.supplychainquarterly.com/topics/Logistics/scq200703lean/

Merriam-Webster. (2020). *Gamification*. Retrieved January 6, 2020, from https://www.merriam-webster.com/dictionary/gamification

Meuser, J. D., Gardner, W. L., Dinh, J. E., Hu, J., Liden, R. C., & Lord, R. G. (2016). A network analysis of leadership theory: The infancy of integration. *Journal of Management*, *42*(5), 1374–1403. doi:10.1177/0149206316647099

Meyer, N. (1982). *Star Trek II: The wrath of Khan* [Film]. Harve Bennett (Executive Producer).

Meyerson, D., & Tompkins, M. (2007). Tempered radicals as institutional change agents: The case of advancing gender equity at the University of Michigan. *Harvard Journal of Law & Gender*, *30*, 303–322.

Michigan University, College of Literature, Science and the Arts. (n.d.). *Career Advising (Mentoring), Zone mentoring/ advising*. Retrieved December 13, 2019: from https://lsa.umich.edu/lsa/faculty-staff/academic-affairs/career-advising--mentoring-.html

Millen, D. R., Fontaine, M. A., & Muller, M. J. (2002). Understanding the benefit and costs of communities of practice. *Communications of the ACM, 45*(4), 69–73. doi:10.1145/505248.505276

Minkov, M., & Hofstede, G. (2011). The evolution of Hofstede's doctrine. *Cross Cultural Management*, *18*(1), 10–20. doi:10.1108/13527601111104269

Minkov, M., & Hofstede, G. (2013). *Cross-cultural analysis: The science and art of comparing the world's modern societies and their cultures*. Sage Publications. doi:10.4135/9781483384719

Mission Lutheran Church. (2011). *Mission Lutheran Church Strategic Plan*. Internal Communication.

Mission Lutheran Church. (2020). *Mission Lutheran Church website*. Author.

Mitroff, I., & Denton, E. (1999). *A Spiritual Audit of Corporate America*. San Francisco, CA: Jossey-Bass.

Montrieux, H., Vangestel, S., Raes, A., Matthys, P., & Schellens, T. (2015). Blending face-to-face higher education with web-based lectures: Comparing different didactical application scenarios. *Journal of Educational Technology & Society*, *18*(1), 170–182.

Moore, A. K., & Kaminski, J. M. (2011). Working with your local school district: A tale of two cities. *Performance Improvement*, *50*(4), 26–30. doi:10.1002/pfi.20210

Moore, J. (2011). Behaviorism. *The Psychological Record*, *61*(3), 449–463. doi:10.1007/BF03395771

Moseley, J., & Dessinger, J. (2010). Handbook of Improving Performance in the Workplace: Volume 3: Measurement and Evaluation. International Society for Performance Improvement.

Mount, G. (2006). The role of emotional intelligence in developing international business capability: EI provides traction. In V. U. Druskat, F. Sala, & G. Mount (Eds.), *Linking emotional intelligence and performance at work* (pp. 97–124). Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.

Moxley, R. (1987). Three Conceptual Units for Behavior. *The Behavior Analyst*, *10*(1), 17–26. doi:10.1007/BF03392403 PMID:22477957

Muhammad, A. (2018). *Transforming school culture* (2nd ed.). Bloomington, IN: Solution Tree Press.

Murphy, K. E., & Simon, S. J. (2002). Intangible benefits valuation in ERP projects. *Information Systems Journal, 12*(4), 301–320. doi:.00131.x doi:10.1046/j.1365-2575.2002

Musteen, M., Curran, R., Arroteia, N., Ripollés, M., & Blesa, A. (2018). A Community of Practice Approach to Teaching International Entrepreneurship. *Administrative Sciences, 8*(4), 56. doi:10.3390/admsci8040056

Mysyk, N. F. (2007). Woman, manager, mentor: The development of women mentors. *International Journal of the Humanities*, *5*(1), 51–59. doi:10.18848/1447-9508/CGP/v05i01/58232

National Academies of Sciences, Engineering, and Medicine. (2019). *The Science of Effective Mentorship in STEMM*. Washington, DC: The National Academies Press. doi:0.17226/25568

National Association for Business Economics. (2019). *NABE Outlook Survey – October 2019*. Retrieved December 16, 2019, from https://www.nabe.com/NABE/Surveys/Outlook_Surveys/October_2019_Outlook_Survey_Summary.aspx

National Roofing Contractors Association. (2020). Procertification™. *National Roofing Contractors Association website*. Retrieved from: https://www.nrca.net/procertification

Neufeld, D. J., Fang, Y., & Wan, Z. (2013). Community of Practice Behaviors and Individual Learning Outcomes. *Group Decision and Negotiation*, *22*(4), 617–639. doi:10.100710726-012-9284-8

Newman, L. S (2008). *Effects of Employee Performance Management Systems on Employee Learning and Development*. Doctorate in Business Administration (DBA) submitted to the University of Phoenix, Arizona. USA. ProQuest UMI.

Newman, L. S. (2015). Branding Beyond Logo and Colors: A case study of FITC's evidence-based transformation. In J. Stefaniak (Ed.), Cases on Human Performance Improvement Technologies (pp. 308 – 343). Hershey, PA: IGI Publishing.

Newman, L.S. (2019). Leveraging Corporate Governance for Economic Development: Imperatives for Governments and Regulators in Sub Saharan Africa. *The Director*, *22*(2), 37-48.

Newman, L. S. (2011). Transformational Leadership; A Leadership approach for changing Times. *FITC Journal of Banking and Finance*, *11*(1), 3–17.

Newman, L. S. (2018). Footprints of an Amazon: A Review of Dr Newman's Tenure. *FITC Financial Sector Pinnacle Magazine*, *19*(7), 6–8.

Newswander, L. K., & Borrego, M. (2009). Using journal clubs to cultivate a community of practice at the graduate level. *European Journal of Engineering Education*, *34*(6), 561–571. doi:10.1080/03043790903202959

Nixon, S., & Brown, S. (2013). A community of practice in action: SEDA as a learning community for educational developers in higher education. *Innovations in Education and Teaching, LLC*, *50*(4), 357–365. doi:10.1080/14703297 .2013.839392

Northup, J. (2018). *Strategies to Develop Skills for Positive Training Transfer.* Adult Higher Education Alliance, Paper presented at the Annual Meeting of the Adult Higher Education Alliance, Orlando, FL.

Nossel, M. (2018). *Powered by Storytelling: Excavate, Craft and Present Stories to Transform Business Communication*. New York: McGraw-Hill Books.

O'Bannon, D. J., Garavalia, L., Renz, D. O., & McCarther, S. M. (2010). Successful leadership development for women STEM faculty. *Leadership and Management in Engineering*, *10*(4), 167–173. doi:10.1061/(ASCE)LM.1943-5630.0000080

Office of Institutional Research. (2018). *Fact Sheet 2017.* Clemson: Clemson University. Retrieved from Office of Institutional Research, Data and Reports: http://www.clemson.edu/institutional-effectiveness/documents/oir/minis/F17FactSheet.pdf

Olivero, G. B., Bane, K. D., & Kopelman, R. E. (1997). Executive coaching as a transfer of training tool: Effects on productivity in a public agency. *Public Personnel Management*, *26*(4), 461–469. doi:10.1177/009102609702600403

Opportunity America. (2020). *Report*. Retrieved from: https://opportunityamericaonline.org/

Oxford Press. (2019). *Wireframe*. Retrieved September 14, 2019, from https://www.lexico.com/en/definition/wireframe

Page, D., & Hale, J. (2013). *The school improvement specialist field guide*. Thousand Oaks, CA: Corwin. doi:10.4135/9781506335711

Palmer, S., Holt, D., & Bray, S. (2008). Does the discussion help? The impact of a formally assessed online discussion on final student results. *British Journal of Educational Technology, 39*, 847-858. doi:.00780.x doi:10.1111/j.1467-8535.2007

Parker, S. L., Jimmieson, N. L., & Techakesari, P. (2017). Using stress and resource theories to example the incentive effects of a performance-based extrinsic reward. *Human Performance*, *30*(4), 169–192. doi:10.1080/08959285.2017.1347174

Paulus, T. M., Horvitz, B., & Shi, M. (2006). 'Isn't it just like our situation?' Engagement and learning in an online story-based environment. *Education Tech Research*, *54*(4), 355–385. doi:10.100711423-006-9604-2

Payne, R., DeVol, P., & Smith, T. (2009). Bridges Out of Poverty: Strategies for Professionals and Communities. aHA Process, Inc.

Pershing, J. (2006). *Handbook of Human Performance Technology: Principles, Practices, Potential*. San Francisco, CA: International Society for Performance Improvement. Pfeiffer.

Pershing, J. (Ed.). (2006). *Handbook of human performance technology: Principles, practices, and potential* (3rd ed.). San Francisco, CA: Pfeiffer.

Peterson, D. B. (2011). Good to great coaching: Accelerating the journey. In G. Hernez-Broome & L. A. Boyce (Eds.), *Advancing executive coaching: Setting the course for successful leadership coaching* (pp. 83–101). San Francisco, CA: Jossey-Bass.

Peterson, D. B., & Hicks, M. D. (1996). *Leader as coach*. Minneapolis, MN: Personnel Decisions International.

Petrovic-Dzerdz, M. (2019). Gamifying Online Tests to Promote Retrieval-Based Learning. *International Review of Research in Open and Distributed Learning*, *20*(2), 25–43. doi:10.19173/irrodl.v20i2.3812

Phillips, J. J., Fu, F. Q., Phillips, P. P., & Hong, Y. (2019). *ROI in marketing: Use performance improvement and design thinking to measure, prove, and improve the value of marketing*. New York, NY: McGraw-Hill. Working manuscript.

Phillips, J. J., & Phillips, P. P. (2007). *Show me the money. How to determine ROI in people, project, and program*. San Francisco, CA: Berrett-Koehler Publishing, Inc.

Phillips, J. P., & Phillips, P. P. (2016). *Handbook of training evaluation and measurement methods* (4th ed.). Routledge. doi:10.4324/9781315757230

Phillips, P. P., & Phillips, J. J. (2010). *The green scorecard: Measuring the return on investment in sustainability projects*. Nicholas-Brealey.

Phillips, P. P., Phillips, J. J., & Edwards, L. A. (2012). *Measuring the success of coaching*. Alexandria, VA: ASTD Press.

Pink, D. (2003). *A Whole New Mind*. New York: Penguin Group.

Ponnuswamy, I., & Manohar, H. L. (2014). Impact of learning organization culture on performance in higher education institutions. *Studies in Higher Education*, *41*(1), 21–36. doi:10.1080/03075079.2014.914920

Porter, M. E. (1985). *Competitive advantage*. New York, NY: Free Press.

Ramachandran, V. S. (2000, June 29). Mirror neurons and imitation learning as the driving force behind "the great leap forward" in human evolution. *Edge Foundation, The Third Culture*. Retrieved July 14, 2019. https://www.edge.org/conversation/mirror-neurons-and-imitation-learning-as-the-driving-force-behind-the-great-leap-forward-in-human-evolution

Regan, J., & Gold, J. (2010). Think tanks with deliverables: How communities of practice helped LPL financial manage rapid growth and organizational complexity. *Global Business and Organizational Excellence*, *29*(3), 17–26. doi:10.1002/joe.20315

Reiss, H. (2018). *The empathy effect*. Boulder, CO: Sounds True.

Research and Economic Analysis Division of the Department of Business, Economic Development & Tourism, State of Hawaii. (2018). *Demographic, social, economic, and housing characteristics for selected race groups in Hawaii.* http://files.hawaii.gov/dbedt/census/acs/Report/SelectedRacesCharacteristics_HawaiiReport.pdf

Restam, Z. (n.d.a). *Articles of incorporation of Restam Z/Bylaws of Restam Z.* Retrieved from https://www.Restam Z.org/leadership-central/governing-documents

Restam, Z. (n.d.b). *Fact sheet*. Retrieved from https://www.Restam Z.org/leadership-central/statistics-and-data-hub

Rhia, C., & Binder, C. (2011). *Accelerating business results through leadership & management* [White paper]. Retrieved from https://www.sixboxes.com/_customelements/uploadedResources/125345_PerfThinkingManagementWhitePaper.pdf

Richardson, K. A. (2008). Managing complex organizations: Complexity thinking and the science and art of management. *Emergence*, *10*(2), 13–26. Retrieved from https://journal.emergentpublications.com/

Richman, R. C., Morahan, P. S., Cohen, D. W., & McDade, S. A. (2001). Advancing women and closing the leadership gap: The Executive Leadership in Academic Medicine (ELAM) program experience. *Journal of Women's Health & Gender-Based Medicine*, *10*(3), 271–277. doi:10.1089/152460901300140022 PMID:11389787

Rigby, D. K., Sutherland, J., & Noble, A. (2018). Agile at scale: How to go from a few teams to hundreds. *Harvard Business Review*, *96*(3), 88–96. Retrieved from www.hbr.org

Riotto, J. J. (2004). Model for calculating ROI of training/learning initiatives. *Journal of Interactive Instruction Development*, *16*(4), 18–21.

Roberts, K. (2019). *U.S. Export Losses to China at $30 Billion, As Temporary Trade War Truce Announced*. Retrieved December 16, 2019, from https://www.forbes.com/sites/kenroberts/2019/12/16/us-export-losses-to-china-at-30-billion-as-temporary-trade-war-truce-announced/#61cf9c941125

Roberts, J. (2006). Limits to Communities of Practice. *Journal of Management Studies*, *43*(3), 623–639. doi:10.1111/j.1467-6486.2006.00618.x

Rock, D. (2008). SCARF: A brain-based model for collaborating with and influencing others. *NeuroLeadership Journal*, *1*, 44–52.

Rock, D. (2009). *Your brain at work*. New York, NY: Harper Business.

Rock, D., & Schwartz, J. M. (2006). A brain-based approach to coaching. *The International Journal of Coaching in Organizations*, *4*(2), 32–43.

Rockquemore, K. A. (2017). Building a network of mentors after you receive tenure. *Inside Higher Education*. https://www.insidehighered.com/advice/2017/10/25/building-network-mentorsafter-you-receive-tenure-essay

Rosing, K., Frese, M., & Baush, A. (2011). Explaining the heterogeneity of the leadership-innovation relationship: Ambidextrous leadership. *The Leadership Quarterly*, *22*(5), 956–974. doi:10.1016/j.leaqua.2011.07.014

Rossett, A. (1999). Analysis for human performance technology. In *Handbook of Human Performance Technology* (2nd ed., pp. 139–162). San Francisco, CA: Jossey-Bass/ Pfeiffer.

Rosso, B. D. (2014). Creativity and constraints: Exploring the role of constraints in the creative processes of research and development teams. *Organization Studies*, *35*(4), 551–585. doi:10.1177/0170840613517600

Rowe, J., Shores, L., Mott, B., & Lester, J. (2011). Integrating learning, problem solving, and engagement in narrative-centered learning environments. *International Journal of Artificial Intelligence in Education*, *21*(1-2), 115–133.

Roy, K. (2014). Why we need gender equity now. *Forbes Women.* Retrieved December 18, 2019, from https://www.forbes.com/sites/ellevate/2017/09/14/why-we-need-gender-equity-now/#72be1f4c77a2

Roy, R., & Pershing, J. A. (2012, July). Examining the boundaries of HPT through the lens of communities of practice. *Performance Improvement Quarterly*, *25*(2), 79–105. doi:10.1002/piq.21120

Rubin, K. (n.d.). *General Information about Hawaiian Shield Volcanoes.* Retrieved, February 8, 2020, from https://www.soest.hawaii.edu/GG/HCV/haw_volc.html

Rummler, G. A., & Brache, A. P. (1995). *Improving performance: How to manage the white space on the organization chart* (2nd ed.). San Francisco, CA: Jossey-Bass.

Rummler, G., & Brache, A. (1995). *Improving performance. How to manage the white space within the organization chart*. San Francisco, CA: Jossey-Bass.

Ryan, R., & Deci, R. (2017). *Self-determination theory. Basic psychological needs in motivation, development, and wellness*. New York, NY: Guilford Press.

Salas, E., Tannenbaum, S. I., Kozlowski, S. W. J., Miller, C. A., Mathieu, J. E., & Vessey, W. B. (2015). Teams in space exploration: A new frontier for the science of team effectiveness. *Current Directions in Psychological Science*, *24*(3), 200–207. doi:10.1177/0963721414566448

Salopek, J. (2010). Thriving through change, cultivating growth. *Training & Development*, *10*, 53–54.

Sams. N. (2017). *Mission Lutheran Church presentation*. Academic Press.

Santora, K. A., Mason, E. J., & Sheahan, T. C. (2013). A Model for Progressive Mentoring in Science and Engineering Education and Research. *Innovative Higher Education*, *38*(5), 427–440. doi:10.100710755-013-9255-2

Schein, E. H. (2013). *Humble inquiry*. San Francisco, CA: Berrett-Koehler Publishers, Inc.

Schippers, M. C., West, M. A., & Edmondson, A. C. (2017). Team reflexivity and innovation. In E. Salas, R. Rico, & J. Passmore (Eds.), *The Wiley Blackwell handbook of the psychology of team working and collaborative processes* (pp. 459–478). Malden, MA: Wiley Blackwell. doi:10.1002/9781118909997.ch20

Schlosser, B., Steinbrenner, D., Kumata, E., & Hunt, J. (2006). The coaching impact study: Measuring the value of executive coaching. *The International Journal of Coaching in Organizations*, *4*(3), 8–26.

Schofield, K., Analoui, B., Brooks, J., & Hussain, S. F. (2018). Competitive Communities of Practice, Knowledge Sharing, and Machiavellian Participation: A Case Study. *International Journal of Training and Development*, *22*(3), 210–221. doi:10.1111/ijtd.12129

Schönborn, G. (2010). Value performance: On the relation between corporate culture and corporate success. *Zeitschrift Für Psychologie. The Journal of Psychology*, *218*(4), 234–242. doi:10.1027/0044-3409/a000033

Schonfeld, D. J., Adams, R. E., Fredstrom, B. K., Weissberg, R. P., Gilman, R., Voyce, C., & Speese-Linehan, D. (2015). Cluster-randomized trial demonstrating impact on academic achievement of elementary social-emotional learning. *School Psychology Quarterly*, *30*(3), 406–420. doi:10.1037pq0000099 PMID:25485463

Schreiber, D. A. (1998). Best practices of distance training. In D. A. Schreiber & Z. L. Berge (Eds.), *Distance training: How innovative organizations are using technology to maximize learning and meet business objectives* (pp. 393–409). San Francisco, CA: Jossey-Bass.

Schwab, K. (2019). *Davos Manifesto 2020: The universal purpose of a company in the fourth industrial revolution*. Retrieved from https://www.weforum.org/agenda/2019/12/davos-manifesto-2020-the-universal-purpose-of-a-company-in-the-fourth-industrial-revolution

Searle, J. L. (1970). *Speech acts: An essay in the philosophy of language*. Cambridge, UK: Cambridge University Press.

Sell, Y., & Vielmetter, G. (2014). Leadership 2030: The Six Megatrends You Need to Understand to Lead Your Company into the Future. American Management Association.

Senge, P. (2009). *The Fifth Discipline: The Art & Practice of the Learning Organization*. New York, NY: Doubleday.

Senge, P. M. (1990). *The Fifth Discipline*. New York: Doubleday Business.

Shih, W. (2020). Global manufacturing during the Coronavirus crisis: Supply shock meets demand shock. *Forbes*. Retrieved from https://www.forbes.com/sites/willyshih/2020/03/20/global-manufacturing-supply-shock-meets-demand-shock/#9e03857729bd

Shipley, L. (2020). How Tesla sets itself apart. *Harvard Business Review*. Retrieved from https://hbr.org/2020/02/how-tesla-sets-itself-apart

Shuffler, M. L., DiazGranados, D., & Salas, E. (2011). There's a science for that: Team development interventions in organizations. *Current Directions in Psychological Science*, *20*(6), 365–372. doi:10.1177/0963721411422054

Siehoff, D. (2020). *Weathering the storm: How the National Roofing Contractors Association uses certifications to protect members during a labor shortage*. Retrieved from: https://forummagazine.org/weathering-the-storm/

Sieler, A. (2003). Coaching to the human soul.: Vol. 1. *The linguistic basis of ontological coaching*. Blackburn, Australia: Newfield Australia.

Sieler, A. (2007). Coaching to the human soul.: Vol. 2. *Emotional learning and ontological coaching*. Blackburn, Australia: Newfield Australia.

Sieler, A. (2012). Coaching to the human soul.: Vol. 3. *The biological and somatic basis of ontological coaching*. Blackburn, Australia: Newfield Institute.

Silva, D. A. C. S., & Mendis, B. A. K. M. (2017). Male vs female leaders: Analysis of transformational, transactional & laissez-faire women leadership styles. *European Journal of Business and Management*, *9*(9), 19–26.

Sims, C. F., DePeralta, H., & Brown, S. (2020). Furthering women faculty in leadership roles – A human performance technology intervention research case study. Manuscript submitted for publication, Department of Human Resource Development, Clemson University, Clemson, SC.

Smarick, A. (2010). The turnaround fallacy: Stop trying to fix failing schools. Close them and start fresh. *Education Next*, *10*(1), 21–26. Retrieved from https://www.educationnext.org/files/ednext_20101_20.pdf

Smircich, L. (1983). Concepts of culture and organizational analysis. *Administrative Science Quarterly*, *28*(3), 339–358. doi:10.2307/2392246

Smith, C. (2020). Honeywell, 3M, and GE ramp up effort to produce hospital supplies in Coronavirus fight. *Barron's*. Retrieved from https://www.barrons.com/articles/honeywell-3m-and-ge-ramp-up-effort-to-produce-hospital-supplies-in-coronavirus-fight-51584658374

Snowden, D. (2014, June 12). Managing under conditions of uncertainty, lessons from the natural sciences. *State of the net 2014*. Retrieved August 24, 2015 from https://www.youtube.com/watch?v=APB_mhpsQp8

Snowden, D. (2020). *Cynefin St. David's day 2019 (5 of 5).* Retrieved from https://cognitive-edge.com/blog/cynefin-st-davids-day-2019-5-of-5/

Snowden, D. J. (2012a). *The origins of Cenefin - Part 6*. Retrieved from http://cognitive-edge.com/blog/entry/3452/part-six-origins-of-cynefin

Snowden, D. J. (2012b). *The origins of Cynefin - Part 1*. Retrieved from http://cognitive-edge.com/blog/entry/3505/part-one-origins-of-cynefin

Snowden, D. J. (2012c). *The origins of Cynefin - Part 2*. Retrieved from http://cognitive-edge.com/blog/entry/5656/part-two-origins-of-cynefin

Snowden, D. J. (2012d). *The origins of Cynefin - Part 3*. Retrieved from http://cognitive-edge.com/blog/entry/3455/part-three-origins-of-cynefin

Snowden, D. J. (2012e). *The origins of Cynefin - Part 4*. Retrieved from http://cognitive-edge.com/blog/entry/3454/part-four-origins-of-cynefin

Snowden, D. J. (2012f). *The origins of Cynefin - Part 5*. Retrieved from http://cognitive-edge.com/blog/entry/3453/part-five-origins-of-cynefin

Snowden, D. J. (2012g). *The origins of Cynefin - Part 7*. Retrieved from http://cognitive-edge.com/blog/entry/3451/part-seven-origins-of-cynefin

Snowden, D. J., & Boone, M. E. (2007). A leader's framework for decision making. *Harvard Business Review*, *85*(11), 68–76. PMID:18159787

Sorcinelli, M. D., & Yun, J. (2007). From mentor to mentoring networks: Mentoring in the new academy. *Change: The Magazine of Higher Learning*, *39*(6), 58–61. doi:10.3200/CHNG.39.6.58-C4

Spencer, L. (2001). The economic value of emotional intelligence competencies and EIC-based HR programs. In C. Cherniss & D. Goleman (Eds.), *The emotionally intelligent workplace* (pp. 45–82). San Francisco, CA: Jossey-Bass.

Spitzer, D. (1992). The design and development of effective interventions. In Handbook of human performance technology: A comprehensive guide for analyzing and solving performance problems in organizations (pp. 114-129). San Francisco, CA: Jossey-Bass.

Stahl, G. K., Maznevski, M. L., Voight, A., & Jonsen, K. (2010). Unraveling the effects of cultural diversity in teams: A meta-analysis of research on multicultural work groups. *Journal of International Business Studies*, *41*(4), 690–709. doi:10.1057/jibs.2009.85

Steinbrenner, D., Kumata, E., & Schlosser, B. (2007). Commentary on The coaching impact study: Measuring the value of executive coaching. *The International Journal of Coaching in Organizations*, *5*(1), 164–167.

Stokols, D. (2018). *Social ecology in the digital age: Solving complex problems in a globalized world*. San Diego, CA: Academic Press.

Stolovich, H., & Keeps, E. (1999). What is human performance technology? In H. Stolovich & E. Keeps (Eds.), *Handbook of performance improvement technology* (2nd ed., pp. 3–23). San Francisco, CA: Jossey-Bass.

Strozzi-Heckler, R. (2007). *The leadership dojo*. Berkeley, CA: Frog Press.

Sturm. (2007). Conclusion to responses the architecture of inclusion: Interdisciplinary insights on pursuing institutional citizenship. *Harvard Journal of Law and Gender*, *3*, 409-424.

Sturm, S. (2006). The architecture of inclusion: Advancing workplace equity in higher education. *Harvard Journal of Law and Gender*, *29*, 248–334.

Suddaby, R. (2010). Challenges for institutional theory. *Journal of Management Inquiry*, *19*(1), 14–20. doi:10.1177/1056492609347564

Tang, J., Min-Shi, L. I. U., & Wen-Bin, L. I. U. (2017). How workplace fun influences employees' performance: The role of person-organization value congruence. *Social Behavior and Personality*, *45*(11), 1787–1801. doi:10.2224bp.6240

Tan, X., Fu, F. Q., & Yi, H. (2016). Improving retail sales performance by integrating HPT with marketing strategies. *Performance Improvement*, *55*(1), 6–13. doi:10.1002/pfi.21546

Tarmizi, H., de Vreede, G.-J., & Zigurs, I. (2009). Leadership Challenges in Communities of Practice. *International Journal of e-Collaboration*, *3*(1), 18–39. doi:10.4018/jec.2007010102

Thalheimer, W. (2016). *Performance-focused smile sheets: A radical rethinking of a dangerous art form*. Work-learning Press.

Tharp, B. M. (2009). *Defining "culture" and "organizational culture": From anthropology to the office.* Retrieved from https://www.kvworkspace.com/files/resources/Defining-Culture-and-Organizationa-Culture_5.pdf

Thomas, N., Bystydzienski, J., & Desai, A. (2014). Changing institutional culture through peer mentoring of women STEM faculty. *Innovative Higher Education*, *40*(2), 143–157. doi:10.100710755-014-9300-9

To, M. L., Ashkanasy, N. M., & Fisher, C. D. (2017). Affect and creativity in work teams. In S. Eduardo, R. Rico, & J. Passmore (Eds.), *The Wiley Balckwell handbook of the psychology of team working and collaborative processes* (pp. 441–457). West Sussex, UK: John Wiley & Sons. doi:10.1002/9781118909997.ch19

Travis, G. (2019). How the Boeing 737 max disaster looks to a software developer. *IEEE Spectrum*. Retrieved from https://spectrum.ieee.org/aerospace/aviation/how-the-boeing-737-max-disaster-looks-to-a-software-developer

Tseng, M. C. (2014). Computer Vision Syndrome for Non-native Speaking Students: What are the Problems with On-line Reading? *Journal of Interactive Learning Research, 25*(4), 551-567. Retrieved July 14, 2019 from https://www.learntechlib.org/primary/p/48050/

Turner, J. R., & Baker, R. (2019). Complexity theory: An overview with potential applications for the social sciences. *Systems, 7*(4), 23. doi:10.3390ystems7010004

Turner, J. R., Thurlow, N., & Rivera, B. (2019). *The Flow System Guide*. Retrieved from https://flowguides.org/index.php

Turner, J. R., & Baker, R. (in press). Doing the do: A case study testing creativity and innovative processes as complex adaptive systems. *New Horizons in Adult Education and Human Resource Development*.

Turner, J. R., Baker, R. M., & Romine, K. (2019). Complex adaptive team systems (CATS): A theoretical model addressing complexity and levels of interaction. Book chapter. In S. D. Göker (Ed.), *Leadership*. INTECH Open Science. doi:10.5772/intechopen.88743

Turner, J. R., & Thurlow, N. (2020). *The flow system: Key principles and attributes*. The Flow Consortium.

Turner, J. R., Thurlow, N., & Rivera, B. (2020). *The Flow System Guide*. The Flow Consortium.

U.S. Census Bureau. (n.d.). *Quick Facts: Hawaii; United States.* Retrieved February, 8, 2020, from https://census.gov/quickfacts/

U.S. Department of Education. (2010a). *NCLB table of contents*. Retrieved from https://www2.ed.gov/policy/elsec/leg/esea02

U.S. Department of Education. (2010b). *Elementary and Secondary Education Act (ESEA)*. Retrieved from https://www.ed.gov/esea

U.S. National Science Foundation. (2009). *ADVANCE: Increasing the Participation and Advancement of Women in Academic Science and Engineering Careers (ADVANCE) Program Solicitation*. NSF 12-584. https://www.nsf.gov/pubs/2012/nsf12584/nsf12584.htm

US Bureau of Labor Statistics. (2020). Retrieved from: https://www.bls.gov/

Van Tiem, M. J., & Dessinger, J. (2012). Fundamentals of Performance Improvement (3rd ed.). International Society for Performance Improvement. John Wiley and Sons.

Van Tiem, D. M., Moseley, J. L., & Dessinger, J. C. (2012). *Fundamentals of Performance Improvement* (3rd ed.). San Francisco, CA: Pfeiffer, Wiley & Sons Inc.

Van Tiem, D. M., Moseley, J. L., & Dessinger, J. C. (2012). *Fundamentals of performance improvement: Optimizing results through people, process, and organizations*. San Francisco, CA: Pfeiffer.

Van Tiem, D., Moseley, J. L., & Dessinger, J. C. (2012). *Fundamentals of performance improvement: Optimizing results through people, process, and organization*. San Francisco, CA: Wiley & Sons, Inc.

Van Tiem, D., Moseley, J., & Dessinger, J. (2012). *Fundamentals of performance improvement: Optimizing results through people, processes and organizations* (3rd ed.). San Francisco, CA: John Wiley and Sons.

Volini, E., Schwartz, J., Roy, I., Hauptmann, M., Van Durme, Y., Denny, B., & Bersin, J. (2019). *Leading the social enterprise: reinvent with a human focus*. Deloitte. Retrieved March 9, 2020 from https://www2.deloitte.com/content/dam/insights/us/articles/5136_HC-Trends-2019/DI_HC-Trends-2019.pdf

Waldrop, M. M. (1992). *Complexity: The emerging science at the edge of order and chaos*. New York, NY: Simon & Schuster Paperbacks.

Watland, K. H., Hallenbeck, S. M., & Kresse, W. J. (2008, February). Breaking bread and breaking boundaries: A case study on increasing organizational learning opportunities and fostering communities of practice through sharing meals in an academic program. *Performance Improvement Quarterly*, *20*(3/4), 167–184. doi:10.1002/piq.20009

WeChat. (2019). Retrieved October 9, 2019, from https://www.wechat.com/en/

Weller, A. (2017). Professional Associations as Communities of Practice: Exploring the Boundaries of Ethics and Compliance and Corporate Social Responsibility. *Business & Society Review, 122*(3), 359–392. doi:10.1111/basr.12120

Wenger, E., McDermott, R., & Snyder, W. M. (2002). *Cultivating communities of practice: A guide to managing knowledge*. Boston, MA: Harvard Business School Press.

West, M. A. (2002). Sparkling fountains or stagnant ponds: An integrative model of creativity and innovation implementation in work groups. *Applied Psychology*, *51*(3), 355–424. doi:10.1111/1464-0597.00951

West, M. A., & Farr, J. L. (1989). Innovation at work: Psychological perspectives. *Social Behavior: An International Journal of Applied Psychology*, *4*, 15–30.

Wharton. (2020). Coronavirus and supply chain disruption: What firms can learn. *Knowledge@Wharton*. Retrieved from https://knowledge.wharton.upenn.edu/article/veeraraghavan-supply-chain/?utm_source=kw_newsletter&utm_medium=email&utm_campaign=2020-03-17

What Works Community pilot launched to help local authorities better address homelessness. (2019, October 3). *Scottish Housing News*. Retrieved from https://www.scottishhousingnews.com/article/what-works-community-pilot-launched-to-help-local-authorities-better-address-homelessness

Whittaker, B. (2008). *What went wrong? Unsuccessful information technology projects*. Retrieved Feb. 4, 2012 from: https://www.emeraldinsight.com/doi/abs/10.1108/09685229910255160

Wikipedia. (2019a). *International Society for Performance Improvement*. Retrieved August 19, 2019. From https://en.wikipedia.org/wiki/International_Society_for_Performance_Improvement

Wikipedia. (2019b). *Human Performance Technology*. Retrieved August 19, 2019 from https://en.wikipedia.org/wiki/Human_performance_technology

Wikipedia. (2019c). *Lucy Surhyel Newman*. Retrieved August 19, 2019 from https://en.wikipedia.org/wiki/Lucy_Surhyel_Newman

Wikipedia. (2019d). *Thomas Gilbert (Engineer)*. Retrieved July 31, 2019 from https://en.wikipedia.org/wiki/Thomas_Gilbert_(engineer)

Wikipedia.org. (2019). *Historical GDP of China*. Retrieved March 1, 2020. https://en.wikipedia.org/wiki/Historical_GDP_of_China

Williams, J. L., Molloy Elreda, L., Henderson, L. J., Deutsch, N. L., & Lawrence, E. C. (2019). Dyadic connections in the context of group mentoring: A social network approach. *Journal of Community Psychology*, *47*(5), 1184–1196. doi:10.1002/jcop.22180 PMID:30852850

Wilmoth, F. S., Prigmore, C., & Bray, M. (2002). HPT models: An overview of the major models in the field. *Performance Improvement*, *41*(8), 16–24. doi:10.1002/pfi.4140410806

Wilson, D. S., Hayes, S. C., Biglan, A., & Embry, D. D. (2014). Evolving the future: Toward a science of intentional change. *Behavioral and Brain Sciences*, *37*(4), 395–416. doi:10.1017/S0140525X13001593 PMID:24826907

Wilson, D. S., Ostrom, E., & Cox, M. E. (2013). Generalizing the core design principles for the efficacy of groups. *Journal of Economic Behavior & Organization*, *90*, S32. doi:10.1016/j.jebo.2012.12.010

Winiecki, D. J. (2015). Comparing a few behavior engineering models. *Performance Improvement*, *54*(8), 6–14. doi:10.1002/pfi.21501

Winograd, T., & Flores, F. (1986). *Understanding computers and cognition: A new foundation for design*. Norwood, NJ: Ablex Publishing Corporation.

Witt, D. (2020). *2020 leadership development trends, challenges, and opportunities*. Retrieved January 8, 2020 from Ken Blanchard ignite! newsletter, https://resources.kenblanchard.com/research-insights

Woodman, R. W., Sawyer, J. E., & Griffin, R. W. (1993). Toward a theory of organizational creativity. *Academy of Management Review*, *18*(2), 293–321. doi:10.5465/amr.1993.3997517

Wu, L., Wang, D., & Evans, J. A. (2019). Large teams develop and small teams disrup science and technology. *Nature*, *566*(7744), 378–382. doi:10.103841586-019-0941-9 PMID:30760923

Zadelhoff, M. (2017). Cybersecurity has a serious talent shortage. Here's how to fix it. *Harvard Business Review*, *5*. https://hbr.org/2017/05/cybersecurity-has-a-serious-talent-shortage-heres-how-to-fix-it

Zagury Tourinho, E., & Vichi, C. (2012). Behavioral-analytic research of cultural selection and the complexity of cultural phenomena. *Revista Latinoamericana de Psicología*, *44*(1), 169–179. Retrieved from https://dialnet.unirioja.es/servlet/oaiart?codigo=3916013

Zak, P. (2014). Why Your Brain Loves Good Storytelling. *Harvard Business Review*, *10*. https://hbr.org/2014/10/why-your-brain-loves-good-storytelling

Zheng, W., Wu, Y.-C. J., Chen, X. C., & Lin, S.-J. (2017). Why do employees have counterproductive work behavior? *Management Decision*, *55*(3), 563–578. doi:10.1108/MD-10-2016-0696

Zhou, J. (2006). A model of paternalistic organizational control and group creativity. In Y.-R. Chen (Ed.), Research on managing groups and teams: Vol. 9. *National culture and groups* (pp. 75–94). Bingley, UK: Emerald. doi:10.1016/S1534-0856(06)09004-9

About the Contributors

Darlene M. Van Tiem, Ph.D., CPT, Associate Professor Emeritus, was coordinator of the graduate Performance Improvement and Instructional Design program, School of Education, University of Michigan – Dearborn. She was on the faculty of Capella University, primarily chairing and mentoring doctoral dissertations and grading comprehensive examinations. Previously, she was the Human Resources Training Director, at AT&T (Ameritech) Yellow Pages (responsible for Michigan, Ohio, Indiana, and Wisconsin); and Curriculum Manager for the entire General Motors Technical Curriculum, including training General Motors suppliers. Darlene is an international Past-President of the International Society for Performance Improvement (ISPI) and on the international Board of Directors from 2006-2011. She was lead author, with James Moseley and Joan Dessinger, of three ISPI award winning books: Fundamentals of Performance Improvement: Optimizing Results through People, Process, and Organizations (third edition, 2012); Fundamentals of Performance Technology: A Guide to Improving People, Process, and Performance (second edition 2004) and Performance Improvement Interventions: Enhancing People and Performance through Performance Technology (2001). She was selected for the Thomas Gilbert Award (the highest scholarly award) and the Lifetime Service Award for international ISPI and three Michigan Chapter publishing awards. Darlene has published over 50 journal articles and presented over 50 juried and 45 invited presentations for professional associations. She has a Ph.D. Wayne State University in Higher Education, Post-Secondary Administration, M.S.A. in Business Administration from Central Michigan University; M.Ed. Marygrove College; M.A. Michigan State University; and Certificate in Integrated Resource Management (including Manufacturing and Production Management), Oakland University, Graduate School of Business.

Nancy Crain Burns, Ph.D., CPT is the President of Crain Burns Associates, LLC and is dedicated to serving others and helping organizations enhance success and productivity. As a Certified Performance Technologist, she approaches each situation with a systematic view of appreciation and opportunity. She is currently servicing as President of the International Society for Performance Improvement (ISPI). Nancy is a member of several other professional organizations, including: Crossville Rotary, ISPI Tennessee, Capella Virtual Chapter, PMI (Project Management Institute) and PMI East Tennessee, Director of University and Academic Outreach. Nancy also served as VP of Programs for ISPI MI, President of ISPI Capella and Program Chair for ISPI-TN. She is the Steering Committee Chair for the Crossville-Cumberland Horizon Initiative. While working full-time in a financial services organization, Nancy completed her doctorate in Business: Organization and Management from Capella University. She also earned her MBA from Northwood University, after completing a dual BBA in Business/Computer Information Management. Her areas of industry expertise include education, leadership, business planning

and strategy, human resources, business information systems and project management. Nancy has led strategic and vision planning sessions for organizations, including the Youth Achievement Foundation of Crossville. She created and led leadership/planning and volunteer engagement workshops for the Fairfield Glade Art Guild. In addition, she coached individuals through career transition. Nancy worked as Manager/Project Manager: North American Operations - New Development Program Office and as a strategic planning liaison to five business departments, including Human Resources and Communications. Nancy served as the lead coach for the Cumberland Business Incubator's Springboard Your Business to Success Entrepreneurship Workshops. Nancy's heart for small business stems from working in her family's New Orleans perfume shop. The business remained in her family for over 60 years. Nancy and her husband invested their family's savings in a tire and auto repair shop located in rural Oklahoma. She understands the challenges of one spouse supporting another's dream. Her dissertation topic was the "Impact of personal influence on the success of entrepreneurial women." The focus was leadership, communication and influence. Dr. Burns has served as an adjunct professor for five colleges and a Teaching and Learning Coordinator for Davenport University. She has taught Leadership, Organizational Behavior, Business Management, Entrepreneurship/Business Planning, Philosophy of American Enterprise and Project Management courses. In addition, she is certified to assess prior experiential learning and recommend college credit.

* * *

Rose Baker is an Assistant Professor in the Department of Learning Technologies, College of Information, University of North Texas. Her research includes researches management techniques and statistical applications for operations and performance improvement, survey and evaluation design, and open learning to close the gap between preparation and professional practice. Dr. Baker holds a PhD in Instructional Systems from The Pennsylvania State University and is certified as a PMP® by the Project Management Institute. ORCID: 0000-0003-2191-0436; ResearcherID: D-2994-2016.

Zachary Beaver is a performance improvement and management consultant who strives to improve, develop, and support the performance of businesses and individuals with scientifically validated tools and methods from the fields of Industrial/Organizational Psychology, Human Performance Technology, and Organization Behavior Management. He has professional experience as a manager and organizational developer in both the public and private sectors. Zach has multiple years of experience in performance management, recruiting, employee selection, and learning and development. His passions include organizational development, project management, strategic planning, process improvement, and employee development.

Carl Binder is CEO of The Performance Thinking Network, LLC, where he develops performance consultants, leaders and managers in organizations worldwide. Starting in 1970 as a student with B.F. Skinner at Harvard, he worked for ten years in B.H. Barrett's Behavior Prosthesis Lab, conducting laboratory and classroom research and training teachers. An early contributor to Precision Teaching, he was mentored by Ogden Lindsley and Eric Haughton. In 1982, he founded his first consulting firm, Precision Teaching and Management Systems, Inc., and became active in the International Society for Performance Improvement (ISPI) where his mentors included Tom Gilbert, Joe Harless, Robert Horn and Donald Tosti. He founded Product Knowledge Systems, Inc., a Boston consulting firm specializing

in sales enablement for Global 1000 companies. Carl is currently known for Six Boxes Performance Thinking, a plain English viral approach to organizational performance improvement. APA Division 25 honored Carl with the Fred S. Keller Award (2004), ISPI recognized his contributions to performance improvement with Honorary Lifetime Membership (2009) and the Thomas F. Gilbert Award (2012), and the OBM Network gave him its Lifetime Achievement Award (2015).

Stephen Brown III is a PhD student in the Educational Leadership program at Clemson University. Both his Bachelor's and Master's are in mathematics and prior to coming to Clemson, he was a high school math teacher in Massachusetts, where he grew up. He plans on focusing his research on low SES high school students.

Angela Danielle Carter is a Clinical Assistant Professor at Clemson University in the Master of Human Resource Development program and an International Coaching Federation ACC Certified Executive Leadership Coach. Dr. Carter teaches, researches, and presents on issues concerning gender equity, human resource and organization development, leadership, coaching, and action research.

Elizabeth A. Carter, PhD, is an insurance professional, performance improvement leader, speaker, and author. She is currently a Director of Finance for Highmark, Inc. in Pittsburgh, PA. With over 25 years working in corporate settings in a financial discipline, Dr. Carter's unique combination of financial acumen and knowledge empowerment has provided her the opportunity to lead, mentor and develop others in the areas of strategy and financial analysis, performance improvement, and talent development. Her prior experiences include leading and participating in formal and informal communities of practice. Dr. Carter holds a PhD in education specializing in training and performance improvement from Capella University. She earned an MS in education in the same specialization from Capella University; an MBA in management from the New York Institute of Technology; and a BBA in marketing from Hofstra University. Further, she holds the Chartered Property Casualty Underwriter designation and is a Distinguished Toastmaster.

Joseph R. Castilleja, PhD, is a researcher particularly focused on the fields of Human Performance Technology (HPT), and Education. Both a scholar and practitioner, Dr. Castilleja has served as a teacher, principal, school district superintendent, and performance consultant. His research reflects the work of school improvement and school turnaround. Areas of interest have included turning around schools identified for improvement by United States Federal policy, improvement of instructional practice, and general practices of school leaders. Dr. Castilleja holds a PhD in Education with a specialization in Training and Performance Improvement from Capella University. He earned his MEd in Curriculum, Instruction, and Assessment from Jones International University, and his BA in Music from Eastern Washington University. Dr. Castilleja currently serves the field of education as Superintendent of the Mabton School District, and is also a member of the Washington Army National Guard.

Sue Czeropski is an accomplished Learning & Development Executive with more than 20+ years' experience improving business performance, strengthening organizational capabilities and leveraging best practices across the organization. Currently, Sue is the CLO of Performance Instruction LLC, where she uses her unique combination of e-Learning, education, management, training, and organizational development expertise driving transformative change in organizations. Sue is an active volunteer in

ISPI. Served as the Education Chair for ISPI 2018 Conference, is a Certified Performance Technology reviewer and works to support the ISPI Bay Area Boise State University Chapter. This year Sue was elected to be on the Board of Directors for ISPI.

Hui Ding has more than 20 years experiences in management innovation, learning & development and organizational consulting. He founded Reach One management consulting in 2004, becoming the leading performance improvement consulting firm in China. He served many industries such as communication, hotel chain, agriculture, high tech, and manufacturing. A Certified Performance Technologist (CPT) since 2017, he also held various important positions, such as General Secretary of China Management Training Alliance, Deputy Director of ISPI Asia Pacific Center, Standing member of China Management Science Society, and frequent keynote speaker and host at national conferences such as Sino-China Management Conference, Training magazine conference, etc. Also faculty at MBA programs at various universities in China, such as University of Science and Technology of China, etc.

Frank Q. Fu, PhD, CPT, is an associate professor of marketing at the University of Missouri at St. Louis. He has published articles in major marketing journals and presented at national and international academic conferences. His work has appeared in the Journal of Marketing, Journal of Personal Selling & Sales Management, Human Performance, and Performance Improvement. He currently serves as an associate editor of Performance Improvement Quarterly and on the editorial review board of Journal of Marketing Theory & Practice. Prior to joining academia, he gained sales, marketing, and management experience in the pharmaceutical and medical equipment industries. In addition to academic research and teaching, he helps American and Chinese companies improve their business performance through consulting and advising efforts. He is a founding member of the ISPI China Chapter and served as the vice president of membership/marketing of the ISPI St. Louis Chapter.

Brian S. Grant is a principal analyst and designer at Raytheon Technologies, with over 20 years experience as a thought leader in learning development and human performance improvement. Brian has presented at numerous ISPI conferences, including on the subject of his chapter, the Story-based Learning model. He also writes fiction published under the pen name B. Geren Sanford. Brian is thrilled as he continues to discover bridges between these two aspects of his life, learning and storytelling, with each informing and building off of the other.

George Limin Gu has been an established learning & performance technologist since 1991, broad experience and expertise in management innovation, learning & development, performance improvement, organization development, management consulting, & change management. Has been the lead on a variety of projects with various responsibilities. Verifiable track record of creating proven results. Frequent speaker at national forums and conferences. ISPI Minnesota President 2001 and 2002. CPT since 2003. Former IBSTPI Director. Former IBM China Global Delivery Learning & Knowledge Leader. Director of ISPI. Adjunct Professor at Tianjin Foreign Studies University.

Alena Höfrová is a doctoral candidate in the College of Behavioral, Social and Health Sciences, Clemson University and a doctoral student in the College of Economics and Management, Czech University of Life Sciences Prague. She holds a master's degree in Economic and Cultural Studies from the Czech University of Life Sciences Prague. She is a member of the internal evaluation team for the

Tigers ADVANCE project funded by the National Science Foundation at Clemson University. Her research interests include faculty career success, faculty professional development, start-up packages, and program evaluation.

Stephanie Johnson is a Master Black Belt for PACCAR, responsible for global performance improvement and Six Sigma training projects supporting, Kenworth, Peterbilt, DAF, PACCAR Parts, ITD, Financial Services, and PacLease. Prior positions at PACCAR include National Dealer Training Manager at PACCAR Parts and Continuous Improvement Instructional Designer for PACCAR Corporate. Prior to her role at PACCAR, Stephanie spent time in positions at the State of Washington, SABIC Innovative Plastics, General Dynamics Land Systems, and O/E Learning. Stephanie has a Bachelors in Education from Central Michigan University, her Masters of Arts in Teaching from Saginaw Valley State University, and a PhD in Instructional Technology from Wayne State University.

Steven J. Kelly, CPT, has over forty years' diversified experience as a senior team leader in performance improvement, capacity development, program evaluation, project management and workforce development He has completed coursework for doctoral studies in International Relations, and has an M.A. in Human Relations/Management. Steven is a Certified Performance Expert (CPT) since 2003 and has previously served two terms as a Director on the Board of the International Society for Performance.

John B. Lazar has been a performance consultant and coach since 1983, including twenty-five years as a leadership/executive coach to CEOs and Presidents, business owners, executives, and senior managers through his company John B. Lazar & Associates, Inc. He works with individual leaders and their teams, altering their perspectives, skill sets, stories and performance to produce socially and emotionally intelligent leadership and management, breakthrough execution and business results. In addition to his leadership and executive coaching, he consults to companies on issues of leadership and management practices, communications, evaluation, executive team alignment, culture-strategy fit, and organizational change. John has a master's degree in clinical psychology from the University of Illinois at Chicago and a bachelor's degree in psychology from Lake Forest College. He has been certified as a Master Coach by the International Coach Federation (ICF) since 1999. He received his coach training and certification from Newfield Network in 1992 and 2000 and from the Institute for Generative Leadership in 2010. He is a lifelong Chicago Cubs fan and resides in Forest Park, Illinois, USA.

Lidan Li is the head of the Market Talent Center of China Telecom College, and served as the chief expert and organization development consultant of China Telecom College. His main research areas include leadership assessment, leadership development, strategic innovation and organizational capability. In the past 10 years, he has participated in designing and implementing learning and performance improvement projects together with more than 10 provincial branches of China Telecom. He worked as both the facilitator and trainer on these projects.

Arelis Moore de Peralta (MD, MEd, MPH, Dominican Republic; PhD, Clemson) is a medical epidemiologist and social scientist with experience in health disparities research in the US, and Latin America. A Tenure Track assistant professor of community health, with an inter-disciplinary appointment in the Department of Languages at Clemson University. Her current research includes Community-based Participatory Research (CBPR) for health, partnerships to build healthier communities, and address-

ing U.S. - Hispanics' health disparities through a culturally relevant tool to assess partnership trust in CBPR. Prior, she was the director of the Center for Community Services (CCS), an activity of Clemson University's Institute on Family and Neighborhood Life and its Hispanic family outreach and support program Café Cultura. Dr. Moore de Peralta has published on epidemiological research and behavioral health and community-based participatory research in peer-review journals including Hispanic Health Care International, Journal of Immigrant and Minority Health, GHS Proceedings, Revista Panamericana de Salud Pública, and American Journal of Infection Control. Dr. Moore received the Vera Paster Award in October 2009, in recognition of her work with Latino immigrants, the Kimbrough-Melton Parents Award in April 2010, the Graduate Student Advising and Mentoring Award from the CU/CBSHS in 2015, and Bradley Mentoring Award on Creative Inquiry in 2018. Dr. Moore was a faculty member in the School of Medicine at the Ibero-American University (UNIBE) in Santo Domingo. She coordinated disease preventative and control programs in the Dominican Republic's Ministry of Public Health for 18 years, and consulted for the Panamerican Health Organization (PAHO), USAID, and the CDC.

Lucy Newman has over three decades' experience in Development Finance, Private Sector Banking, Advisory Corporate Governance and Performance Improvement. She has a doctorate in Business Administration from University of Phoenix, Arizona USA, an MBA and a B.Sc. in Business Administration, both from Ahmadu Bello University, Nigeria. Lucy has been an International Member of the International Society for Performance Improvement from 2002, a Certified Performance Technologist from 2008 to date and became a Life Member of ISPI, in 2009. She was the 2012/2014 elected International Director on the Global Board of ISPI and is a Thomas F. Gilbert Distinguished Professional Achievement Award recipient. She is also an Alumni of the INSEAD International Director Certification in Corporate Governance Executive Programme.

M. Mari Novak, CPT, has over forty years of international experience designing, implementing and supervising performance improvement initiatives, multi-disciplinary international research and managing project teams. Her academic record includes doctoral coursework, as well as a Master's degree completed at Western Michigan University. Her extensive travel to over 100 countries in her career provides her with a strong understanding of diverse cultural contexts and working demands.

Brian "Ponch" Rivera is a former F-14 TOPGUN and political-military affairs expert. He is passionate about applying leadership and teamwork lessons he learned in the cockpit and from his experiences at the operational and strategic level of multi-domain (air, sea, land, space, and cyberspace) operations to organizational leaders who are interested in learning how to survive and thrive on their own terms. He is the CEO and founder of AGLX consulting, a current U.S. Navy Selective Reservist, and sought-after speaker. Brian "Ponch" Rivera began his MBA while serving overseas and completed the program concurrently with a MA from Air Command and Staff College. In preparing for his military-to-civilian transition, he earned several certifications in project management, Scrum, and Lean-Six Sigma. Following the 2017 mishaps at sea involving the USS McCain and USS Fitzgerald, CDR Brian "Ponch" Rivera voluntarily returned to active duty service in early 2018 to engage with industry and academia to identify industry "Best Practices" behind changing culture, building high-performing teams, and capturing leading indicators. In this role, "Ponch" leveraged his contacts in industry and academia in-

cluding Professor Turner and Nigel Thurlow to help inform the U.S. Navy's "Industry Best Practices and Learning Culture" Study. Other notable contributors from "Ponch's" network included Dave Snowden, co-creator of the Cynefin framework; Jeff Sutherland, co-creator of Scrum; Amy C. Edmondson; Scott Tannenbaum; Mary Uhl-Bien; and Eduardo Salas.

John Schehl serves as vice-president of Certification at the National Roofing Contractors Association (NRCA). He has designed and facilitated construction industry training since the mid-1980's, including serving 23-years as NRCA education staff. He holds a MA in Instructional Design, Human Resource Development; is a Certified Association Executive; a Registered Roof Consultant; an Authorized OSHA outreach trainer; and, a Certified Assessment and Credentialing Professional.

Cynthia M. Sims is an Assistant Professor and program coordinator of the Master of Human Resource Development, Department of Educational and Organizational Leadership, College of Education, Clemson University, Clemson, South Carolina, U.S.A. Her research focuses on the ways gender and diversity influences the enactment of leadership in the workplace. She was recognized with an Emerald Literati Award, Highly Commended 2019 for a research publication. Dr. Sims is the founder director and co-lead of Clemson's gender equity leadership development and mentoring program for faculty an ADVANCE initiative. She has a bachelor's degree from Lake Forest College, a master's from the College of Education, Harvard University, and a doctorate in organizational leadership from the University of Maryland Eastern Shore. Prior to her academic career, Dr. Sims was employed with a U.S. fortune 100 company, serving as the Director of Staff Operations, Director of Learning and Performance Improvement, and Director of Human Resources.

Nigel Thurlow has an extensive background in executive leadership across a diverse range of industries, including 15 years in various roles in Toyota companies globally. He is the co-creator of The Flow System and co-author of The Flow System Guide (https://flowguides.org/index.php). As the Chief of Agile at Toyota Connected, and the first to hold this title in Toyota globally, he established the Toyota Agile Academy, a training and consulting practice for Toyota teaching and coaching Lean and Agile approaches to industry. He also established the first ever external training accreditation for non-Toyota team members. Nigel introduced agile working approaches and concepts in Toyota, and was the first to teach and deploy Scrum and Agile concepts in Toyota. As of December 2019, he has trained in excess of 7000 people, 4000 of which are Toyota team members. These classes have been taught around the world in numerous global organizations. He is also the first Professional Scrum Trainer globally in Toyota, and the first trainer to have ever been certified by both the creators of Scrum. He also led the successful transformation at 3M Healthcare Information Systems, and has taught and coached in notable companies such as GE, Bose, 3M, TJX, Microsoft, MA State Gov, and MIT. He was one of the earliest contributors to Scrum at Scale.

John Turner is an assistant professor at the University of North Texas for the Department of Learning Technologies in the College of Information. He currently serves as the Editor–in–Chief for the Performance Improvement Quarterly (PIQ) journal. His research interests are in team science, team cognition, leadership, performance improvement, knowledge management, theory building, complexity theory, multilevel model development, and analysis techniques. He is the co-creator of The Flow System and co-author of The Flow System Guide (https://flowguides.org/index.php). Dr. Turner has

published five book chapters, 25 research articles, 10 editorials, with over 56 presentations nationally and internationally. His publications can be found in the following research journals: Advances in Developing Human Resources; Human Resource Development Review; European Journal of Training & Development; International Journal of Technology, Knowledge, & Society; Journal of Information and Knowledge Management; Journal of Manufacturing Technology Management; Journal of Knowledge Management; Performance Improvement; Performance Improvement Quarterly; and Systems. ORCID: 0000-0003-0252-1531 ResearcherID: D-1633-2016.

Xiangjiang Wang, MBA, is the general manager of Zhongshan Branch of China Telecom. He is a Performance Improvement Professional and an internal trainer of China Telecom Group. He serves as the President of Information Industry Association, the Vice President of the Youth Entrepreneurs Association, and a representative of the Municipal People's Congress of Zhongshan City. With more than 20 years of experience in the telecom industry, he has managed multiple departments and branches within China Telecom. He has been a champion for introducing performance improvement to China Telecom and led the initiative to internalize performance improvement within the organization. The performance improvement projects of his teams have won awards from the International Society for Performance Improvement and the ISPI-China Chapter.

Erik Wright is a doctoral student at the University of North Texas and an Adjunct Instructor of Management for the MSSU Plaster School of Business. As a Human Resources professional, Erik has worked in an HR Management role since 2010 and conducted HR activities since 2007. He is currently the Senior Human Resources Manager for Yosemite Hospitality (Aramark Leisure) at Yosemite National Park. He retains a Professional in Human Resources (PHR) certification from the Human Resources Certification Institute as well as a SHRM Certified Professional (SHRM-CP) through the Society for Human Resources Management.

Hong Yi, CPT, serves as the President of Beijing Sinotrac Consulting Co. Ltd. She is a leading performance improvement consultant in China, a Certified Performance Technologist (CPT), and the President of the ISPI China Chapter. She is also a certified action learning facilitator, an adjunct professor at the University of International Business and Economics in Beijing, and a certified instructor registered at the PRC Ministry of Personnel. With nearly 20 years of experience in training and consulting, Ms. Yi has served clients including Chinese and multinational companies, such as IBM, Nokia, Samsung, Sinopec, China Unicom, and China Merchants Bank.

Xiumei Zhang, MBA, is the deputy general manager of the human resource department of Guangdong Telecom, a major subsidiary of China Telecom. She is a Senior Engineer, a Performance Improvement Professional, a National Human Resource Management Professional, and a visiting professor at the Guangdong Vocational College of Posts and Telecommunication. With over 25 years of experience in the telecom industry, she has been leading various functions such as corporate strategy management, human resource, marketing, and Internet operation. The performance improvement projects under her leadership have won a variety of national and international awards including the ISPI Outstanding Human Performance Intervention Award. She has presented at major conferences and published articles in various journals.

Yuan Zheng is the director of the Leadership Teaching and Research Center of China Telecom College, which is an enterprise university of China Telecom Group Co., Ltd. He is mainly responsible for the learning function and developing leaders in the enterprise. He has been engaging in leadership development research and talent evaluation, as well as promoting the enterprise reform from the perspective of organizational capacity improvement. In the past decade, he has led his team to implement strategic decoding workshops in more than 150 internal and external companies. His project has won the ISPI Outstanding Human Performance Intervention Award in 2018.

Index

D

E

F

G

H

I

K

L

M

N

O

P

Q

R

S

T

W