A LITA Guide

CHANGE MANAGEMENT FOR LIBRARY TECHNOLOGISTS

Courtney McAllister

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Change Management for Library Technologists

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Foreword

A. Scarlet Galvan

Change management is—in my experience—the negotiation of other people's fears as well as our own. I've heard it in every objection to a new process, platform, or idea: *we've always done it this way*, *we tried before and failed*, *we might make a mistake*, *we need to get everyone's input*, or a reason provided to me prior to a system-wide library services platform migration: *I don't want my everyday life to change.*

For better or worse, service-oriented professions, the ones steeped in what Fobazi Ettarh termed "vocational awe," have tied our identities to our workplaces ("Vocational Awe and Librarianship: The Lies We Tell Ourselves," in *In the Library with a Lead Pipe*, 2018). The efficacy or overall impact to our health as a result is for another book, but this is one explanation to the resistance we see to change. Another is poor implementation and clinging to ideas well past their failure point. While the majority of us embrace these opportunities and want to try new things, our continued success in doing so relies on the well-managed process. I don't think workers in libraries, archives, and museums are resistant by default, but institutions have memories and cultures of their own, which persist long after bad actors leave.

Perhaps the most striking thing about *Change Management for Library Technologists* is its relentless consideration of the psychological impact of workplace change at all scales and the early acknowledgment that change management varies by environment. An update that doesn't register in the consciousness of one library will be a cataclysmic shift in another. In still other organizations, the update won't be difficult, but how the change is communicated to stakeholders will be the watershed moment that determines the project's success.

For those of us adjusting to new cultures, this book will prove an invaluable resource for creating scaffolds that ease our colleagues' anxieties. For readers engaged in change management already, it will serve as a useful reminder of the fluidity of a successful project, encouraging and accepting the “inherently speculative” nature of forecasting for change. When resistance does occur, McAllister offers a useful framing for the more impatient among us: failure to adapt to particular changes may be out of habit. Change requires practice. I’ve seen the result of this in my own work in systems and technical services. As systems degrade from lack of staffing or maintenance, workarounds become the workflow, and untangling the present from the possible feels like an insurmountable task.

Again, this is mostly the negotiation of fear. No one likes to relinquish expert status, to work around new and possibly iterative bugs in a different interface. But most of us are united by a desire to help our patrons regardless of our specific roles. Effective change management allows us to find common ground, establish expectations, and scale projects to our environment. This is a systemic empathy, and this book is interwoven with examples of how this can become part of our processes.

All resources about change management offer frameworks of care and honor hidden labor. In this way, the attempt to better organize and understand the processes that allow us to function is a courageous act. The well-managed change is a form of care, among the most profound forms of labor in which we can engage.

I remember the result of such care, the colleagues who came to me saying, “the system works better,” and hearing the joy particular to doing work well and confidently. I felt the change reflected in the lightness that came with “It’s so much easier now.”

There is more possible, more ahead of us in the thoughtful imagining and shepherding of the future. *Change Management for Library Technologists* offers a holistic pathway toward that outcome and I hope inspires similar guides and research. I wish I’d had this earlier in my professional life, and know it will benefit others.

Preface

Change Management for Library Technologists: A LITA Guide is intended to help those in libraries, archives, and museums streamline and enhance their local technology changes. Whether you have been a systems librarian for many years or are newly responsible for your institution's computer labs, this guide is designed to provide a succinct gateway to theories, techniques, and real-world examples that can be adapted to your unique constellation of various technologies, organizational cultures, stakeholders, communication styles, and interpersonal dynamics.

Technology change is ever-present in libraries and information centers. Even when no active migrations or implementations are in the pipeline, updates and versioning mean that technologies and systems are never really static. While more noteworthy changes, such as migrating to a new digital repository or introducing a new staff email system, might seem like procedural endeavors that involve a linear progression from *a* to *b*, technology change is actually incredibly complex, and no two changes play out in the same way. Because of their underlying commitment to stewardship, privacy, and meeting the needs of a diverse array of users, libraries and information centers must carefully consider some unique challenges when it comes to technology. Change management theories and techniques can provide meaningful guidance on how to move through a change process without sacrificing these essential values. Specifically, change management enhances technology change by facilitating nuanced analysis, building versatile adaptation strategies, and breaking seemingly overwhelming logistical or internal challenges into more manageable components.

The interaction between technology, organizational culture, and personal attitudes gives technology change additional depth and potential. Within a library or information center, every task or experience has some connection to technology. When walking through the door, a sensor that monitors foot traffic will register your presence. Getting or issuing a library card involves creating an account in the integrated library system (ILS), and even signing up for a program or class probably requires interaction with an online form or calendar system. Each of these individual encounters with technology gestures toward its impact on our daily work, service models, and future development.

Because technology is so heavily intertwined with a library or information center's operations and culture, technology change is an opportunity to rewrite organizational scripts and challenge many preconceived notions of how knowledge flows, where expertise should be allocated or developed, and who might be dynamic change partners. During a technology change process, the notion of a sole technology expert or designated group of experts can be revised to capture a more interactive, decentralized relationship between technology and each member of an organization. Participatory change management can challenge hierarchies and introduce more inclusive conversations about technology, systems, and the overall direction of organizational change. As a result, technologies being used in libraries, archives, and museums can have a transformative impact on colleagues and end users.

ORGANIZATION AND CONTENT

This guide is for a wide range of practitioners in libraries, archives, or museums, regardless of institution size or experience level. Technology change affects all organizations, and the change management concepts discussed in this guide are inherently scalable. While the application of change management techniques at a military base library might differ from the same process in a large public library system, the broad theories and strategies within this guide are intended to resonate with the needs and concerns of both.

This book is divided into five chapters, with three appendixes and a glossary. The first chapter, *The Change Toolkit: Change Management, Technology, and Leadership*, maps Kotter's change management model to the needs and concerns associated with technology changes that take place in libraries, archives, and museums. Chapter 2, *Charting the Course: Assessment and Change Action*, outlines some key assessment strategies that form a foundation for successful change planning, communication, and implementation. Chapter 3, *The Hidden Side of Technology Change: Emotion, Engagement, and Stress*, shifts to the more subtle spectrum of factors that affect successful change management. Because technology can be deeply intertwined with one's professional role and individual sense of self, it is important to understand how technology changes interact with less obvious but highly significant variables, such as mental models and other psychosocial factors.

Chapter 4, *Socializing Technology Change: Communication and Acceptance*, translates the insights from chapter 3 into socialization strategies that can bridge the gap between emotional responses and technical skill development or competency. Much of a successful change process relies on communication and training. Within libraries and information centers, these challenges are magnified by the diverse array of stakeholders and the ethical obligation to avoid alienating users. While technology change is inevitable, libraries and information centers strive to avoid exacerbating issues like the digital divide, which makes communication and training even more integral during a change process. Chapter 5, *Planning for the Future: Iterative Adaptation and Organizational Learning*, outlines techniques for staying agile during a change process and pursuing continuous growth and learning at the organizational level.

Each of the five chapters contains notes from the field to connect theory and practice. These concise case studies represent an array of technologies and institutions, including public libraries, research libraries, and digital centers, to name just a few. These vignettes are included to provide concrete examples of the change processes that can take place at a local level. While you may not recognize your specific institutional situation in the notes from the field, the experiential narratives and reflections should stimulate questions and help demonstrate the breadth of technology and cultural change taking place throughout the profession.

The three appendixes consolidate resources and practices that can guide your own technology change processes. Recommended tools and resources are listed in appendix A, though these are intended to serve as a springboard for subsequent exploration rather than a comprehensive inventory. Appendix B provides advice on running a successful pilot, which can be an integral aspect of planning or preparing for a technology change. Because communication needs and strategies are infused throughout every stage of change, tips and tricks for effective change communication are presented in appendix C.

As the discussions and case studies in this book will demonstrate, technology is not a panacea; it cannot solve all of an organization's issues or plights. However, technology changes can be leveraged to initiate or support change and growth at an institutional level. When methodically managed, change processes can transform both our daily operations and our aspirational goals. Change management techniques help us bridge the gap between opportunity and reality by demystifying the complexities of change, encouraging active engagement instead of passivity, and stimulating ongoing growth that benefits our colleagues, end users, and the profession as a whole.

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This book is the product of many experiences and influences that incrementally shaped my understanding of change, leadership, and organizational culture. I would be remiss if I did not acknowledge and express deep gratitude to David Goble, Kirstin Steele, and Christie Hoerneman for exemplifying genuine change leadership. Dana DeFebbo, Sharon Dyas-Correia, Christine Elliott, Paige Mann, Sanjeet Mann, Scott Matheson, Fred Shapiro, Dawn Smith, Tucky Taylor, and my colleagues at The Citadel and Yale University also contributed support and guidance, for which I humbly thank them.

Introduction

Why Manage Change?

Libraries, archives, and museums are complex, ever-changing ecosystems. The tranquil atmosphere and sense of order one might observe when walking through the front door is the product of intense, focused, and occasionally frenetic work happening behind the scenes. Library personnel are perpetually learning new skills, negotiating increasingly complex tasks, meeting a dizzying array of needs and expectations, and striving to innovate and plan for the future. This agility has helped libraries and information centers adapt and retain their value to users. To borrow Michalak's insightful synopsis, "library users and their expectations for services and collections have changed. Among the factors driving change are: networked technologies, powerful search engines available to all, social technologies, and the digitization of everything. . . ."[1] Because libraries are driven by the complex interplay of people, information, and services, they are always in flux.

Change infiltrates every aspect of a library or information center, and encompasses the tangible, physical components like spatial design and use of the building, as well as the more subtle aspects like budget allocations, policies, and organizational or departmental structures. The scope of change can range from minute to holistic, and it is rarely linear or neatly compartmentalized. Several aspects of a library may be shifting simultaneously, and in tandem with one another. It is not uncommon to have an integrated library system (ILS) migration coincide with a director's retirement, website redesign, and budget cuts. There can also be a co-occurrence of planned and unexpected changes, such as an urgent response to natural disaster or other sudden disruptions. On the other side of the spectrum, libraries often pursue understated changes, like the one outlined in textbox 0.1, which solve problems or improve user experience without a great deal of fanfare or flashy equipment.

Textbox 0.1: Case Study on Homegrown Practical Solutions

Michael Angstadt, electronic resources technician,
Montgomery County–Norristown Public Library

I work as a technician in a computer lab at the Montgomery County–Norristown Public Library, located in Norristown, PA. My job is to keep our sixteen public access computers in working order and help patrons with technical questions as they arise.

Our patrons frequently ask to print documents from their cell phones. Our library does not have any sort of remote printing capability, so, in order to make use of our public printers patrons must open the document on a public access computer and print it from there. The challenge thus becomes: how do you get the file from a patron's phone onto one of our computers?

In such cases, we typically recommend that the patron email the file to themselves, log in to their email account from one of our computers, and then download and print the file. However, many patrons do not remember the password to their email account. They also sometimes run into trouble with the email provider's password recovery feature because the phone number associated with their email account is no longer active.

One solution to this dilemma is to create a library-controlled email account dedicated to receiving such documents. A staff person could then log into the account and print the document for the patron. However, we were not enthusiastic about this approach, due to the high amount of staff involvement this would require.

I drew upon my background as a computer programmer to design a better solution. I wrote a program that allows patrons to send a file from their phone to a library computer via email with minimal staff intervention. Here's how it works:

1. The patron attaches the files that they want to print to an email and then sends the email to an email address that we have dedicated for this purpose.
2. The program prompts the patron for their email address.
3. The program then connects to our email account and searches its inbox for emails that are from the patron. It then downloads the attachments of those emails to a specific folder on the computer,

> allowing the patron to open and print the files. As an additional security measure, the emails are deleted from the inbox as soon as they are downloaded.

Our staff members have had little trouble learning how to use it. A short written set of instructions was sufficient to get them acclimated. The program has been functioning well since it was released in May 2018. (We did experience one issue where the program was not picking up a patron's emails. The problem turned out to be that her emails were being caught in the spam filter. We have since disabled the spam filter and have had no other issues.)

Even when changes are introduced as problem-solving initiatives, we might still feel like change happens to us, rather than through us. However, we are not victims of change or passive spectators. In fact, passivity interferes with our ability to meaningfully engage with change and its potential. As Cartwright and Holmes illustrate, cynicism and detachment can undermine both change processes and employees' trust in their organizations.[2] Fortunately, engagement can be nurtured by setting clear objectives, breaking daunting processes into manageable components, and communicating the impact of each of those stages or components.

Libraries have a long and fruitful track record of using processes to organize and execute incredibly complex tasks. Processing the impressive volume and assortment of items added to the Library of Congress's collection each year would be unfathomable without strategic delegation of roles, optimized technologies, and a dynamic, adaptive team of librarians collaborating to break down the complexity into manageable steps and components. To some extent, change is just another process that we are tasked with analyzing and implementing.

Much like dealing with a backlog of uncatalogued monographs, success will not happen overnight, and it will be more feasible if approached methodically. One of the central tenets of change management is that change is the culmination of various stages, actions, and outcomes. As a result of this process-centric approach, change management theory helps shift our relationship to change from passive to active, and provides us with a flexible framework that we can adapt to the unique needs and situations at our own institutions.

CHANGE MANAGEMENT

Change management is a set of tools, techniques, and general approaches to orchestrating change processes within organizations. Since its introduction and mainstream adoption in the 1980s, it has gained traction in the private sector and business industries, becoming an established component of the managerial repertoire. John Kotter is one of the figureheads for change management, but other well-known theorists and practitioners have made meaningful contributions to our understanding of change and how it operates within organizations. W. Edwards Deming's management theories revolved around continuous improvement through change. Deming encouraged managers to "awaken to the need for change" even though it "may not be easy for everybody."[3] Peter Drucker is another influential voice in the field. His assertion that "One cannot *manage* change. One can only be ahead of it" is a powerful axiom that underscores the limitations of applying a structured framework or model to a process as unpredictable as change.[4] Instead of situating change management as a system that magically ensures success, one should utilize it as a set of tools that can optimize your change process.

The residual affiliation with private sector management trends might make change management seem fundamentally incongruous with the nonprofit orientation, social values, and unique organizational cultures of libraries and information centers. However, as Prebor reminds us, library and information science (LIS) is intrinsically interdisciplinary.[5] Looking beyond traditional LIS discourse to strengthen our problem solving is actually very compatible with the profession's core identity.

Change is an especially appropriate target for interdisciplinary exploration, because it is inescapable within any organization, regardless of its purpose and underlying philosophy. Organizations of all types have converging needs during a change process. Hospitals, corporations, government offices, and libraries, just to name a few, have an underlying need for:

- A recognizable change target
- A definition of success
- A group or team that can coordinate the logistical aspects of change and provide reassurance or guidance throughout the process
- The support of stakeholders and decision makers
- Buy-in from staff at all levels
- A clear plan that demystifies the change actions and clarifies how the change supports institutional values and aspirational goals
- Communication channels and marketing that facilitate internal and external engagement with the change process
- Organizational resilience that enables people to deal with disruptions, unexpected shifts, and the unknown
- Cultural values that reiterate the importance of adaptation and perpetual improvement

The stresses of change and the expectation to transform without sacrificing defining values are recurring issues in many industries. Gleaning helpful practices and insights from other industries, and tailoring them to the distinctive needs of libraries, can help us optimize our responses to unavoidable change, meaningfully plan for future change, and cultivate what Peter Senge refers to as learning organizations, which are resilient and adaptive to new systems, technologies, and associated entanglements.[6]

Change management strategies can enhance both the process and eventual outcome of a change by replacing reactionary or uncoordinated decision-making with methodical and deliberate planning. As a paradigm, it also keeps the interpersonal and social ramifications of change, like stress, emotional burnout, and fluctuating power dynamics, at the forefront. This perspective is especially relevant for libraries and information centers, since they are inherently impacted by a plethora of external and internal factors, like shifting user expectations, unpredictable funding, and the constantly evolving use and application of technology.

CHANGE MANAGEMENT AND TECHNOLOGY

Change is constant and inescapable; and, at this particular moment in time, technology plays a pivotal role in the change process. Some of the most profound changes in libraries and information centers have revolved around the introduction and integration of new systems or technologies. From new automation processes and the shift from print to electronic resources, to the relatively recent fanfare around makerspaces and emerging technologies, technology's role in libraries continues to morph and evolve.

Even when technology is not the focal point of a change, it is a significant factor, shaping how change happens and is experienced by library personnel, end users, and stakeholders. The manner in which we communicate during a change, and the tools we use to train and socialize its impact, are all characterized by a pronounced technology focus. That is one reason this book will examine not just change and how to manage it, but specific strategies that can enhance technology change processes.

Change management was initially designed to improve organizational change. However, within libraries and information centers, organizational change and technology change are inextricably intertwined. Whether you are digitizing a special collection or running a pilot program of a new document delivery service, the ripple effects of a technology change infiltrate every level, from micro components like interpersonal dynamics, morale, and motivation, to the macro elements like culture, strategic plan, and an organization's underlying identity. In other words, technology change is organizational change.

However, most practitioners who are responsible for leading technology change in their libraries are not fully equipped with the robust assortment of skills needed to engineer organizational change. On the other side of the coin, directors and upper level administrators rarely have the technical expertise needed to translate a systems librarian's proposed project into a comprehensive plan that resonates with library personnel, stakeholders, and end users. This schism between administration and technology undermines a comprehensive and multifaceted approach to executing technology changes so that they can be incorporated into the organization with minimal fallout, enhance overall performance or productivity, and align with the organization's guiding mission and vision.

Change management tools can serve as a common ground for these two essential spheres, bridging the gap between technological expertise and administrative priorities so that there can be a shared framework, language, and understanding of change and its consequences. Change management can also reposition technology change as a process that is just as important and influential as a more salient or recognizable instance of organizational change, like a renovation or departmental restructuring. This shift in visibility and symbolic importance is an essential reminder that all personnel are affected by technology, and will need to engage with it instead of avoiding it or resisting it.

Incorporating change management into technology change is also beneficial because it supplements case study literature. While it can be helpful to learn about a specific organization's experience with a certain product or platform, there can be limited opportunities to transfer those lessons or insights to one's own situation. Even when working with identical systems, no two organizations will have the same experience introducing a new technology. The sheer volume and complexity of variables make it difficult to draw meaningful comparisons between a case study and local scenario. Case study literature can also become dated very quickly, due to its tendency to focus on specific systems and conditions that are in a perpetual state of development. By the time an article on a technology change or migration is published, that "new" version has most likely been superseded or even rendered obsolete.

Change management discourse, on the other hand, is oriented toward broad level issues, rather than the minutiae of specific instances of change. As a result, its strategies and tools are more transferrable from scenario to scenario. This also gives change management literature more innate longevity and long-term relevance. One will need to customize any strategy to local needs, but that is how change management is designed to be applied. It is not a one-size-fits-all approach, but an arsenal of tools and techniques that one can master and apply to a wide variety of circumstances and organizations.

This book will primarily focus on John Kotter's change management model because it strikes a balance between structure and flexibility, which complements the shared needs of many libraries to constantly negotiate an array of internal and external variables. Kotter also prioritizes bringing transparency to a change process, because clearly delineating the purpose and objectives for a change "simplifies hundreds or thousands of more detailed decisions" and "motivates people to take action in the right direction, even if the initial steps are personally painful."[7]

After exploring the central tenets of change management as it is frequently applied to business and other industries, the focus of this book will shift to adapting these ideas to libraries and information centers, as they plan, socialize, implement, and assess technology changes. Change management often helps organizations identify and work toward their ideal state. However, when technology is involved, it can be difficult to know what success actually looks like. Meeting a go-live date for a system migration might be one definition of success, but, inspired by change management's emphasis on organizational change, this book situates acceptance as the defining factor of a successful technology change. A new tool or system does not actually contribute to your organization if it is not being utilized or people are unwilling to engage with it. Therefore, the application of change management techniques within the context of this book will prioritize strategies and resources that support technology acceptance.

Change management is this book's central theoretical paradigm, but two implicit concepts are also interwoven into the discussions of technology change: trust and the learning organization. Trust is a fundamental part of how libraries, archives, and museums engage with their communities and institutional partners. It situates stewardship and the public good as high priorities, which invariably impact how change is planned, implemented, and assessed. Trust in technology is also a significant factor when engaging in technology changes. When new systems or tools seem unreliable, or do not represent obvious benefits to their users and organizations, trust can falter and be replaced by resentment or insecurity.

Senge's notion of a learning organization is another implicit partner in change management because it positions change as an essential ingredient for organizational growth. When change management is successful, it not only leads to acceptance of the newly introduced technology or system, it has wide-ranging ramifications for the organization's culture and overall health. As we will discuss in greater detail, technology changes should be aligned with organizational values and help libraries and information centers reach their aspirational goals. A learning organization is an adaptable one in which change represents opportunities to grow and evolve. While it is a lofty ideal, change management can help make it more attainable.

Change is an unavoidable part of maintaining a healthy, responsive organization. It can make us feel stressed, powerless, and unmotivated, but these negative consequences are manifestations of poor management, not innate properties of change itself. While some degree of discomfort may be unavoidable, integrating change management techniques into our local change processes can help us adapt without sacrificing vital aspects like trust, morale, buy-in, and engagement. Change should be something we leverage to develop ourselves, our organizations, and our profession. When we approach change with methodical planning and foresight, it can be a catalyst for growth and organizational learning, rather than a burden we begrudgingly endure.

NOTES

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2. Susan Cartwright and Nicola Holmes, "The Meaning of Work: The Challenge of Regaining Employee Engagement and Reducing Cynicism," *Human Resources Management Review* 16, no. 2 (2006): 199–208, doi: 10.1016/j.hrmr.2006.03.012
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6. Peter M. Senge, *The Fifth Discipline: The Art & Practice of the Learning Organization* (New York, NY: Doubleday/Currency, 1990).
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Chapter One

The Change Toolkit

Change Management, Technology, and Leadership

Change is a recurring motif in casual conversation and formal LIS literature. But the ubiquity of change does not make it any easier to negotiate or manage. On the contrary, the variety of changes and their frequency can compound frustrations and anxieties. One challenge is determining what actually constitutes a change. The infuriatingly vague answer to this question is, of course, it depends on one's environment, priorities, and point of view. What might require months of planning and feel like a tremendous shift in one institution might be a non-event in another.

Technology change can be especially difficult to consistently pinpoint or define because so much of it happens behind the scenes and may have little direct impact on our interactions with a particular system or tool. Technology change is also inherently tied to perceptions of newness. We might think of technologies like AR/VR or 3D modeling as new, but even things that are not cutting edge can stretch your organization's flexibility or tolerance for change. Perhaps automating a process like checkout or implementing a wireless printing system would be new to a particular library or information center, and would require careful planning and strong leadership to orchestrate. In general, it is better to over prepare than underestimate the ramifications of introducing an unfamiliar technology or system. A tool that has been successfully adopted in 99 percent of libraries can still present challenges to the remaining 1 percent.

In order to catalyze growth, change needs to be managed methodically. Every change process has a distinctive flavor based on the type of change being enacted, the size and complexity of the organization, and other external variables. Each change is unique, but change management is scalable and its tenets outline key strategies that can be adapted and applied to many different circumstances and environments.

Change management techniques identify approaches any organization of any size and affiliation can adopt in order to optimize the success of a change process. These strategies do not guarantee success, and they must be adapted to reflect local needs and concerns. However, they support visionary planning, emphasize common challenges or obstacles, and encourage the kind of flexibility that will enable an organization to thrive in the face of failure or success.

KOTTER'S CHANGE MANAGEMENT MODEL

Kotter examines the most common pitfalls that emerge during a change process and introduces a model of eight strategies to overcome those obstacles. According to Kotter, "establishing a sense of urgency" is a prerequisite to initiating change.[1] Without a sense of urgency, procrastination and inertia can coalesce into stagnation. A sense of urgency can also be described as a sense of purpose—it addresses two common questions people have when confronted with a proposed change: why and why now? Preparing for a system migration feels more tangible and worthy of one's time and attention when there is a clear catalyst, such as approaching obsolescence of a current system, and a timeline for sunsetting the former system and launching its replacement.

Kotter states that "creating a guiding coalition" is another factor that supports successful change.[2] A guiding coalition typically has some influence over the change process. The members of the coalition recognize the sense of urgency, demonstrate buy-in, and help infuse the change into the organization as a whole. If only one or two people think a new shared drive for internal documentation is worth implementing and using, it will have very limited utility—let alone impact how people share information and perform their daily jobs. If the adoption of a shared drive is championed by a guiding coalition, there will be advocates for the tool and engaged personnel who have some understanding of its potential value. Widespread acceptance and adoption will be more likely, as a result.

Kotter's model also emphasizes the importance of "developing a vision and strategy."[3] This can be crafted with the guiding coalition's input, or it could be used to solicit buy-in at the early stage of a change process. As chapter 2 will discuss, the vision that drives a change must be carefully crafted to align with a larger set of institutional priorities and sense of identity. The "shared vision" that Peter Senge refers to in his work on the learning organization is fundamentally compatible with the use of vision in Kotter's model.[4] In both instances, vision is a crucial ingredient to transformation because it forges a connection between the immediate change and an organization's aspirations.

As the case study about establishing a Universal Access Workstation in textbox 1.1 reminds us, technology changes that further a library's progress toward its ideal version can inspire enthusiastic buy-in and engagement. Creating a makerspace, for example, can be incredibly overwhelming and taxing, especially if the library has not received additional staff or money to support the endeavor. However, if having a makerspace in the library is part of the overall vision for what the library wants to be and how it wants to serve its users, the obstacles and limitations might not seem as insurmountable.

Textbox 1.1: Case Study on Accessibility Change Agent

Brady Cross, access services specialist,
Coastal Carolina University

The differently abled enter our library buildings and use library resources every day. We, as librarians, are the agents of change and have the opportunity to make library environments inclusive by incorporating accessible technology into our facilities.

The modern college student population is inclusive of persons with varying physical and mental abilities, but few academic libraries feature a computer workstation that is fully accessible or universally designed. Because I feel that libraries should be models of accessibility and challenge the social construct of "disability," I decided to set an example and build a Universal Access Workstation (UAW) at my library. The UAW would allow any person to use the kiosk with all regards to their ability. I wanted to utilize diversified knowledge such as Universal Design and accessibility to make my library a shining example of inclusive service. By prioritizing accessibility over budget, we were able to demonstrate that Coastal Carolina's Kimbel Library is committed to universal access to information.

All of our computer workstations were configured to offer accessibility to *most* students, but none of them were designed to accommodate *all* students. I studied how the average library computer workstation was designed and noticed that most of them utilized very similar configurations. Though the average library computer workstation complies with the 2010 Americans with Disabilities Act and Accessible Design guidelines (ADAAG), and is an adequate design for most college students, it excludes patrons with visual impairment, deafness, and/or mobility issues. Our library is already accessible to patrons 24/7 with full services. Providing the appropriate tool for access to information no matter the patron's physical or mental capability was the only remaining hurdle to lifting all barriers to universal access in our library.

My findings were presented to the Head of Access Services and she immediately recognized the advantages of the design for our library patrons. Library administration also saw the benefits and asked me to go ahead and order the components. I led training workshops after the workstation was assembled and the response from library staff was enthusiastic. Because we implemented the UAW, we are able to feature full access to library resources for all users. We also became responsible owners of the technology by marketing it to the campus community and providing necessary training.

After the workstation had been implemented, our role as change agents was immediately recognized by other campus offices. The Accessibility and Disability Services Department (ADS) was excited to know that the library had resources available to the differently-able population in a 24/7 environment. The implementation of this workstation, along with the support from Coastal's Office of Online Learning (COOL), has also been the catalyst that inspired other discussions in the university's newly formed Access Council. Coastal Carolina University has a goal of eventually achieving W3C Web Content Accessibility Guidelines (WCAG) 2.0 at the AA level. The implementation of the UAW is, in part, the reason the library has representation on the Access Council.

When we plan the next UAW, I would be more cognizant of our building design and collaborate with all departments about where the UAW will be located within the facility in order to choose the best adjustable height table. In addition to software and peripherals selected, size, shape, and the color design must be complementary with decorative aesthetics so the UAW blends in with the surroundings. I would also partner with ADS to ensure that the next station includes the appropriate technology for our student population. This communication is important not only for planning the next UAW, but remaining flexible for the existing UAW as well.

Having a vision is important, but Kotter rightly notes that "communicating the change vision" is also integral to the change process.[5] You cannot assume the vision will be obvious or meaningful to everyone. The manner in which you socialize the change and its relationship to the bigger picture can have a dramatic impact on the overall success of a change. In a library environment, this communication strategy needs to encompass immediate colleagues, stakeholders, and end users. Introducing a new website or online search tool can be perceived as an inconvenience to end users, unless it is well-timed and properly socialized in conjunction with a message about the library's commitment to broader values, such as service and accessibility. Similarly, taking the time to implement and learn the new site or system might seem like an unnecessary burden to colleagues and stakeholders unless the eventual benefits are clearly defined and articulated.

After the vision has been crafted and disseminated, it's important to "empower broad-based action" so that the vision can lead to action.[6] Without opportunities for participation and engagement, change becomes the responsibility of one or a few select people. While in many instances one or two people can orchestrate the technical aspects of a change, like setting up a new print queue management system, it will take many more to translate that change into a practical asset. Internal and external users will need to be educated, issues will need to be resolved and tracked, and there may even be policy updates or other administrative tasks to pursue as a result. If there are perceived or real obstacles that limit involvement with change actions, it is difficult to maintain momentum and achieve successful organizational change.

Some changes can be daunting and difficult to wrap one's mind around. A state-wide ILS migration, for example, is incredibly nuanced. Vast, complex changes are also typically accompanied by a lengthy timeline. In order to make a change process more engaging and perpetuate momentum, it is important to generate and celebrate what Kotter refers to as "short-term wins."[7] If you wait for the entire process to be complete before acknowledging or celebrating accomplishments toward the change goal, people can get swallowed up in what feels like an endless series of change actions with no positive reinforcement. As we will explore in more detail in chapter 4, short-term wins are closely tied to having clear and recognizable milestones throughout the change process so people can orient themselves and understand the true significance of smaller tasks or steps that might otherwise seem trivial. This is also an important component for transparency and ensuring colleagues and users have both a granular and broad-level view of the change and its stages.

One of the advantages of progress is that it tends to sow the seeds for more success and subsequent improvements. Wins, in other words, can be contagious. Kotter recommends "consolidating gains and producing more change," but many libraries experience this as an organic aspect of true transformation.[8] Successfully digitizing a vulnerable collection of artifacts, for example, sets the stage for additional projects, like metadata and discovery enhancements, and may even generate increased staffing to support future growth and development. The challenge is to produce more change when success has not been obvious or consistent. An uneven change process, where losses and wins are intermingled, can complicate attempts to stimulate additional changes.

Wins and losses can co-occur, and some changes might not be clear victories even when they do meet their success criteria, so it is important to follow Kotter's advice that one "anchor new approaches in the culture."[9] A change-positive or adaptive organizational culture should be nurtured throughout a change process. If the idea that change is essential and valuable infiltrates an organization's core culture, it will lead to greater resilience when a process falters. Senge's notion of the learning organization also elucidates the implications of shifting an organization's culture. An organization that perpetually learns is better positioned to maintain an optimal balance between change and stability. Since its underlying identity or sense of purpose revolves around continuous improvement, change is situated as a natural aspect of necessary evolution.[10] In addition to cultivating a more adaptive work culture, actualizing the ideals of a learning organization can also encourage more rapid and enthusiastic buy-in for change.

ORGANIZATIONAL AND TECHNOLOGICAL CHANGE

Kotter's eight defining characteristics of change management focus on organizational change—and the model has been frequently implemented in business and for-profit sectors. The organizational focus of change management might make it seem like an administrative toolkit. However, the boundaries between organizational change and technological change are inherently permeable. Organizational behavior, culture, and operations are highly influenced by the role of technology, from email, web conferencing, mediated discourse, and the automated processes that impact workflows, to the underlying systems involved in documentation, reporting, budget analysis, and myriad other tasks. At this point in time, it is counterproductive to isolate organizational and technological changes from one another. Rather, it is more beneficial to approach technology changes as initiatives that require organizational participation and support and will invariably alter some component of an organization's identity, operations, and/or values.

Like any broad-level model, Kotter's interpretation of change management needs to be translated to reflect unique concerns and needs. In order to adapt it for the kinds of technology changes that commonly occur in libraries and information centers, let's map the correspondence between the two—see table 1.1.

While there may be local situations where some tenets might be more or less relevant than others, the overarching value of Kotter's model is that it underscores the social and interpersonal aspects of change and its actions. Chapter 3 will delve into the social and emotional entanglements of technol-

Table 1.1. Applying Change Management to Library Technology Change

Change Management Strategy	**Application in Library Technology Change**
Establishing a sense of urgency	The ILS will be obsolete after X date.
Creating a guiding coalition	This working group, composed of representatives from multiple library departments, will coordinate the migration to a new system.
Developing a vision and strategy	The goal of the change is to save the library money, preserve our collection records and data, and ensure users can still enjoy the services they value.
Communicating the change vision	This overarching purpose and commitment will be conveyed early on and then repeated during project updates and other communications. Branding for the change will be created to prepare the end users/general public and contextualize why things will be changing.
Empowering broad-based action	While there are several named people who will be overseeing the change process, all-staff meetings will provide opportunities for direct feedback and involvement. Interested parties will be involved with gathering user feedback, coordinating trainings, testing the new system, and updating internal documentation.
Generating short-term wins	Announcing and celebrating each milestone, such as selecting a new system, completing the pre-migration data clean-up tasks, trainings, and the other significant steps that lead up to migration.
Consolidating gains and producing more change	The new ILS is more dynamic and user-friendly than its predecessor. What other systems are we using that could be upgraded or replaced with something better? What does this new ILS allow us to do that we couldn't before?
Anchoring new approaches in the culture	This change isn't just about getting from point *a* to point *b*, it's about who we are as a library and the way we serve our community.

ogy change, but it is important to first recognize the interplay between systems, change, and social dynamics.

TECHNOLOGY CHANGE AND LEADERSHIP

Technology changes might not be automatically associated with leadership, but the wide-ranging ramifications of technology and how it is planned, deployed, and evaluated within an organization forge an inexorable connection between technology and the organizational steering and big-picture thinking the term leadership evokes. Framing technology change as an act of leadership is vital for several reasons:

- It gestures toward the interdependence between technology and culture.
- It conveys the importance of the change and breadth of its impact.
- It situates technology change within the larger goals and aspirational sentiments of the organization.
- It places value on the technical expertise and skills that might otherwise be overlooked or dismissed as “behind the scenes.”
- It symbolically bridges the gap between administration and technology. Many traditional library leaders do not have direct interaction with systems or technology support, and, conversely, many systems personnel do not have management training or administration experience. The term *leader* is important cultural capital that signifies an integral connection.

Technology changes might initially appear to be the purview of those with in-depth knowledge of the systems and technologies involved. For an ILS migration, the systems librarian and head cataloger might be the default leaders, but a participatory approach to collective engagement and action will set the stage for true leadership to flourish.

As the case study in textbox 1.2 reveals, the well-structured delegation of tasks and responsibilities during a technology change can enrich the entire process. While technical expertise is clearly important to orchestrating successful change, systems knowledge is not the only factor to consider. Technology changes must be planned and implemented with a careful negotiation of people’s attitudes, emotions, and level of engagement. A technically flawless introduction of a new system or technology will not be a success if colleagues and end users are flustered, perplexed, annoyed, or paralyzed by the new variable. Although it is difficult to reconcile the social and technical, one must integrate both into the definition of success that a change aspires to achieve. One valuable complement to change management principles is the concept of change agentry. Change agents can help reiterate the interpersonal dynamics of technological change and pinpoint applicable strategies to bridge the gap between social and technical.

Textbox 1.2: Case Study on Delegating Technology Change Actions

Kristen Costello, systems librarian,
Carol Ou, head of discovery services,
and Jason Aubin, special projects coordinator,
University of Nevada Las Vegas Libraries

In July 2016, the University of Nevada Las Vegas selected the Ex Libris Alma/Primo Library Services Platform (LSP) to replace the Innovative Millennium Integrated Library System (ILS) for UNLV Libraries. The migration represented a significant change for the Libraries. The Libraries had been an Innovative Interfaces (III) customer since 1989, operating the Millennium system since 1999. Moving to the Ex Libris Alma/Primo systems meant ceding some local control because the new systems were cloud-based, multi-tenant, and updated on a frequency determined by the vendor instead of by libraries staff. The new systems also presented new workflows, required learning new vocabulary, and integrated some functions related to discovery and electronic resources access and management that the libraries had been accustomed to managing in separate systems.

The contract was executed in December 2016, migration began in June 2017, and a system launch date was scheduled for December 2017. The Libraries Leadership Team charged a Migration Task Force to provide the leadership, direction, and decision-making structure necessary for a successful migration from the previous ILS to a functional LSP.

The Migration Task Force focused on ensuring a successful, on-time implementation of the Alma/Primo LSP with all needed functionality. The task force served and continues to serve as functional experts for all key areas of the migration. Specifically, the Migration Task Force:

- Established guiding principles for the migration to ensure that UNLV Libraries realizes the full potential of the Alma/Primo system
- Together with Ex Libris, created a project plan for the migration with key milestones
- Responded to information requests from Ex Libris in line with the project plan and milestones
- Made implementation decisions in line with the project plan and milestones

- Coordinated information gathering from Ex Libris to ensure that the task force understood the functionality of the system and made appropriate decisions
- Convened working groups as needed (reporting to this task force) that addressed particular migration issues which informed decision making
- Coordinated testing and provided feedback to Ex Libris
- Developed, recommended, and sought approval for policies and standards for the UNLV Libraries' use of Alma/Primo as informed by the migration and implementation process
- Developed local documentation for the use of Alma/Primo as informed by the migration and implementation process
- Documented decisions made during the migration process
- Developed, recommended, and sought approval for a training plan for staff and patrons
- Coordinated communication and messaging to libraries staff and patrons

Roles of the Migration Task Force members were clearly outlined to keep expectations in check. The roles were divided into three major areas: steering, project leads, and Migration Task Force members. Responsibilities were listed and decision-making roles were provided within each area to ensure timeliness of decisions so that the project proceeded according to the timeline.

To help manage all of this change, the task force and its related committees deployed several strategies. In retrospect, one of the key strategies turned out to be a certain intentionality and deliberation when it came to the changes the libraries had a choice in implementing. For example, the task force understood that migration was going to be an ongoing process, and not all new procedures and workflows needed to be configured and established on the first day. In addition, the task force chose to be thoughtful about the changes that were implemented on or near the go-live date based on impact on day-to-day functions. For example, the task force chose to automate acquisitions record loads because that would provide some immediate efficiency but waited to implement the full integration with external vendor APIs since that might require more extended troubleshooting with potential additional obstacles to daily staff workflows.

The task force successfully met the go-live date for the Alma/Primo Library Services Platform. Clearly defining roles, responsibilities, and expectations helped the task force lead such a tremendous endeavor to success. The change to a new LSP, while uncomfortable at times, has been met with magnanimity by library staff and the faculty and students.

According to Lunenburg, change agents are generally defined as the person or people who "undertake the task of initiating and managing change in an organization."[11] Some organizations create formal titles to represent the change agent role. However, labeling an individual as a change agent can be problematic. Affixing a label can concentrate change expectations on the identified individual or group, which divorces accountability from the entire organization. Managing change, and the practices and behaviors that make a change successful, needs to be infused throughout an organization, rather than localized to a single person.

Change agent literature often emphasizes the importance of an individual whose vision and personality are somehow calibrated to identify and enact change. Although a single person can obviously catalyze change, the mythology of the lone revolutionary can be misleading. As the case studies in textboxes 1.3 and 1.4 demonstrate, the complex organizational dynamics found in libraries and information centers often necessitate a team-based approach to change leadership. Not only does the involvement of a team diversify the perspectives and experiential backgrounds shaping a change process, it unleashes the potential of a technology change to accelerate multifaceted transformation.

Textbox 1.3: Case Study on Technology Change Agents

Hong Ma, head of library systems,
and Margaret Heller, digital services librarian,
Loyola University Chicago

Technology-focused departments in libraries may end up being the de facto change agents. At least that has been our experience over the past few years. As head of library systems and digital services librarian, we were both brought into the library to implement major changes. Over the past five years, we have been responsible for migrating to a new centralized Library Services Platform (LSP), implementing a discovery layer, revamping an institutional repository, and keeping all our other platforms up to date as technology changes.

Many of these changes built on each other and informed later practice. For example, analyzing the workflow problems with the institutional repository and understanding where subject specialist librarians could most efficiently spend their time prepared us for thinking about the discovery layer implementation. The systematic and collaborative approach for picking the new LSP carried over to the implementation period and beyond, with an emphasis on decentralized expertise and cross-departmental communication

In practice this means for each new project we create a team with representatives from most, if not all, library departments. This may take the form of a standing committee, a working group, or a task force with a tightly focused scope and timeframe. The last option is preferable, since when carefully managed, this tends to have the most success in achieving a particular goal. As such task forces succeed, however, this can create a change in culture that carries over to other work or requires an ongoing cooperative effort. Such was our experience in creating an implementation team for the new LSP and discovery layer. The irony of centralized systems is that individuals who used to "own" a certain system and a set of workflows now lack some of the clear structure and ownership that those siloes necessitated. For that reason, procedures and decision making for systems have to be more structured and well-defined.

While the technology change itself was successful, what we feel has changed more than anything is our ability to maintain comfort with change over time. This means, among other things, addressing legacy practices that linger despite a new platform and getting used to monthly rather than annual release cycles. Success also means truly allowing others outside the Systems Department to take ownership and initiative, even when than means giving up what was our traditional purview. This can only happen with a solid framework, lots of training, and the ability to recentralize and step in to provide expert help when needed. This can be challenging, but people are much more motivated when their participation is valued.

Textbox 1.4: Case Study on Change Team

Elizabeth Leonard, assistant dean of information technologies and collection services, and Sharon Ince, digital services librarian, Seton Hall University

When the current dean joined Seton Hall University (SHU) Libraries in 2012, he wanted to make significant improvements to the systems and workflows within the organization. Due to the lack of a technology infrastructure and staff to support it, he found that many systems were antiquated, resulting in poor services to our students and faculty. At the time, our technological infrastructure was in need of a major upgrade; most systems were inoperable 40 percent of the time. The dean hired a new assistant dean for information technologies and collections services and she and the digital services librarian began a multi-year modernization process.

We did not have a single “change agent.” The “change agent” is a team of people working within the library. The dean himself set the tone and strategic goal and hired the assistant dean, who then partnered with the digital services librarian to develop and move forward with changes. But they could not do this alone; during these years they formed ad-hoc teams throughout the library faculty and staff who were able to champion whichever endeavor on which they were currently working. Members of these teams included staff and faculty from the unit in which the change would occur plus members of the technology team. Since the goal was to improve workflows for staff and patrons and keep the project within our capabilities of management (i.e., technology management and budget), the IT team looked for partners within the faculty and staff who had a positive attitude and realistic expectations.

Change is difficult. The assistant dean has Grace Hopper’s famous quote displayed in her office, “The most dangerous phrase in the language is ‘We’ve always done it this way’” (Esther Surden, “Privacy Laws May Usher in ‘Defensive DP’: Hopper,” *Computerworld* 10, no. 4 [1976]: 9). Some library personnel felt that any change was an implied criticism of their past work. Others were afraid that they would not be able to succeed at their jobs in a more tech-friendly environment. To move personnel away from this attitude, we held meetings, informal discussions, and virtual hand holding with those who championed change and those who resented or feared it. Including all stakeholders from the beginning was key. Including the staff from the early stages of the project helped to make a smooth transition.

Change, no matter how well thought out, doesn’t always work. People can fear change for many reasons, and fear that they will not be successful with the new workflow. This requires more support to individuals and a level high-touch managerial style. One successful methodology was to get buy-in through user participation. During the needs assessment phase, we provided opportunities for staff to comment on what worked well and what did not. For example, teaching faculty were given the opportunity to drive development of our discovery layer. We also shadowed their work to create use cases which drove the new workflow. This allowed us to see if there were breakdowns in technology, workflows, and/or unmet training needs.

If our technology projects were not working the way we anticipated, we worked with the vendor or local stakeholders to identify issues and remediate. This was done with ongoing contact with vendors through in-person, online, and email communications. We were also fortunate to have a developer on staff and he conducted research and outreach to solve issues and write scripts, if necessary.

As a result we have had an excellent track record of successful technology change. In the last five years we have:

- Migrated from a locally hosted ILS to a cloud-based one
- Created a library sponsored IT department and moved from university IT hardware to library purchased model, plus hired a library based tech team
- Integrated systems from vendors that traditionally did not "talk" to each other
- Moved e-reserves from Lotus Notes to Springshare
- Migrated from Archivist's Toolkit to ArchivesSpace
- Implemented Omeka, and now Omeka S
- Purchased cold storage preservation and access system (Preservica)
- Created an integrated ILL implementation of RapidILL, ILLiad, WMS ILL, EZBorrow, and Docline
- Completely re-configured our website (twice!), and created a website for the new health sciences library
- Wrote and implemented a full library technology plan (https://library.shu.edu/library/DigCollTechPln)

Even in the midst of these successful changes, there are challenges and opportunities to improve future endeavors. We sometimes needed to reevaluate what we considered a reasonable timeline, as in the case of our preservation software. The timing of this software launch coincided with multiple completing projects and required the expertise of several staff members.

Change in our library happens at what might be called a *corporate* pace. We implemented the new ILS in six months, ILLiad in four, and many others at a similar pace. While we met with personnel during the ILS transition, we did not have as many meetings during other transitions. We think it will be helpful to continue to communicate the "big picture" to staff and faculty on a regular basis. We would have slowed down some of the transitions, but unfortunately we were driven by annual licensure renewal dates.

In the future when budgeting for time, we would consider the impact of scheduling of simultaneous projects during the same time period, as well as the number of people required to complete these projects. For example, some projects need more time than others, as in the example of preservation software. The implementation of software workflows, guidelines, policies, and training needed more time than we initially thought.

Change agents or change teams can have a positive impact on the change process; however, identifying prospective change agents may be challenging. There is no set formula for what makes a good change agent or team. Rather, the skills and talents that are most conducive to successful change will invariably be defined by the specific change being implemented and the existing pain points within an organization.

The change agent qualities and strategies at work in the case study in textbox 1.5 were well-suited to the needs associated with that particular ILS migration process. The Implementation Team was able to successfully navigate the complexity of simultaneously working with vendor support, exploring new workflows, developing staff skills and competencies, and keeping the campus community informed about the changes. However, a slightly modified approach might be necessary if the library were to migrate to another ILS in the future. Perhaps vendor support would be organized differently, or new library personnel would need additional support. The key players and variables involved in orchestrating change are constantly shifting, forcing change agents to perpetually refine their skills, strategies, and expectations.

Textbox 1.5: Case Study on ILS Migration Change Agents

Somaly Kim Wu, head of library technology and innovation,
and Shelly Hypes, director of access services,
University of North Carolina, Charlotte

Academic libraries consist of diverse personnel and teams implementing and managing complex systems. Libraries consistently evolve to adopt new technologies, which, in turn, require staff to adapt and embrace change. Commonly utilized by libraries, Integrated Library Systems (ILS) is designed to house student information, maintain resource and transaction records, and ensure efficient access to collections and resources. Depending on the needs of the organization, ILS options range in complexity from homegrown systems to enterprise level cloud services. Libraries often rely on vendors when transitioning from one ILS to another. At UNC–Charlotte, the ILS migration from OCLC Worldshare Management System (WMS) to Ex Libris Alma and Primo presented library staff with opportunities to act as change agents in the implementation and adoption of new technologies.

In the fall of 2016, after four years with OCLC WMS, UNC–Charlotte's J. Murrey Atkins Library began exploring alternative ILS solutions. Ex Libris was selected, and the migration process began in July of 2017, with a projected go-live date of January 2018. In anticipation of the six-month project, an implementation team was formed that consisted of specialists and experts from across the library. The Library Implementation Team, as it came to be known, was comprised of representatives from library systems, cataloging and technical services, and public services. Led by a library project manager, the team was charged with coordinating accurate data migration, training, and marketing. In addition to the internal project team, Ex Libris provided two technical consultants, one for Alma and another for Primo.

To ensure successful migration and implementation of the new ILS, the team employed project management methodologies and tools to increase transparency and gain buy-in from staff. The team utilized Basecamp and Google Docs to document activities and communicate collaboratively amongst themselves and with the vendor. Basecamp, a product developed by 37signals, is a free web-based project management tool that features discussion boards, document sharing, and built-in scheduling to track tasks and milestones (https://basecamp.com, accessed June 1, 2018). Access to Basecamp was provided by Ex Libris for the duration of the project. As a Google Education campus, the library had access to, and was comfortable using, Google Docs to share and communicate internally.

Toward the end of the migration process, Ex Libris provided a three-day on-site Alma training for the library, which enabled library staff to learn more about Alma and prepare for the Alma Certified Administrator Exam. Ex Libris required a minimum of two library staff members to pass the exam before giving us administrative rights to our production sites.

Following successful data delivery and certification, Atkins Library proceeded to cutover and launch. Cutover comprised a period in which all fulfillment and acquisition activities were put on hold until the January 2018 launch date. Configurations in the sandbox were translated to the production site and local systems prepared for launch. The process was communicated frequently and consistently among library staff and across the campus community. Representatives from public services organized open swim and hands-on training sessions in anticipation of the go-live date. The final step for launch involved switching over to the new system, updating web pages, redirecting URLs, and establishing feedback channels for library staff and patrons.

A "search system feedback" link was placed on the library's homepage for anonymous and identifiable patron feedback. Implementation Team members were physically available for front-line staff during the first few weeks of go-live. Additional feedback channels took the form of the library's ticketing system and a shared Google Sheet. When possible, responses, system edits, or training was provided within 48 hours of issues being reported.

Prior to the launch of Ex Libris Alma and Primo, Atkins Library had undergone many new changes. UNC–Charlotte had recently switched from Moodle to Canvas, from Outlook to Gmail, and was in the midst of implementing Duo for two-factor authentication. Although not directly involved in the selection or implementation of these tools, the recent campus-wide system changes helped inform the process by which the library implemented its new ILS. In particular, Library IT focused on transparent communication, hands-on training, and iterative testing. The Implementation Team established communication channels early in the process, formed a cross-departmental team, and established a shared goal to gain buy-in and ensure successful change management. Throughout the process, members of the Implementation Team served as partners, alongside front-line staff, to tackle problems and communicate changes. Lastly, ongoing support from administrators in the form of flexibility, trust, and autonomy helped to motivate the team toward a successful migration.

It may be more difficult to develop change potential or aptitude within one's existing human resources than to start fresh with a new recruit. However, identifying and cultivating internal change talent is beneficial in several ways:

- Every staff member, regardless of how long they have been working at your institution, needs to be part of a change team. Whether that takes the form of conducting workflow analysis on electronic course reserves or involves participation in a campus-wide adoption of a new learning management system (LMS), participation in a change team is unavoidable in a learning organization.
- Recruiting a new employee to operate as a change agent can lead to short-term progress, but that person might be resented or not fully embraced by the rest of the library's personnel.
- It can be difficult to transition that lone change agent into a long-term team member after the targeted changes have been achieved.

- In order to minimize interpersonal tensions and facilitate more sustainable change, one should look inward and identify skills and attitudes that can be developed among existing personnel.
- Additional support from consortial teams or inter-institutional partners might be necessary to achieve end goals, but change momentum should be rooted at the local level.

Kotter's exploration of the guiding coalition traces useful strategies that allow us to translate the change agent rhetoric and model into the kind of leadership that underlies successful technology change: change leadership. Drucker's analysis of organizational change and continuous improvement places a great deal of emphasis on change leaders, those who "see change as opportunity. A change leader looks for change, knows how to find the right changes, and knows how to make them effective both outside the organization and inside it."[12]

Change leaders are often involved with guiding both the logistical processes involved in a technology change and the big picture vision of the short- and long-term impact of change. As Anderson and Anderson note, "change leadership requires a conscious transformational focus."[13] Even with a helpful model like Kotter's at one's disposal, change rarely follows a formula or conforms to initial expectations. Models can strengthen our planning and preparation, and help us identify and resolve challenges as they arise, but it takes change leadership to maintain shared vision and preserve the innate connection between change actions and the organization's future and growth. Managing a technology change can mean that a new room reservation system has been successfully introduced to the end users. Leading a technology change would mean that the introduction of the new reservation system has improved service delivery, streamlined staff workflows, and inspired other departments or areas to evaluate and modify their operations.

When change leadership is cultivated within a library or information center, pro-active scrutiny and assessment are naturalized and integrated throughout the organization. The individuals within the organization are also more adept when responding to new or inherited challenges, thanks to the empowering effects of a shared vision and the positive momentum unleashed by successful change implementation. As Kotter succinctly states, "leadership defines what the future should look like, aligns people with that vision, and inspires them to make it happen despite the obstacles."[14] Identifying and nurturing technology change leaders and change opportunities require assessment skills which are relevant to many facets of change management. In the next chapter, we will delve into the vital assessment techniques that help one recognize change opportunities, craft achievable goals and benchmarks, and evaluate the success of change actions.

NOTES

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2. Ibid., 23.
3. Ibid., 23.
4. Peter M. Senge, *The Fifth Discipline: The Art & Practice of the Learning Organization* (New York, NY: Doubleday/Currency, 1990), 191.
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7. Ibid., 23.
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10. Peter M. Senge, *The Fifth Discipline: The Art & Practice of the Learning Organization* (New York, NY: Doubleday/Currency, 1990), 4.
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Chapter Two

Charting the Course

Assessment and Change Action

with Christine Elliott

Assessment and change are two difficult, interdependent aspects of technology management. Without assessment techniques to identify potential changes, set outcomes, and develop an implementation plan, technology changes can be arbitrary and poorly structured or lack sufficient leadership and buy-in. As chapter 1 illustrated, Kotter's model of change management revolves around perpetual assessment and subsequent adaptation. In order to create a sense of urgency that makes a proposed change seem relevant and stimulate buy-in, you must first have an understanding of the organization's immediate needs, long-term priorities, and capacity to support the new element fiscally, technologically, culturally, and logistically. Assessment is a foundational aspect of the change process, even after the buy-in and urgency phases are underway:

- When building a guiding coalition, you must do a preliminary analysis to identify which stakeholders might be potential supporters, and which might need more persuading or convincing. To maintain that coalition, you must constantly evaluate this group's attitudes, energy levels, and overall understanding of the change as it evolves. If you get your director and board members to support a new authentication system, but their comprehension and/or investment wanes, the project can easily drift from their radars. If you are not assessing their engagement, support could vanish entirely.
- To generate the short-term wins that perpetuate engagement and general change momentum, you have to be assessing how the current state compares to the former one. This contrast is what will give the change defini-

tion and meaning. Rather than evaluating attitudes or general behavior, this assessment practice would typically involve more concrete data or variables.

- Once started, sustaining change hinges on both behavioral and data assessments. Moving faster than your organization's culture can adapt will undermine the change process, but not moving fast enough can lead to complacency. When it comes to technology change, striking a balance between progress and complacency also involves monitoring system needs and nuances over which you might have little control. If performance issues and downtime are becoming more frequent in your library's app, you might need to push harder on the transition to a better performing replacement. Assessment strategies can help you identify when to forge ahead with a planned change and when your timeline or overall plan might need to be reconsidered.

In general, assessment forms the foundation for successful change; this is especially relevant to technology changes. However, both of these concepts can be intimidating in any organization, especially in libraries and information centers. With the recession and its impact on staff and budget cuts still fresh in the collective consciousness, assessment can seem more like a threat than a beneficial process of analysis, action, and reflection. For those who have experienced situations where assessment techniques and data were used to justify budget cuts or deny resource allocations, assessment can have potent, negative connotations. This chapter will explore some techniques for deploying assessment methods in a collaborative manner that balances social anxiety and organizational necessity.

ASSESSMENT AS AN ORGANIZATIONAL NEED

The term *assessment* can carry a plethora of connotations. It can be interpreted as cryptic, abstract, and frustratingly nebulous, which might provoke doubt or insecurity. It can also be associated with a singular construct that flattens assessment's complexity and versatility. Assessment can be used in many ways and can involve a range of methods and tools. The form of assessment that is most useful for supporting technology change is transformational assessment, wherein data and other sources of information are used to identify areas for growth or improvement. A workflow analysis would be one example of a transformational assessment. The components of a process or service are examined, with an eye toward streamlining sequences, improving outcomes, and reducing the occurrence rate of errors or irregularities. The case study in textbox 2.1 provides a concise overview of how to translate data points and usage into a robust revitalization strategy.

Textbox 2.1: Case Study on Chat Assessment and Improvement

Megan Wilson, assistant professor
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Murray State University

When I was a graduate student in library school working the reference desk, I developed a genuine love of chat reference. Shortly after I started my current position, I noticed that the number of students using the library's chat service (Springshare's LibChat) was very low, with an average of about one chat a day during the semester. Since we were a midsized rural institution, it was not expected that we would be fielding hundreds of questions in a day, but the lack of questions coming through the virtual reference services was worrisome.

I began to consider reasons why students at my institution might not be using chat reference. Perhaps they preferred other options, they might have had poor interactions with chat in the past, or maybe students simply were not aware of the service. I started by examining the existing data, going back over statistics and transcripts for the previous years to determine if there were any obvious problems.

A close examination of the transcripts indicated that some chats were not being answered in a timely fashion, as chat operators were taking time to research the question before checking in with the patron. This issue was rectified with a short training session but did not improve chat numbers. In order to determine if the lack of interest in chat was caused by a lack of awareness, I began to look into marketing efforts. The initial assumption was that the chat simply had not been marketed, which was untrue. There had been attempts to pass out bookmarks in one-shot instruction sessions, links were available on the homepage, and numerous signs in the library mentioned chat.

The first attempt at increasing chat traffic was for the reference department to implement a liaison-specific chat system on the subject LibGuides. Each subject liaison was given a unique widget code to add to their LibGuide profiles. Each widget created an Ask a Librarian button in the subject liaison's profile box and was equipped with an auto delay. Using the delay function, the widget launches a pop-up box or slide out that asks the user if they need help after a predetermined amount of time. This proactive approach caused an uptick in the usage statistics, about 45 percent over several months.

The next step was to reconsider the user's point of need. Many of the questions posed related to finding specific resources and general location questions. Following a review of the literature, it was decided to add the auto-delay function site wide, including in the library catalog as well as to our EBSCO databases (the widget function is not available through all vendors). This implementation of the auto-delay system proved to be much more successful than previous efforts, showing over a 500 percent increase in the number of chats, when comparing the month to month statistics to those of the previous year. Analysis of the referral statistics show that around 70 percent of the questions come in from either the library catalog or one of the databases, primarily Academic Search Complete.

The implementation of the new chat model has not been completely smooth sailing. There were many complaints early on as we worked to come up with an ideal time frame for the auto delay, one which would be proactive without driving the users crazy. We also had to resolve some issues with the initial implementation of the liaison widgets. They were interfering with the new site-wide model, causing multiple pop-ups on certain pages. There have also been some ongoing issues—such as disconnects occurring when users move from page to page—that have required some creative workarounds.

Overall the shift to a proactive chat model has been enormously successful. The change has allowed us to reach our students more effectively. The increased number of chats has also given us more data that we can assess, with plans to further evaluate point of need reference and chat staffing as well as look into variations of the proactive chat model.

Assessment is not inherently transformative, however. It can be used to confirm existing practices or perpetuate the status quo, depending on how the data and information are interpreted and applied. One way to clarify the role of assessment at your library or information center is to socialize the concept without using the term. Since assessment carries so many loaded connotations, using an alternative phrase or term can be useful. Talking about a workflow analysis for check-in and re-shelving processes might be less intimidating than a formal circulation assessment, for example. Other alternative language could include:

Service or process improvement. By emphasizing the positive outcome, this assessment method often attracts initial buy-in. When framed around user experience or qualitative assessment, it can feel more actionable or relevant than more alienating forms of assessment like data analysis, graphs, or cost-benefit ratios.

Event chain diagram. A term borrowed from Project Management discourse. An event chain diagram can be used to visualize how tasks and processes intersect and impact one another. This process can also help introduce or perpetuate systems thinking, which is valuable during a technology change process.

Goal setting. An approach that can encourage personnel to reflect on the current state of affairs and think critically about what could be improved. Starting with general goal setting that isn't focused on technology can elucidate existing interest in change that can be implemented with the use of technology. If your library colleagues set a goal of increasing physical item circulation by 10 percent, new tools or technologies that make checkout, internal holds, or related processes more efficient can be tied to that expressed goal. The likelihood of getting buy-in for that ensuing change will be greater than if the end goal had not been introduced at a more general, open level.

Data snapshots. One of the most difficult aspects of assessment is getting a sense of how services and systems are operating prior to a change. It is essential to have a portrait of the before scenario so change can be measured and impact demonstrated against a baseline. Data snapshots can be incorporated into relevant initiatives, like an annual report. They can even be a source of fun if introduced as an opportunity to represent everyone's work. Catalogers, for example, work hard behind the scenes, but rarely get an opportunity to showcase their contributions and skills. A data snapshot can give all personnel that chance.

Assessment can provoke negative reactions because it tends to be imposed from the top down. It can remind us of being graded on assignments in school, or evoke the pressures of performance reviews in the workplace—something that is done to us, rather than a collaborative endeavor.[1] In addition, the majority of library personnel involved in assessment conduct evaluations in a reactive manner as opposed to proactive, which fails to serve the library in determining future technology needs.[2] Regardless of what terminology you choose to adopt, introducing assessment as a collaborative, proactive process can encourage buy-in and improve the quality of the end result. When it comes to library technology, it is extremely difficult for one or two people to conduct a meaningful assessment of either the current use and environment or unmet and prospective needs. Technology's complexity and multifaceted role in a library environment necessitate a more comprehensive array of perspectives and vantage points than one person, or even a few people, can provide.

One technique that lends itself to destigmatized assessment with a collaborative orientation is a Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis. The interplay between reflection of current positive and negative factors and speculative evaluation of the future encourages participation from all departments and stakeholders. As Evans and Alire observe, a SWOT analysis can also create continuity between different change processes because it "will help you identify what went right, went wrong, or changed since the last major planning effort."[3] A SWOT analysis is typically enriched by the diversity of viewpoints and perspectives. It can also provide an opportunity for people to express their fears and anxieties in a productive context, which is important for preserving a healthy, agile organizational culture.

SWOT ANALYSIS AND EVALUATING THE TECHNOLOGY LANDSCAPE

SWOT analysis is a versatile analytical approach that can be applied to an overarching system, like a college campus or regional library, an individual library or museum, or a specific department, service, or workflow. SWOT analysis can be introduced in the context of a large-scale strategic plan, because of its emphasis on both external and internal variables.[4]

As textbox 2.2 explores, thinking about the positive and negative factors that impact your library, department, or operational area during a SWOT analysis can help you identify trends and pinpoint areas where change might be worth pursuing. While other techniques for environmental scanning, like PEST (Political, Economic, Socio-cultural, and Technological), help illuminate broad macro trends or threats, technology change needs to consider both micro and macro dimensions. SWOT's scalability and integration of external and internal factors give it an advantage. Within the context of a library consortium, for example, a more defined or narrow scope could help identify the most pressing strengths, weaknesses, opportunities, and threats. Another approach might be to integrate a technology component into the broad level SWOT analysis in order to contextualize how technology is operating within larger concerns or issues. The approaching obsolescence of an ILS, for example, might affect how the library manages an unexpected staffing shortage or budget cut. Regardless of the desired scope, SWOT helps lay the foundation for change. Not only can it help organize possibilities into priorities, an environmental scan provides reasoning and context for proposed changes so they do not come across as arbitrary or unnecessary.

Textbox 2.2: Sample SWOT Analysis

The simplified example on the next page represents how you might visualize the positive and negative, macro and micro, factors that are involved in something like an ILS on the verge of obsolescence.

For *strengths*, you examine the assets you have at your disposal. These can be things like campus support, external relationships with consortia or other players, as well as things like expertise and support that would be useful in solving the problem.

Weaknesses force you to take a hard look at what might stand in your way or undermine the success of your proposed solution. Time and money can be major factors, but a bad relationship with the existing vendor or service provider can be a major weakness, as well. If this system's obsolescence overlaps with another imminent system change or migration, that's also important to consider.

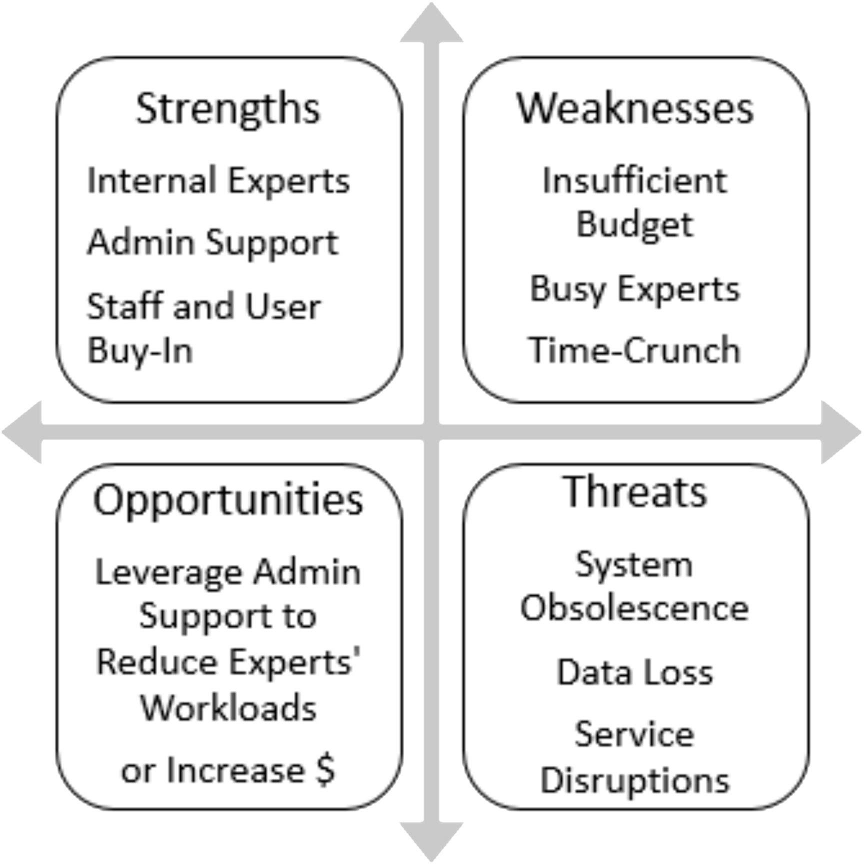
Opportunities are ways you might be able to mitigate weaknesses and enhance strengths. In this case, since there is administrative support for the change, it is possible to leverage that for additional resources, like reducing the experts' workload so that groups can be more engaged with the proposed project. Additional money in the budget could be used to hire a consultant or part-time help to assist during the process.

Threats represent the big picture losses that could result if your project fails or does not happen quickly enough. While thinking through these might be uncomfortable, knowing what is truly at stake will help you better prioritize your needs and communicate frankly with administrators and stakeholders. An archivist who is campaigning for support to digitize vulnerable artifacts might bring up the undeniable threat of irreversible damage or information loss if the artifact is not scanned in a timely manner. This can convey a sense of urgency that might not otherwise be apparent.

Introducing technology change in relation to SWOT can also help position the change as a positive endeavor, something that can alleviate a problem or preemptively mitigate a threat. If users' frustration with slow, outdated computer workstations is recognized as a threat at a public library, a change to a new operating system can be seen as more preventative than disruptive. If archival materials are deteriorating and their long-term stability looks bleak during a SWOT analysis, the scanning and integration of those items into a digital library or platform has a timely and appreciated impact, even if the process is still time consuming and stressful.

CULTIVATING AN ASSESSMENT CULTURE

Because assessment tools and techniques shape an organization's daily operations and long-term trajectory, they have an intrinsic impact on culture as well. A library where assessment has been infused into each service area and department might have organizational values that revolve around transparency, accountability, and adaptation. When assessment is not evenly integrated, its impact on an organization's culture might be more superficial or reactionary. Although technology assessment is only one component of a library's assessment landscape, it can be leveraged to introduce and sustain an assessment culture.


Strengths
Internal Experts
Admin Support
Staff and User Buy-In
Weaknesses
Insufficient Budget
Busy Experts
Time-Crunch
Opportunities
Leverage Admin Support to Reduce Experts' Workloads
or Increase $
Threats
System Obsolescence
Data Loss
Service Disruptions

Technology is an ideal target for this process because it often involves measurable processes or variables that lend themselves to straightforward analysis. When evaluating the effectiveness of an ILL system, for example, certain metrics like request turnaround time and fulfillment rate are easy to gather and comprehend. Layering these data points with other factors, like user satisfaction, can flesh out the narrative. Even the relatively simple, system-generated data can help internal and external audiences grasp how the system and service are functioning.

Another positive contribution technology can make to assessment is more social and psychological. When personnel feel threatened or disempowered by technology, assessing its performance can be a useful way to encourage more involvement with assessment projects and restore a sense of authority or power over the systems that can be perceived as intrusive or impervious.

Because technology is viewed as impersonal, one might feel it is unfairly exempt from the accountability measures and standards that human labor is held to. As the case study outlined in textbox 2.3 reminds us, usability can be especially effective here, as it combines quantitative and qualitative data into the assessment and provides people with an appropriate opportunity to exorcise frustrations or suspicions they might harbor toward technology. It is important to maintain an emphasis on methodical investigation and corroborating anecdotal input with more concrete data. Otherwise, system critique might devolve into grievance airing, instead of leading to productive outcomes.

Textbox 2.3: Case Study on Website Redesign

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A website is the online identity of a library, and everyone from the dean to student circulation staff feel some investment in how it looks, how it works, and how decisions to change it are made. By the summer of 2015 librarians and staff at Towson University's Albert S. Cook Library were ready for a new website.

While cutting edge when it was first built, the library's website had become clunky and increasingly harder to use. This applied both to the front end, with its dated aesthetic and sprawling organic growth, and to its backend, a hybrid caught in transition between Drupal seven and its original ColdFusion that was several versions behind.

After announcing the planned changes to the library website, the project team moved into a semester-long investigation phase. Staff interviews served to generate an initial requirements list and gain a better understanding of how the website was used internally. An online survey helped us to better understand how the website was used externally; librarians emailed faculty in their liaison areas, and students in our A-LIST (Albert S. Cook Library Leadership Institute for Students) program brought the survey to the union and dining halls on iPads. A "design your ideal homepage" exercise helped to better articulate the most important features of the homepage. Finally, an environmental scan generated inspirations, aspirations, and a menu of design, label, and information architecture options.

Inspired by agile project management, we spread the redesign across three gradual updates leading to the final design. Each update was developed over the course of a semester (using a process like *sprints* in the Scrum software development framework) and released over the summer and winter breaks to avoid disruptions in the middle of each semester.

Before each new release we held open drop-in sessions to gather feedback, which could be applied to the update before it went live or incorporated into the next update. These sessions reiterated the vision for the overall redesign, described and demonstrated each change, and provided rationale and room for discussion. After each release we actively solicited feedback through email and in-person check-ins with the other departments.

Once we reached our final launch date, and our third update was live, we carried out usability testing with eleven volunteer staff members to gauge user reactions to the final redesign before the start of the semester. We also reviewed the website with members of central IT who specialized in accessibility or were themselves blind. Findings demonstrated a significant improvement. The most used words to describe the site were, *clean*, *organized*, and *user friendly*.

After the project came to a close, we committed to carrying on the conversation that drove the redesign. We continued to accept feedback, remained flexible about changes, and committed to an iterative cycle of updates communicated in advance. Following the model established during the redesign project, all non-critical updates are developed over the course of a semester and implemented during either summer or winter break. Each update is preceded by drop-in sessions, email updates, and scheduled presentations to the key stakeholders impacted by each change.

We are optimistic that by continuing to use an agile-like approach, we can advance an online identity for our library that is renewed and improved on a regular basis. With this approach, we challenge ourselves to avoid what we now call the “six year cycle of suffering,” when library websites are redesigned only once they become stale and unwieldy. We also challenge ourselves to remain flexible and open to feedback and changing requirements from library staff and users.

There are several strategies one can employ to lay the foundation for an assessment culture. Creating an assessment schedule, for example, helps integrate assessment into the organizational rhythms and establishes its ongoing presence. If an annual report is meant to be submitted at the end of each fiscal year, structured assessment that leads up to that deadline has both a defined purpose and the potential to become a long-term practice or pattern. Clustering assessment projects or data-informed processes during off-peak times can also help assessment become a recurring facet of the organization, instead of something that is engaged in begrudgingly or only in response to an imposed requirement, like accreditation or a board member's request.

Technology and assessment can be undermined by the concept of concentrated expertise that also plagues the change agentry rhetoric discussed in chapter 1. When assessment succumbs to gatekeeping dynamics, information and expertise are, or are perceived to be, controlled by a select few instead of being diffused throughout an organization.[5] Just as a technology change ideally leads to widespread diffusion and adoption of the new system or technology, collaborative assessment should permeate the culture and identity of an organization. This shift is essential to support long-term and healthy change, because it creates sustainable buy-in and destigmatizes concepts like data analysis and accountability.

The danger with assessment, especially technology-centric assessment, is that it will become the purview of one or a few people who have the inclination or expertise. While this load distribution might be initially enticing, it does not facilitate skill development at all levels. Rather, it concentrates assessment in isolated pockets, which can perpetuate silos and feelings of defensiveness. Rotating assessment responsibilities can help offset these potential problems. Those with expertise and talent for assessment can serve as leaders, but their role should also involve training the next group of assessors, leading to a chain of continuous assessment conducted by a wide variety of personnel.

Once assessment becomes demystified, decentralized, and infused within a library's culture, it is important to emphasize the importance of assessing anything, even seemingly inconsequential systems or processes. The cycle of problem identification and resolution cannot operate effectively if the scope of possible assessment areas is preemptively limited. Technology assessment can generate interest and buy-in, but every aspect of a library's operations and services should be subjected to the same examination and improvement.

SETTING ASSESSMENT GOALS

Assessment goes hand-in-hand with identifying and implementing change, especially in relation to technological changes. Library systems affect a wide spectrum of personnel, administration, and customers, so when changes to those systems start to develop, it is important to be conscientious of how those prospective implementations positively or negatively affect all constituents. Adopting a new scheduling system for library staff and volunteers might seem like a process that primarily affects internal users, but if the system is confusing, or the transition is not accompanied by adequate training and support, you might have under-staffed service desks. Staffing disruptions can inconvenience your users and create scenarios in which other staff are pulled away from their duties to provide coverage. If you have staff from other libraries working on a temporary or substitute basis at your location, you might not be fully aware of all the people who will need to interact with the new system. In other words, there can be many layers and potential stakeholders impacted by a change. Assessment tools can help us establish a more complete portrait of these variables from the outset. Building an assessment plan at the beginning of the change process negates many of the stresses that can emerge during an implementation process.

Assessment data is key to supporting established goals and outcomes of any project. Broadcasting these goals and outcomes at the beginning of the implementation plan will make the process seem less arbitrary to those who are not directly involved in the project, but are impacted by it. Generally, a focused group, like Kotter's "guiding coalition," is tasked with coordinating project assessment, especially at smaller institutions where there isn't a titled assessment coordinator or funds for outsourcing assessment.[6] Rodriguez brings attention to this occurrence, noting that "small academic libraries are more likely to subsist on shoestring operating budgets and employ jack-of-all-trades professionals rather than specialized technical experts" to coordinate assessment.[7] This small body of library personnel works very closely with the overall project team to ensure that measurable goals and tasks are published and shared with the rest of the library and institution.

Data can be gathered from all points in the library, including administration, learning services, technology services, and support and collection services. Informing the members of these service points why particular data is being gathered and how it will be applied to the ongoing project will promote exposure and understanding of assessment. How that data is gathered and presented to the public is an essential part of keeping communications open and transparent. Graphs, pie charts, and visually appealing tables can present important information in a straightforward package, usually in the form of digital graphics on library websites, annual reports, marketing materials, or infographics. This is a great opportunity to instill a culture of assessment within the institution as a whole, which can continue through the duration of a systems change event and beyond.

When setting up assessment goals for a project, like the one discussed in textbox 2.4, it's helpful to keep two things in mind: institutional goals and the library's story. It is well documented that tying measurable library goals and objectives to those published by the institution as a whole seamlessly links library success to institutional success.[8,9,10,11] Cottrell highlights the importance of clearly articulating meaningful connections between the institution and the library to promote accountability and relevant assessment.[12] She mentions how "extensive conversations within the library will ensure that all aspects of the library's work are considered, and increase the likelihood of discovering wider connections between the library and institutional mission—and often lead to a renewed sense of pride and connectedness within the library."[13]

Textbox 2.4: Circulating Technology Case Study

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and Courtney McAllister, electronic resources librarian,
Yale University

One opportunity to use assessment to inform practice is during the introduction of a new or improved circulating technology program. In the past, The Citadel's Daniel Library provided a few tech items to students, such as laptops, headphones, and Common Access Card (CAC) readers for military patrons. The integration of creative technology like GoPro cameras, 3D pens, AR/VR technologies, and others prompted library personnel to consider integrating Springshare's LibCal module to update the workflow of how technologies could be accessed. Like many other libraries that use Springshare products, we hoped the LibCal module would enable us to highlight new technologies as well as our revamped technology offerings tied to circulation and our makerspace (Rosalinda Hernandez Linares and Anna Marie Johnson, "Comparing Apples to Apples Oranges: An Exploration of the Use of LibGuides in ARL Libraries," *Southeastern Librarian* 64, no. 1 [2016]: 4). These changes affected key service points at the library:

Circulation. Checkout procedures and reservation procedures using both LibCal and Millennium

Acquisitions. Purchasing procedures and documentation of damages and missing items

Cataloging. Cataloging procedures for both the library's ILS (Millennium) and within LibCal

Library instruction. Teaching students, faculty, and staff how to reserve technologies on the library website

As changes were implemented, an assessment team collected data at each of these service points. Data was self-reported (LibAnswers, feedback surveys, and email documentation) and pulled from existing systems (circulation transaction data from the ILS and from LibCal). After a month of collecting data, a small presentation was put together and shared library wide, providing insightful information about where changes were made and how they were positively or negatively affecting workflows. While library patrons were very happy with the ability to reserve technology on their own, there were library personnel who were unfamiliar with using two different systems to check out technologies. The data clearly reflected areas of success and need for improvement, which further influenced internal training sessions and ongoing assessment focus.

Library stakeholders tend to have a better grasp of projects and plans if they relate to the larger picture. This generates a level of transparency that helps provide context to shared data externally and internally and brings a library's vision to life. In relation to the library's story: what is the story that the library wishes to share with stakeholders and the community? The story can shift to immediate and long-term demands or projects. Think about the narrative the library wishes to share with the community. Is it related to student success or the library's reach across campus to extend collaborative efforts? How do the library's systems and technologies support campus diversity initiatives? How have changes in the library's technology use policies alleviated access barriers? Are new systems and technology tools being acquired to better meet the needs of previously underserved users?

ASSESSING THE SUCCESS OF CHANGE

Depending on the project at hand, the effects of change can be small in scope or far-reaching. Not every change will be revolutionary: some successes are subtle. No matter how small those successes are, it is important to acknowledge every stride forward and the supporters and participants involved. Celebrating that success does not mean that there is no room for improvement. Assessment is an ongoing and iterative process that should remain in place before, during, and after every project or milestone. With each success, a new outcome or goal should be established to encourage ongoing development. This could be something as simple as increasing Facebook subscriptions from 200 to 250 within a semester, or improving reported satisfaction with technology reservations from 70 percent to 80 percent in the new year.

These new benchmarks can be internal or external, depending on individual needs. Examples of applicable internal benchmarks include:

- Personnel professional development
- Work-life balance
- Work satisfaction
- Perceptions of internal silos

Examples of external benchmarks include systems changes such as:

- Satisfaction with and use of services like reference, FAQs, and circulation systems at the information desk

- Frequency and impact of library technologies being used in assignments or class exercises
- Number of faculty or courses using open educational resources (OERs)
- Satisfaction with and use of circulating technologies
- Satisfaction with and use of room reservation systems

With all benchmarks, it's important to maintain an accessible assessment schedule so that personnel can get a useful snapshot of how effective new systems are within a measurable context.

Libraries should be encouraged to maintain transparency throughout the year. Social media, digital signage, newsletters, and annual reports are just a few of the venues that personnel can use to highlight successes, plans for change, and library updates as a whole. A change as small as an adjustment to library hours to a change as large as system updates or migrations are all important in relation to how they affect services to users and stakeholders. Keeping them in the loop shows a level of transparency and respect that many are excited to see in libraries. These practices also help perpetuate trust and decrease user stress or anxiety. As chapter 3 will explore, the emotional side of technology change must be carefully managed alongside the technical and logistical components or else the benefits of a new system or technology might be overshadowed by stress, resentment, and detachment.

NOTES

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Chapter Three

The Hidden Side of Technology Change

Emotion and Engagement

When information professionals with technology-centric roles prepare for a technological change, like implementing a new system or coordinating a platform migration, the most pressing concerns tend to revolve around orchestrating a seamless transition or implementation and ensuring continued interoperability between systems. In general, these factors are not overly difficult to assess and integrate into a change plan. Official product documentation and user or developer communities can usually provide or point to the necessary technical details. However, the human side of change introduces many variables which might not be as predictable. These are the factors that a user's guide or manual can't account for.

While negotiating technical specifications and nuances might seem like the most urgent task, technology change is not just about managing or coordinating system components and technical variables. There is a complex and potentially volatile psychosocial landscape to consider as well. Library staff, end users, and stakeholders operate within a constellation of attitudes, emotions, expectations, and comfort levels. Assessing and shaping these variables is essential to successful change management. As the case study in textbox 3.1 demonstrates, easing the stress or emotional strain of a technology change can be relatively simple. Managing the psychosocial aspects of change does not necessarily take a great deal of time, effort, or money, but it does need to be deliberate and consistent.

Textbox 3.1: Case Study on Managing Emotions

Cynthia Schwarz, lead technology coordinator,
Temple University Libraries

In the fall of 2016, Temple University Libraries (TUL) launched a project to migrate our Integrated Library System (ILS) from Innovative's Millennium to Ex Libris's Alma. Millennium was adopted at TUL in 1999 and only a few of the current staff were around for that migration. About a month before the official start of the project, a new department was created in our library called Library Technology Development, and I was given the role of lead technology coordinator. My first task in this role was to manage the Alma implementation and migration.

I knew that this migration, like any major change, technology or otherwise, would be very challenging for our staff on many different levels. I had to first prepare myself mentally, emotionally, and physically to lead my colleagues in this project. Adopting a new technology is not about learning the new buttons, clicks, and processes, but instead it is about changing one's mental and emotional orientation to one's work. Therefore, the ultimate priority in my approach to this migration was to provide a safe space for my colleagues as they proceeded through this change.

In my office, I turned off the harsh florescent lights and turned on lamps that emit soft light to create a calming environment for meetings and for my own work time. I met frequently with key department heads and stakeholders to allow them to voice concerns. And I followed up on their questions to demonstrate that they had been heard and that whatever action was possible would be taken to address those concerns.

Next, I communicated. Every Monday morning, I sent an email to the project team with meetings for the week, upcoming tasks and milestones, and any other pertinent information. Every other Friday, I wrote a blog post style update for the entire library staff. An ILS migration in the library impacts every single staff person. Three times during the semester, the colleague managing our discovery layer development and I held open sessions and invited library staff to come in person to hear project updates and ask questions or voice concerns.

Two months before the launch date, I provided training for the library staff in circulation and cataloging tasks in Alma. I created an online and printable training manual with screenshots and then moved through this documentation in a classroom format workshop. Again, I took the time to listen to any questions and concerns. I visited our suburban branch library about forty minutes away from main campus and I provided real-time Skype trainings with our library in Tokyo, Japan. I wanted everyone to feel certain that they could complete their primary functions in Alma on day one.

Throughout the process, I encouraged library staff to think deeply about the processes and work as it related to the ILS. For the first time in almost 20 years, we had an opportunity to make changes to our business processes. I facilitated one working group for circulation staff and one for technical services to think through new policies and procedures. These were wonderful opportunities to discuss with one another—not just how we did things, but why and whether or not it was the best way. These groups continue to meet on their own, even though the ILS project is complete.

In the first few days and weeks after launch, I made myself available to staff to address questions and concerns. For each comment, question, or concern that was raised, I made every effort to acknowledge the report and add it to the queue to be addressed. The worst thing for staff who have just undergone a major transition is to have radio silence on the other end of their communication. We used a combination of Slack and email for staff to report issues. We used Jira ticketing to document issues and keep track of resolutions. If I had to go through this project all over again, I would have a more streamlined method for staff to report issues. Slack proved to be difficult to manage and to use to keep track of reported issues.

In the end, the project was a success. Throughout this and other projects, I constantly ask myself two questions when I interact with my colleagues: (1) What can I learn from them? (2) How can I be of service to them? Asking these two questions creates the humility required to effectively lead significant organizational change.

At the most rudimentary level, systems follow straightforward logic. The ones and zeroes of binary code are inherently more predictable and manageable than the tangled nexus of memory and impulse woven into the human mind. When trying to diagnose an issue with your proxy instance, you can examine the transaction log and error reports for insight into where things are malfunctioning. When attitudes or perceptions are not in alignment with a change process, there is no error code or log to turn to. This makes it extremely difficult to diagnose and resolve conflicts or issues rooted in the human aspect of technology change.

No theory can account for the staggering variety of human experience, subjectivity, and emotion, but conceptual approaches like human-computer interaction (HCI) and user experience (UX) can help us anticipate and engage with the hidden social life of technology change. These perspectives encourage us to apply the same level of scrutiny to human behavior, social dynamics, and emotional states that we apply to system specifications and performance. HCI has been used to map the user's cognitive responses, but more expansive research in this area also considers the impact of mental models on how people engage with and accept technology.[1] As Rogers explains, mental models have been incorporated into HCI as "a more dynamic way of characterizing the knowledge that people are assumed to have when interacting with a system, how that enables them to understand how a system works and to know what to do next."[2] During a technology change process, mental models help us meaningfully monitor and address the moving targets of emotion, perception, and social dynamics so we can cultivate a functional dynamic between human users and changing technologies.

MANAGING MENTAL MODELS

Once we have accepted that social and psychological components are just as integral to technological change as system properties, we must strategically integrate these two sets of unique variables into a cohesive change process. Tracing the mental models at work in your organization can be an important first step. Mental models, as defined by Senge, are powerful internalized assumptions and beliefs that shape the way we perceive our environment, interpret the actions of others, and behave in a variety of contexts.[3] These models are composed of layers of social scripts, ideologies, and lived experiences.[4] Mental models can help demystify the subjective diversity and individual idiosyncrasy that determines the support of or resistance to a technological change. The internalized suspicion towards assessment discussed in chapter 2 is one example of a problematic mental model. While the accumulated sediment is not entirely fixed or rigid, the influence of a mental model should not be underestimated, especially when planning, proposing, or implementing change. The human attitudes that can make the difference between a successful or failed technology change might seem arbitrary from an outsider's perspective, but keep in mind that there was some catalyst for that attitude or belief, even if it was decades ago or the result of a misunderstanding.

Any organizational change interacts with our mental models. The way we see ourselves, envision our roles in our organizations, and orient ourselves toward our users and colleagues are all driven by a core set of assumptions and beliefs. Change can conflict with an individual's mental model, by bringing lived experience out of sync with personal perception or expectation. Even simple changes like modifying office furniture or moving someone's workstation can cause internal ripple effects. As Kotter notes, "to some degree, the downside of change is inevitable. Whenever human communities are forced to adjust to shifting conditions, pain is ever present."[5] When a clash occurs, it can instigate backlash, disillusionment, or total disengagement. A change that takes seconds to implement can require weeks of internal renegotiation if it does not integrate with the individual's existing mental model.

Any change can exacerbate stress and cause negative emotions, but technology changes can magnify these reactions. Engard and Gordon refer to this unique iteration as "technostress."[6] There are a few key reasons technology changes might be more prone to causing conflict with mental models:

- The rate of technology change can be sudden or unpredictable. Iterative development processes make it especially difficult to keep up with the latest release or upgrade, let alone stay current on emerging technologies and trends.
- In addition to being overwhelming to keep up with, rapid technology changes can blur the lines between emerging technologies and temporary fads. If a new technology or system is perceived to be a fad, it can collide with the commitment to stewardship and sustainability that defines many libraries, archives, and museums.
- Many people have had negative experiences with prior technology changes. A chaotic or poorly managed technology change can traumatize personnel and create negative connotations that must be overcome.
- As technology becomes more advanced, it is increasingly difficult to intuitively grasp its purpose and value. The advantages of one system's functionality or performance might not be recognizable without first developing a sophisticated understanding of its complex internal characteristics.

The hidden complexity of new systems and technologies can be especially alienating for personnel. As Norman asserts, a system with invisible, labyrinthine inner-workings and a cryptic design can create a "Gulf of Evaluation" where the user's expectations and navigational abilities are insufficient for contextual learning.[7] Upgrading a straightforward office tool like a copy machine or scanner typically involves a more manageable learning curve; because its purpose is already established, its physical features can usually be interpreted by intuition or muscle memory, and it does not require a great deal of training or documentation to operate effectively. On the other hand, a complex system like an integrated library system (ILS) involves a higher access barrier, requires more technical expertise, and can be more difficult to explain. If library staff members do not understand the technologies being incorporated into their daily workflows, they are not likely to trust them or adopt them.

Sometimes, there is a seamless transition between the former and new incarnation of a role or function. At other times, the change deviates sharply from our expectations, and it takes time and effort to acclimate. Trying to gauge how your proposed technology changes might interact with existing mental models can be challenging, but there are some subtle ways to get a feel for the prevalent assumptions and beliefs at your institution. Some of these strategies can be incorporated into the environmental scanning processes outlined in chapter 2. However, it can also be useful to take a deep dive into emotional or social assessment, especially if your organization has struggled with technology changes in the past.

To begin with, look for patterns in technology ticketing submission or issue reporting behavior. If everyone has the ability to submit tickets and report technology issues, but only a few people are doing it, there might be some general disengagement from the technologies or systems at work in your organization. People may not be paying much attention to the systems and tools they are using, which can be beneficial or detrimental for change. If they are not attached to existing systems, moving to a new one might not be an issue at all since there is no real emotional investment. On the other hand, if your internal users have no basic understanding of how the systems they use are supposed to function, they may not have an adequate frame of reference to adapt to a new system or technology.

If a core group of your internal users are reporting issues, try to follow up with them when a reported issue has been resolved. Talking face-to-face about an issue and its resolution can reveal a lot about the person's comprehension and investment. During the quasi-ethnographic exchange, it might be worth considering the following:

- Is the staff member interested in the outcome of the issue?
- Do they seem to follow the explanation you provide about the cause or response?
- Do they ask questions?
- When they submit another ticket or issue report, do they employ any of the terms or concepts you brought into the earlier discussion?
- Do they report the same issues or types of issues repeatedly? Or is there variety?

Another technique could be to approach a colleague and ask her a question about a system or technology. You might be surprised by the detailed and comprehensive explanation you get. If you encounter underwhelming responses to these ethnographic explorations, try to adopt a more collaborative approach to troubleshooting and technology problem solving. If something goes awry, resist the impulse to just fix it for your colleague. Instead, try to involve them in the resolution. If a staff member reports a proxy error, for example, try showing him the administrative portal or dashboard you use to update a stanza. If you are in a hosted environment, you might not be able to demonstrate the entire resolution, but you can submit the ticket with the staff member and explain why you need to include the information and details you are sharing with your support representative. Although it may take some precious time, these encounters can empower staff to take on a more active role with technology. At the very least, they can serve as an act of symbolic inclusion that reiterates the importance of collaborative technology management.

It can be discouraging to notice negative or resistant trends in your colleagues' mental models. Lack of trust or general disinterest in technology can be especially difficult setbacks as you assess and plan change. However, these models are not permanently fixed or immutable. Changing them can be arduous and exhausting, but it is possible. Some low investment strategies to shift negative mental models and perpetuate positive ones can help make your staff more receptive to the technology change.

Inviting all library personnel to a webinar on a technology topic can be a great inexpensive ice breaker that encourages positive attitudes toward technology and its applications. Broad topics that connect technology to innovation or customer service might have special resonance for your colleagues, depending on your local culture and operational needs. A session that spotlights open source software or free tools can be stimulating, as well, since there is no barrier to keep personnel from experimenting with these technologies at their leisure.

Using a webinar as a springboard for subsequent discussions about how technologies or systems could be enhanced at your library can provide you with more candid feedback and reveal how people are thinking about technology's role within the organization. Sometimes a webinar will elicit questions that can lead to a more focused conversation about a specific technology or system that is approaching obsolescence or a dramatic upgrade.

Webinars also situate technology topics within a broader professional context, which can help depersonalize changes when they are introduced at the local level. If you and your colleagues learn about the benefits of allowing users to check out materials with a library app, it might not seem as radical or threatening when it is incorporated into the local service repertoire.

Technology wish lists can also be a great opportunity to get feedback and perpetuate a more participatory mental model. A shared document created through a platform like Google Docs or OneDrive can consolidate ideas or dream technology that might not be on your radar. Maybe the head of cataloging has been pining for an interactive data visualization wall. Perhaps your access services manager wants to start circulating GoPro cameras. Even if the ideas on the wish list are not immediately feasible, they can illustrate existing interests to develop and incorporate into a long-term technology plan. If the wish list items are predominately for new staplers and office supplies, there might need to be more technology education and socialization before introducing a drastic change. Inviting library-wide input also symbolically situates technology as a decentralized facet of the organization, rather than the exclusive purview of a few "experts." It can also help identify potential contributors to the "guiding coalition" that Kotter identifies as the key influences and supporters of a change process.[8]

It is unrealistic to expect that all your personnel will have a shared appreciation for your technology change. Shifting mental models can help lay the groundwork and improve your odds of success. However, even when mental models are conducive to change, other aspects like timing and communication are formidable psychosocial factors.

TIMING AND CHANGE

Timing plays a critical role in determining the success or failure of a technology change. A great idea at the wrong time might actually be the wrong idea, if your personnel or larger organization are not in a position to fully engage with or capitalize on it. Introducing a new print queue system during final exams is not ideal timing. Rather, it is a perfect storm for confusion, frustration, and a cultural setback. Harried students who need to print out final papers will not have the time or patience to learn a new process, and library staff might already be overextended from supporting the longer hours that typically accompany exam time. Trying to upgrade the public use computers at a public library during the height of tax preparation season might be similarly counterproductive. While waiting for the perfect moment to introduce change can lead to analysis paralysis, timing is worth taking into consideration when designing your technology change plan or project timeline.

In terms of encouraging buy-in or support for an organizational change, timing can have a strong influence on the overall reception the proposed change will elicit. One way to optimize your timing is to learn the organizational rhythms. There are often patterns and recurring ebbs and flows in libraries, archives, and museums. Learning those patterns can help you identify good times to introduce change, assuming it is not urgent, like the unexpected obsolescence of a key software or platform. To evaluate the time trends at your organization, consider:

- Fiscal year and other billing cycles, which tend to be especially hectic for administrators and personnel with purchasing authority.
- Concentrated programming and outreach activities. If your library does an entire month of programs for Women's History Month, March is probably not an ideal time to initiate a new technology.
- Staffing patterns. If your organization utilizes a lot of student workers, volunteers, or part-time help to maintain basic operational momentum,

consider when they are typically hired or cycle off at the end of the year. If they are often hired in January, February might be a good time to introduce a change. By that point they will have some frame of reference and autonomy but will probably not be too attached to the status quo to adapt to something new.

- Large external projects like renovations. Consider the timelines of these projects and how they might affect staff stress levels. If a library's physical operations are disrupted by a renovation, there might be more downtime for those who primarily interact with physical collections, like access services and stacks management personnel. However, there might be increased demand in other departments, like interlibrary loan. A staggered roll-out or launch might be a feasible compromise in this type of scenario.

As with mental models, considering these factors can enhance your ability to manage a successful technology change, but there is no perfect formula. It is important to be persistent. If an idea does not garner support or buy-in the first time, be prepared to introduce it again, down the road. It might take repetition to either familiarize people with the prospective change or hit the right timing target to get people to take notice and engage.

Timing is an integral component of the change plan itself. A technology change or project timeline should reflect a well-honed awareness of how long the project will take from start to finish, the overall pace of the process, and when the most intense or pressurized phases are likely to occur. If the process is too rushed, people might feel overwhelmed. However, if you budget for too much time, a sense of urgency, the first element of Kotter's model of change management, will be missing from the equation.[9] There must be a balance between a reasonable rate of adaptation and a clear need for action.

Although it might not always be feasible, adopting an incremental approach to a technology change can be an attractive compromise to appease both colleagues and end users. As Engard and Gordon rightly note, incremental changes can support an "evolutional process of creating change; taking incremental steps over time can lead to dramatic results."[10] More moderate or staggered technology changes can ease stress levels without sacrificing momentum.

Technology changes that impact a wide range of services and workflows are especially difficult to time appropriately. Personnel need time to update their mental models and acquire new skills, but the end users' demands remain constant. There is little flexibility when foundational systems or networks are involved. From an end user's perspective, there is no acceptable downtime for something like user authentication or an ILS. When these external expectations accelerate the timeline involved in a change, it is important to be candid with your colleagues, who might not have sufficient time to adapt, and the end users, who might experience moderate service disruptions. Regular, transparent communications and timely updates are key ingredients for trust and buy-in, regardless of whether your change is well-paced or rushed.

COMMUNICATION AND CHANGE

When it comes to managing change, communication is more than the literal language you employ. How and when you deliver your message or updates, and to whom, can have just as much impact as the words themselves. Communication in any organization is often an ongoing concern, due to the personal variations and preferences involved. Communicating about change carries some unique challenges because it can be difficult to represent in concrete terms. Until the change process is complete, there might be more unknown than known elements. There is typically some speculation about the benefits of the change, and it takes trust and a shared vision to commit to a vague outcome.

Communicating about change can also be delicate because it tests hierarchical dynamics and perceptions of power. A change that affects all personnel might be initially announced to senior staff or managers, leaving others out of the loop. This can make personnel feel unimportant, excluded, or disrespected. When information is not being shared equally, there can be knowledge vacuums. If some staff are not being kept up-to-date about an impending change, they may draw their own conclusions or rely on partial or second-hand information. This can lead to avoidable misunderstandings that will take extra time and energy to remedy.

When communicating about technology changes, it is important to resist the tendency to rely on technical jargon. While specialized terms can be helpful in certain circumstances, especially to those directly supporting or leading a technology change, inundating your staff with system specifications and awkward acronyms might alienate them from the goal or objective. When specialized terms are unavoidable, provide definitions and explanations. It is best to assume that at least one person receiving your message is completely unfamiliar with specialized terminology. Try to privilege clarity whenever possible and structure communications around regular, digestible updates, rather than disseminating large, unwieldly chunks of information.

As the sample email message in textbox 3.2 demonstrates, one useful communication strategy is to clarify the levels of information being disseminated. The most relevant content appears at the beginning, and focuses on the needs of a general reader. However, additional information is included and clearly labeled for more advanced users or those who might be curious to know more. This is a useful approach for several reasons. It supports transparency without creating excessive burdens. Including the more advanced explanation or news in the general update message also means that the content is searchable for all recipients. If something comes up in a listserv or other context, a curious staff member can easily connect those references with what is taking place at the local level.

Textbox 3.2: Example of Tiered Email Update

From:
Subject: [DIGINEWS] Server maintenance: MON 9/27 and TUES 9/28
Date:
To:

LAIS will be applying regular monthly patches to servers early Monday 9/27 and Tuesday 9/28 between 6:00–8:30 a.m. We expect the outage to be less than 15 minutes during the outage window.

While each server is updated, the following services will each be unavailable for up to 15 minutes:

SQL Server (TUES. only)
Illiad (TUES. only)
SharePoint and SharePoint Services
Reference Tracking (TUES. only)
Cascade Server
Digital Collections (TUES. only)
Portfolio
Urchin (MON. only)

The library web server and Orbis, MetaLib, SFX, and Borrow Direct systems will *not* be affected.

Details: LAIS will apply regular monthly patches to application and database servers.

What's affected: All services that use MS application servers or SQL Server databases, including:

- SharePoint is the library's collaboration tool. You will not be able to use the website interface and may encounter a brief error in Outlook if you have connected SharePoint calendars or lists to Outlook. No data will be lost. (https://collaborate.library.yale.edu)
- SharePoint services, like West Campus, request form and Library hours displays.

- Cascade Server is the library's web content management system. When it is unavailable, no changes can be made to web pages. This will not affect readers or staff viewing pages on the website. (https://edit.library.yale.edu)
- Portfolio is a digital asset management tool used by the Visual Resources Collection and other digital collections for cataloging and metadata work. VRC staff will be unable to access Portfolio.
- Urchin is the library's web analytics package.
- Custom SQL-driven applications, like Mudd Access Log, Selector, Staff Databases, and Reference Tracker.
- Digital Collections application is the new interface to the library's traditional "DL" image databases, including the VRC. (http://digitalcollections.library.yale.edu)
- Images is the Digital Library (DL) server for the VRC and other digital image collections, except Beinecke Digital Library. Both the traditional VRC and Metagallery will be unavailable.
- Illiad is the library's system for requesting and tracking interlibrary loan requests.

Picking a certain day of the week to announce updates on a project can help reinforce the habit of frequent communication, while also demonstrating a methodical, structured approach to managing the change itself. If your colleagues' commitment to a project is wavering, sticking to a communication schedule can nurture trust and confidence.

It is important to start communicating about an impending or possible technology change as early as possible. This is a key component of socializing the change and cultivating or maintaining buy-in. Throughout a change process, appealing to different learning styles is also important. Some people absorb information best when it's verbalized, so setting aside time for one-on-one conversations might be the most effective communication tactic. Providing regular email updates will appeal to those who prefer written communication, while also giving people some documentation they can review later and take time to digest. Providing demonstrations or hands-on trainings can also be productive, as it gives personnel active learning experiences. Especially when a brand new technology or system is introduced, experiential training can be a powerful tool. Among other things, it positions staff as participants, not passive receptacles. It also encourages engagement and helps people take more ownership in the change process.

Effective communication should also address the underlying purpose or benefit of a technology change. If it is a reactionary change that is being imposed on your organization, be as open as possible about that dynamic. If the change being pursued will enhance the organization in some way, try to reiterate that whenever possible. Technology changes can be incredibly disruptive and stressful for everyone involved. If the change advances the organization towards a strategic goal or desired outcome, people may have more tolerance for short-term unpleasantness. Tying the technology change to your organization's mission and vision is essential. As Kotter reminds us, "without an appropriate vision, a transformation can easily dissolve into a list of confusing, incompatible and time-consuming projects that go in the wrong direction or nowhere at all."[11]

WORKING TOWARD ACCEPTANCE

Any organizational change is stressful for personnel. Their schedules may be more compressed than usual, their workflows might be upended, and they might feel insecure about the future of their position within the organization. Even seemingly straightforward changes can create burdens for personnel, as textbox 3.3 illustrates.

Textbox 3.2: Case Study on Change Burdens

Nicole Lawrence, assistant director,
Digital Library of Georgia,
University of Georgia Libraries

A major technology change is a daunting task, but it can serve as a catalyst to evaluate legacy workflows and introduce new tools to improve efficiency. In 2014, the Digital Library of Georgia (DLG) took on an ambitious project to completely overhaul its aging technology infrastructure. Two years into the process a newly minted project manager position was filled. This provided the perfect opportunity to evaluate long-standing workflows and introduce new methods, tools, and collaborations.

Originally launched in the early 2000s, the DLG's homegrown system was never intended to manage the variety and scale of data that it now handles: four independent, aggregated datasets with a combined total of more than 600,000 records; a digital newspapers platform with over one million digitized pages; an Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH) feed to act as a data conduit to Digital Public Library of America (DPLA); and 38 collection-specific, unconnected databases. The majority of the department staff is long standing, with at least eight to ten years of service, and had been working with the previous technology stack for the entirety of their tenure. I was brought in as the project manager in 2016 and tasked with, among other objectives, evaluating current workflows and tools.

It was clear that even without the major technology shift there was room for workflow improvement. During my various orientations with each unit, I took full advantage of my newness to investigate the reasoning behind existing workflows. "Why?" can be easier to ask when you have no history with the processes in question. The most common explanation was simple perpetuation. The systems in use had remained static and, in turn, so had the workflows and tools. Along with the DLG director, I examined and evaluated each unit's responsibilities, workflows, and preferred tools. We chose to target three areas with the most room for growth: workflow documentation, metadata manipulation, and project tracking.

Overall the changes provoked little resistance; staff understood the importance of evaluation and were willing to investigate alternatives, though they were skeptical about major modifications to current tools and procedures. Where possible, I included unit members in discussions that might impact them. I was keenly aware of the institutional knowledge I was working with and tried to make it clear that my intent was to increase efficiency and reduce the workflow backlog.

Upgrades to workflow documentation and metadata manipulation were accomplished using underutilized tools already in the department's repertoire. Rather than moving to entirely new tools, I focused on exploring additional features of current systems and software. These low-barrier enhancements streamlined workflows and increased performance without the burden of learning new products. Project tracking implementation proved to be more challenging, however, and the first attempt was unsuccessful.

Department workflows had been so isolated it was hard to see how individual parts of the larger process worked together. In some cases, only a single staff member had knowledge of crucial steps in the data processing chain. In addition, we inserted a completely new step into every workflow using a new project tracking tool. This required staff to take the time to familiarize themselves with an additional piece of technology and incorporate it into ingrained routines. Unfamiliar tools and long-established procedures, coupled with an incomplete picture of how each unit's work impacted department-wide projects led to an undervaluing of the importance of project tracking in general.

To combat this, members of each unit were cross-trained on elements of other units' workflows. Regular "Tips and Tricks" sessions provided opportunities for staff to talk about tools they found particularly useful or ask for help with a technology problem they were having. These actions were incredibly beneficial not only for problem solving but also for building relationships between staff and providing a context for individual unit workflows within the larger department. We also removed the new technology barrier by leveraging a tool already widely in use. While ultimately project tracking implementation was successful, consideration had to be given to broadening unit interactions, emphasizing the big picture, and using applications that didn't add to the large compendium of tools already being navigated.

This process taught me two important lessons. Do not underestimate the burden of implementing a new tool. Learning even a single, simple application can be taxing when there are already a multitude of lessons needed daily. More importantly, I realized that not everyone can see beyond their own use case for a tool or workflow. When you are focused on the big picture, it is easy to forget not everyone has the same view.

By assessing and shaping mental models, one can strategically mitigate stress and other burdens and more effectively socialize the change itself. Communication must ground the process and fulfill several different emotional needs:

- The need to understand why the change is happening.
- The need to feel heard and included in the change process.
- The need to feel confident that the new technology or system can be mastered and that there is sufficient support to make that learning curve manageable.
- The need to feel that the short-term stress will lead to some positive outcome.

In general, our discussions of technology and its applications do not gesture toward the underlying importance of emotions like stress, anxiety, and uncertainty, but it is essential to incorporate these factors into a change plan or timeline to fully socialize the change and represent its ramifications. Without assessing and addressing the "sociotechnical" facets of your organization, you might find that personnel tolerate a change on a superficial level but do not engage with it.[12] As a result you may introduce a new technology or system that is not actually adopted or integrated into processes, workflows, and services. You cannot force someone to fully accept a change, but monitoring and shaping mental models, emotions, and levels of engagement can optimize conditions for true technology acceptance.

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Chapter Four

Socializing Technology Change

Communication and Acceptance

Given the complex social and emotional landscape that frames a technology change, successful change implementation may seem like an uphill struggle. However, as discussed in the previous chapter, the methods and tools we use to communicate about change can empower both colleagues and end users to embrace new technology. Communication is an integral aspect of the larger socialization process that takes place during the lifecycle of a technology change. In addition to communication, trust and learning are woven into change socialization. If these variables do not work in harmony with one another, even a necessary change, like updating the library's website to comply with accessibility requirements, might not gather the kind of traction and support it needs to be fully accepted.

When orchestrating a technology change, communication practices might focus on training events and materials. While acquiring relevant skills and learning the nuances of a new system are important, socializing a change involves more than training. Trainings can develop technical expertise, but knowing how to do something does not guarantee that people will do it. In other words, cultivating technical skills to adapt to the new system does not necessarily mean that people will have the interest or desire to put those skills into practice. Since acceptance and adoption of the new technology are how we evaluate its success, one must take a broader view of socialization. Rather than focusing on training, it is vital to look at all the ways in which people's attitudes towards the new system are being shaped.

Socializing change should be a priority from the outset, rather than an afterthought or something that is considered as implementation nears. As Dixon states, "Organizational learning results from intentional and planned efforts to learn. Although it can and does occur accidentally, organizations cannot afford to rely on learning through chance."[1] The social life of a change can be more difficult to plan for and assess than its technical components. When evaluating a potential change, think about how to describe its value and impact to a wide range of stakeholders. It can be useful to contemplate:

- Are there clear reasons why this change needs to happen (e.g., a current system is being discontinued)?
- How do I describe to my supervisor, colleagues, direct reports, and the general public what this new system or tool does?
- What metaphors or analogies will make the process and benefits of this change more salient?
- Are there use cases or narratives I can utilize to personalize the change and its value?
- Does the new system involve lots of new terminology or jargon? If so, what kind of glossary or guide would ameliorate that learning curve?
- How noticeable or disruptive will this change be to my colleagues? To end users?
- What questions do I need to be prepared to answer right away?

While clearly not an exhaustive list, these questions can help you think through how to start socializing a change when it is still an idea, rather than a concrete process with deadlines and structure. If the proposed change morphs into a fully realized one, communications about the change must undergo a parallel process of development and refinement.

Deconstructing how ideas and opinions are diffused within your organization can also be a tremendous advantage. If information spreads more rapidly through conversations than through email, you can set your communication priorities accordingly to optimize social influence. If there are relationships that have a pronounced impact on how ideas are developed or shared, it can be worthwhile to use those during change socialization. For example, if the head of reference and a cataloger frequently collaborate on projects, integrating both of them into your "guiding coalition" can help establish advocates in two operational areas.

Inter-institutional networks are an asset, as well. Technology change is rarely isolated to a local instance. There are typically larger trends or patterns that impact the changes we are adopting, and how we are putting them into practice. Paying attention to how other institutions are perceived or discussed within your organization can help you identify external partnerships that can be leveraged to encourage change acceptance. If you are designing a makerspace at your library, and one institution is consistently referenced in the context of innovation and expertise, inquire about that library's technology projects and plans. If there are similarities between your respective change plans, that relationship can underscore the legitimacy of the local change process.

At times, it might be tempting to take care of behind-the-scenes changes and then notify colleagues or users after the fact. It can seem simpler and more efficient; however, unless the circumstance is urgent, changes should be conveyed before they happen. Not communicating about a change sends its own message, and that conspicuous silence can undermine change acceptance. Reiterating the values of consistency and transparency is worth the time and effort, and will hopefully contribute to a foundation of trust that will keep change commitment intact even when processes go awry and unexpected complications arise. During a technology change, there will inevitably be events or challenges beyond your control. If you optimize the factors within your control, such as your communication and socialization techniques, you can increase the likelihood of maintaining stable buy-in.

SELLING CHANGE

In order to meaningfully socialize change, it is important to lead with conviction. Change management is a team-based process, but, as Kotter's description of the "guiding coalition" demonstrates, initiating that process might fall to one person or a few individuals who advocate for the new system or technology and set the tone for subsequent stages of the change process. A change leader's commitment to the new technology must be apparent and consistently expressed. When you ask others to adapt to a new system or technology, you are asking for their time, energy, and trust. Introducing a new tool you might not be completely committed to, or something that might only be utilized for a very brief period of time, can send the message that you do not value the underlying sacrifices involved in adapting to a change.

Of course, the depth of commitment depends on the learning curve involved in adopting the new tool or system. Something with relatively low access barriers can be introduced as an experiment, rather than a long-term fixture of the library's technology repertoire. Something that takes months to learn and fully utilize should not be introduced with any whisper of flippancy. For example, if you plan to introduce a new shared file-keeping system, like Confluence or SharePoint, do not present it as a "we'll try it and reassess" experiment.

As the case study of textbox 4.1 demonstrates, internal record keeping and management can be difficult to revitalize and transform. The labor involved in moving files, reorganizing internal documentation, and shifting one's daily patterns will feel like a waste if the new system is a temporary fad or the process is repeated immediately with another potential tool. Building upon the exploration of mental models in chapter 3, it is important to remember that our evolving subjectivities can translate the arduous transition to an ephemeral system into a negative experience that erodes trust, confidence, and future change tolerance.

Textbox 4.1: Case Study on Socializing SharePoint

Suzanna Conrad, associate dean for
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California State University, Sacramento

The University Library at California State University, Sacramento has, over the years, collected a vast array of internal documents. For at least 15 years, the "intranet" has existed in some form—first as a file system and then as a campus-controlled networked drive with unlimited storage. Unfortunately, little control was exercised over folder or file naming in the network drive, nor was attention given to purging old, irrelevant documents. This network drive had turned into a large collection of loosely organized files that were difficult to search for and even more difficult to browse. Multiple folders titled "forms" or "stuff" caused much confusion when browsing; many people were hesitant to save files to the network drive as it was very difficult to remember where they were located. Permissions had become unmanageable, as the structures had initially been created without scalability in mind. It became clear that we needed a new solution, especially one that made searching and permissions management easier.

In summer 2017, the Library Systems department corresponded with campus IT to confirm what the options were if we were to use local campus IT resources to spin up a web-based intranet. SharePoint 365 was the tool that was available for campus use. By choosing SharePoint, the Library Systems Department could inexpensively launch an intranet and also get support for migration and enhancements from campus IT. SharePoint searching features were far superior to our network drive. Additionally, the versioning options and permissions structure of SharePoint would allow us to do automated tracking on documents as well as better control which groups had access to which documents.

Beginning in mid-fall 2017, the head of systems began visiting departments individually to promote the move to a new intranet. In these meetings, the benefits of the new system were shared, concerns were collected, and the groups were encouraged to begin cleaning up their own network drive spaces to enable an easier migration and to avoid a cluttered intranet. The head of systems also visited the library faculty at their monthly meeting and presented the proposal at department head meetings. The systems department migrated content early—in December 2017—so that all of the faculty and staff in the department would be able to answer questions about using SharePoint. As we gained momentum with the project, we also initiated a task force with representatives from all departments, who would serve as leads in their areas. This task force met monthly to discuss progress with the project and to get feedback from departments that had moved to SharePoint.

A few employees with prior experiences in SharePoint were hesitant to choose this as our intranet. SharePoint is often criticized for its clunky interface. Integration with Office365 is especially confusing because of its similar URLs to other Microsoft products, such as OneDrive. We addressed these concerns by discussing the benefits of being in the system, but we also talked through the downfalls and how we hoped to address them. In particular, we committed to providing extensive training materials to make the learning curve less intimidating.

While we did hear concerns voiced from various groups related to the software itself or timelines for going live, overall most groups were eager to see a change. The network drive had become such a sticking point to so many in the library that the decommissioning of that system was welcomed more often than not. We are nearing the end of our initial phased migration and while we've encountered some hitches, we've responded with enhanced training materials. We've trained all departments individually. We've used SharePoint itself to communicate timelines and progress (with lists). We've compiled resources and help documents within the system for easy access. Overall, most groups feel that the change is an improvement, especially because documents are easier to find.

Although *marketing* and *sales* might be tinged with negative connotations or be perceived as intrinsically manipulative, these strategies can have a positive impact on the change socialization process. To begin with, marketing discourse can help identify the core takeaways that need to be disseminated at each stage of a change. Succinct and memorable language can be prioritized to enhance the content and delivery of change communications. These techniques also emphasize the fact that change management is transactional. A typical sales transaction might revolve around the exchange of goods and services for currency, but, during a change transaction, trust and time are the crucial commodities. These variables are not as easy to quantify, but they represent valuable assets. To effectively sell a change to stakeholders, colleagues, and end users, it can be useful to explore some of these sales strategies:

Elevator pitch. Try to sum up the need for the change and its benefits in 30 seconds or less. Minimize jargon and emphasize the human elements, rather than the technological specifications. For example: “The library does not currently have an inventory system. Getting one will save library staff time and help us find the books patrons want very quickly.” If the change is in response to a specific user group’s needs, it can be good to mention that, as well: “Conducting an accessibility audit of the library’s website will help us better serve our elderly patrons and others using assistive technologies.”

Branding. For both internal and external change communication, establish a consistent array of fonts, color schemes, and terminology. A branding toolkit can help change communications stand out, and the use of aesthetically appealing graphics encourages colleagues and end users to maintain a positive attitude toward the change process. While not every significant detail about a change can be incorporated into a graphic, capturing people’s attention paves the way for more substantive information sharing.

The ask. In traditional sales transactions, there are often formal guidelines and established conventions that dictate each participant’s responsibilities and projected benefits. Writing up contracts for your technology change might be excessive, but providing some structured role definition can be helpful. If the purpose of your communication is to solicit participants for a working group, state that explicitly and mention both immediate incentives and long-term benefits. For example, you might tell your colleagues there will be pizza at the meeting and their involvement in a working group could count toward professional development during one’s annual performance evaluation. While not everyone will find these invitations compelling, no one can meaningfully engage with the change process without a clear sense of expectations and opportunities.

Gleaning insights from sales strategies also underscores the importance of negotiation. When librarians and sales representatives work together to finalize a new license agreement or subscription pricing, negotiation processes typically provide each party with an opportunity to reconcile their respective priorities. Mutual compromise is often essential to reach a successful agreement. The same principles apply to change management. When a new technology or system is being proposed, there may need to be clear, respectful compromise. Change leaders need to be flexible and avoid the “take it or leave it” mentality. Even changes that are somewhat inevitable, like a migration from an obsolete version of a system to its successor, are dependent on the support, buy-in, and patience of colleagues and users. Negotiating and having candid conversations about concerns can make the change process more successful and minimize disruptions. More traditional library services, like faculty outreach, can serve as a framework for these conversations. As the case study in textbox 4.2 illustrates, building relationships with end users can be instrumental in bolstering buy-in and engagement. Selling change can strengthen the quality and accessibility of change communication, but it is only one component of the socialization process that transforms a technology change into an enduring facet of an organization's operations, culture, and identity.

Textbox 4.2: Case Study on Faculty Outreach

Lisa DeLuca, social sciences librarian,
Seton Hall University,
and Kathryn M. Wissel, data librarian,
New York University

Embedded data literacy is a current focus of Seton Hall University Libraries. The goal has been three-pronged: (1) to train liaison librarians about data literacy and support, (2) encourage faculty to embed datasets, mapping, and visualization tools into their courses, and (3) support undergraduate and graduate students on their path to becoming responsible academic consumers of data with appropriate instruction and tools. A strategic plan was created to identify core products to support this initiative and identify departments that would be part of the first rollout phase. These offerings include paid and freely available resources that support understanding of:

- Identifying and downloading datasets into Excel for classroom assignments
- Data storage for researchers to support data management plans and reproducibility
- GIS (Geographic Imaging System) Lite mapping tools to support spatial literacy for undergraduate/graduate students
- Data visualization tools to enhance research output and scholarship

There was a need to add introductory GIS support to instruction to support data and geospatial literacy across the university. At the suggestion of a political science professor, University Libraries signed a multiyear contract with PolicyMap. Funding was provided by University Libraries, the Political Science department, and a large grant from the School of Nursing.

The librarians established a PolicyMap User Group on campus. We had meetings each semester to discuss best practices with faculty. With faculty permission, we added PolicyMap assignments to Seton Hall's Institutional Repository: http://scholarship.shu.edu/open-educational-resources/. The biggest benefit of the User Group was faculty meeting faculty from other departments for the first time.

There were some obstacles to overcome in socializing PolicyMap. The Political Science department, while agreeing about the usefulness of these tools in instruction, really needed a push to embed the tools and create assignments that used PolicyMap. The Nursing Department did not move forward because they felt ill-equipped to provide technical support. The Masters of Health Administration were the biggest and fastest proponents of PolicyMap. Bringing faculty from diverse departments together helped to continue the ongoing dialog about data literacy on campus.

LEARNING CHANGE

Although Kotter's model emphasizes leading change, one must also learn change to develop sustainable practices, attitudes, and skills. Like the other aspects of change discussed previously, learning change is shaped by a complex nexus of conditions and variables. Learning during a change process requires careful planning and consistent support, regardless of the change being implemented. However, designing the road map for learning that accommodates the gamut of changes, responses, and interpersonal dynamics can be a daunting prospect. One useful technique is to situate technology acceptance as the guiding principle for change learning. Successful change management culminates in technology acceptance, but there can be many interstitial phases or attitudes that precede that outcome.

In order to meaningfully address the numerous ways in which people can respond to technology change, it can be wise to consult a theoretical schema like the technology acceptance model (TAM). Introduced in the 1980s by Fred Davis, TAM represents a fusion of information systems theory and psychology.[2] While it has been methodically expanded and revised since Davis first introduced it, the core purpose of the model is to delineate patterns in how humans respond to technology, especially new technology. Davis postulated that acceptance or rejection were impacted by the technology's perceived usefulness and perceived ease of use.[3] If the library's new app helps users quickly find and check out materials and is easy to download, the stage has been set for successful acceptance. Other variables, such as personality traits, demographic characteristics, and behavioral intention, have been added to flesh out the model.[4] While these are worth considering when charting the course toward technology acceptance, it is also important to challenge the oversimplified binary of acceptance or rejection.

Rather than thinking of technology attitudes in terms of extremes like acceptance or rejection, it can be more productive to consider the spectrum of reactions, and how people might move between them in response to various situations and external factors. A more nuanced continuum takes the following into consideration:

- Open criticism/resistance
- Subtle hesitation
- Indifference/obliviousness
- Begrudging tolerance
- Partial or occasional acceptance/use
- Full acceptance/use
- Enthusiastic adoption
- Advocacy and supporting others' adoption

These attitudes, and the way people shift between them, can inform change plans, implementation, and the assessment of change learning. Specifically, the distribution of these states within your organization can pinpoint opportunities for additional support or improved communication and documentation.

Having accessible and up-to-date documentation is integral to change learning and eventual acceptance. Documentation cannot anticipate every potential issue or use case one might encounter, but it can provide valuable information for internal and external users. Another benefit of documentation is that people can review it at their leisure. In-person instruction can create time constraints and pressures that might be intimidating for some, especially those who are struggling to understand the new system or technology. Documentation should be consistently updated and placed in a shared location, such as a network drive or, if no sensitive information is included, on the public-facing website. If internal documentation is located on a shared drive or file system, ensure that all employees, including part-time staff, student workers, and new hires, are granted access. Providing access to documentation prior to formal instruction can also make those sessions more productive.

Formal instruction sessions can facilitate learning, though the emphasis might be placed on learning specific steps or procedures as opposed to the larger scope of institutional learning. Well-structured instruction sessions like the ones described in textbox 4.3 should also include ample opportunities for people to ask questions. The change leaders discussed in chapter 1 might be responsible for coordinating instruction sessions for internal stakeholders by default, but decentralizing those duties for end user instruction can be a valuable technique.

Textbox 4.3: Case Study on Discovery Training

Yeisi Ileczko, digital technologies coordinator,
Claremont Colleges Library

When I began working at Marshall B. Ketchum University, one of my immediate tasks was to figure out how to best integrate the recently purchased Discovery service into the library. The Discovery service was purchased a few months before I was hired, so I didn't have any input on the decision to choose this particular platform. The first step for me was to fully understand what was and was not included in this new service. For the most part, any electronic resources were included, and print resources were excluded. Not being able to include our print collection was a significant drawback because our collection was only partially discoverable. However, this service was chosen in part because it fit into the library's budget. By the time I arrived, most of the (electronic) collection had already been integrated into the Discovery portal. I audited our electronic collection and highlighted any gaps in access that *should* have been added to Discovery but were missing and ensured the resources were linking properly and could be accessed.

Another downside to this service was that there were no official technical guides or documents available to us. When we requested them, we were informed that they were still being developed. When we finally received a document, it was really more of a *user* guide—how to search, how to create an account, how to bookmark items, etc. As of this printing, we have not received a formal technical guide.

Once our collection was fully—or at least mostly—integrated, we needed to find a way for our users to effectively use the new Discovery service. Unfortunately, since our print collection was not included, we couldn't adopt the one-search-box strategy. This presented a usability issue in regard to how we could include two search box options on our webpage—one for electronic resources in Discovery, and another for our print (and some electronic) collections through our catalog. One of the major issues we came across was figuring out how to get our users to understand the differences between the catalog and Discovery. This was an ongoing struggle.

We ultimately decided on a tabbed search, with the Discovery search box set as default. This decision was made based on the fact that a large portion of our users prefer electronic journal articles and e-books over print. The library utilizes SirsiDynix Enterprise as our website and catalog interface, which has the OPAC search embedded into it. I built a tabbed search box using HTML and JavaScript to make a somewhat seamless transition back and forth between the Discovery tab and the Catalog tab while "hiding" the original search interface, which was hard-coded into the site.

While the tabbed search box isn't ideal, it seems our users have been generally happy to have the ability to find (electronic) articles in one place, as opposed to trying to navigate various databases. They are also able to easily request articles that we don't have in our collection right from the search results page. Previously, they would email the library with a citation or perhaps the paywall link to the resource they were trying to access.

In order to educate users on how to best utilize the new discovery feature, I created a user guide, a help page on the Discovery site, and a video tutorial. Once we officially launched the new Discovery service, I sent an email with a couple of screenshots on how to use the new search box, a few bullet points highlighting the benefits of using the Discovery service, along with the PDF user guide I created. However, I found that what really worked in getting people to better understand how to use this new feature was to go into the classroom and demonstrate with a live demo. One of our schools didn't give the library time to go into the classroom; instead it requested a video tutorial. The other two schools on campus did give the library time in the classroom. We immediately noticed a difference in how people were using Discovery. The two schools that received the live presentation seemed to better understand how to find and request articles, whereas the school that didn't see a live demo either still requested articles the "old" way, or struggled more with searching. For example, we received feedback that the search results looked different, they weren't able to find books (that the library owned but were in the library catalog, not Discovery), or they simply emailed the library with lists of articles or books they wanted us to send directly to them.

Was the technology change successful? Yes and no. When the service is working as it is supposed to be, it's great and makes it much easier not just for our users but for the librarians as well. However, I don't think the vendor we selected was a good match for our needs. This was a fairly new Discovery platform and we had a hard time finding other libraries using the service, therefore it was hard to get feedback from other libraries.

We had to essentially start from scratch because we ended up transitioning to a different, more well-established Discovery platform. Budget is always a big concern for libraries, but sometimes going with a service that is more cost-effective up front ends up becoming more costly in the end. Overall, we saw that there was a definite need for discovery in our institution and hoped this experience would serve as the foundation for a smoother transition to another service.

On one level it creates some form of accountability that may inspire colleagues to pay more attention to internal trainings. On another level it gestures toward the team-based approach to change management that is essential to successful implementation. Peer-to-peer learning helps offset the temptation to rely on a "sage on the stage," while also diffusing a sense of ownership throughout different levels of the organization. Integrating a change team into training or hands-on support can create valuable opportunities to strengthen trust, gather feedback, and develop expertise. The case study in textbox 4.4 gestures to the importance of team-based training and instruction.

Textbox 4.4: Case Study on Change Process and Teams

Christine Faraday, library chairperson,
SUNY Nassau Community College

In 2015, an expected series of retirements led to me becoming the head of our Reference and Instruction unit. To maintain my sanity while juggling this new role in addition to my regular responsibilities, I knew I would be relying heavily upon technology. Specifically, I wanted to use Springshare's LibCal, LibGuides, and LibWizard to streamline the handling of our busy library instruction program. Specifically, I wanted to use LibCal to:

- Share the library instruction schedule with faculty.
- Replace the paper calendar that we were using to indicate our meetings, days off, etc.
- Make it easier to create and assign our weekly reference schedules.

I also wanted to use an in-house LibGuide to:

- Display the weekly schedules.
- Store assignments and any other class information provided by faculty.
- Archive those assignments by semester.

Finally, I wanted to use LibWizard to create an online form that faculty could use to request a library instruction session.

Initially, I was nervous about presenting such significant changes to my colleagues. I spoke to a few people individually at first to gauge their reactions. Their positive attitudes bolstered my confidence. My colleagues were very sympathetic about my suddenly increased workload and wanted to help however they could. Looking back, I think that being upfront about my needs, as well as the needs of the department, made people more receptive. Before announcing the changes to all of the reference and instruction librarians, I decided to create draft versions of the LibGuide, the LibCal calendars, and the booking form so I could show the technology in action rather than try to explain how it would work.

The next step was formally announcing these technology changes to all the full-time and part-time reference and instruction librarians. I sent a detailed email explaining the advantages of each product, which contained live links to each source. At the end of the email, I asked people to “reply all” if they had objections. When the grievances failed to materialize, it was time for the implementation phase.

As anyone at an academic library can attest, changing things midsemester is a bad idea. We decided to wait a few weeks until the end of the semester before going “live” with the online form, LibGuide, and calendars. This ended up being a beneficial decision because it gave our faculty and staff some time to review training videos, create Springshare accounts (if needed), and ask questions. Also, during this transition phase, we agreed to temporarily keep the paper binder with the assignment information that we had been using. Keeping the binder for one semester meant extra work for some of the staff (the information had to be duplicated) but it seemed to ease concerns about the assignments “disappearing.”

We immediately had positive feedback. Library faculty and staff began to comment on some of the advantages of the new technologies. They pointed out that it was easier to switch shifts since everyone could see the shared calendars. Part-time librarians appreciated the new opportunity to access the assignments from off-campus, which made preparing for instruction sessions more convenient. Our class bookings also increased once we began publicizing the online form and the library instruction calendar to the rest of the campus.

If I had to do it all over again, I would create a timeline so that everyone could see when each change would occur. Since we implemented three different products in a short period of time, it required a lot of emails, calls, etc. that could have been avoided with better planning. Also, if time hadn’t been such a factor, it would have been great if I could have trained a few of the library faculty and then had them train others. People figured the technology out on their own, but it would have been less stressful with a team training model.

Alternative pedagogical approaches like the flipped classroom can also be beneficial, since traditional lecture style instruction may not resonate with all participants. The flipped classroom provides attendees with access to instructional materials and then uses the in-person session to focus on hands-on exercises, discussion, and other interactive activities that help reinforce thorough comprehension and retention. As Rivera points out, this strategy promotes active learning and facilitates more effective use of in-person instructional time.[5]

Change learning is also a fundamental aspect of the working groups that might be formed during the change process and the teams that are engaged in other projects that are not directly tied to the change itself. Those with expertise might be called upon to provide on-demand trainings, or answer questions about documentation and issues, but substantive organizational learning will hinge upon how the technology change and its consequences are embedded in informal conversations, peer-to-peer discussions, and organizational artifacts, such as the strategic plan, shared goals, and projects that are not directly related to the change itself.

ASSESSING ACCEPTANCE

Socialization is ongoing as people's attitudes towards a new technology invariably shift throughout the change process. Even when the new system is no longer new, socialization can still be a factor in determining its acceptance and continued use. Each time a new employee goes through onboarding and training, there is socialization involved. The perpetual transmission of attitudes or ideas about a technology or tool means that continuous socialization should be placed alongside long-term system maintenance as part of managing the full lifecycle of a change. Both systems and people need to be periodically evaluated, and regular check-ins help ensure that both are thriving as much as possible.

As the earlier discussion of TAM illustrated, people can exhibit a spectrum of responses during a technology change. Defining the success of socialization efforts and determining whether or not they have contributed to overall acceptance can pose significant challenges. Embarrassment may keep colleagues and end users from articulating their confusion or honestly answering direct questions about their comfort level and comprehension of the new system or tool. Additionally, some knowledge gaps might not be apparent until after implementation, which pressurizes the need for re-training and other forms of support. While social acceptance does not have straightforward metrics or data points, there are some techniques that might aid assessment during the change process:

- Establish outcomes as early as possible. Clarifying which skills or points you want participants to take away from each training or instruction session will help inform its content and structure. If you are systematically trying to build up core competencies, translating those benchmarks into a schema where trainings, meetings, updates, and delegated responsibilities are interwoven can help construct a multifaceted nexus of activities and subsequent learning objectives.

- Collect feedback after trainings or instruction sessions. Anonymous feedback can help pinpoint issues or obstacles before they snowball into more dire consequences. From a philosophical standpoint, feedback opportunities should be integrated into each segment of change communication or training. As previously discussed, imposed changes do not inspire confidence or buy-in. The case study in textbox 4.5 encapsulates many of the challenges and benefits of training assessment.
- Ask other institutions what pain points they encountered when pursuing similar changes. If you are planning to launch an institutional repository, for example, reaching out to libraries that have completed similar projects can enhance your change process. While each institution might have unique needs and challenges, learning about the complications others have faced and how they responded can help you anticipate a wider range of responses. Reciprocity is key to this process, so it is wise to share the insights you glean from your change process with others who ask for help or information. Technology change is daunting for all of us to some extent, but practicing good mentorship and knowledge-sharing can facilitate collective or community-wide learning.
- Maintain office hours or provide other opportunities for people to informally drop in to ask questions or get information. When socializing an unfamiliar technology or system, it is especially important to have accessible help. The case study in textbox 4.6 explores how the implementation of a new User Experience (UX) Lab was fueled by drop-in hours for casual support. The symbolism of an open door can be very important to sustaining candid communication. Tracking the kinds of questions or issues that come up during these sessions can flesh out the narrative that might be hinted at in survey results or feedback forms.

Textbox 4.5: Case Study on Training Assessment

Monica D. T. Rysavy, director of
institutional research and training,
and Russell Michalak, director of the library
and learning center, Goldey-Beacom College

In 2017, we—the director of the library and learning center (LLC) and the director of institutional research and training (IRT)—partnered to translate existing face-to-face content and static LibGuide tutorials for LLC staff members into interactive online training modules at our small private doctoral-level institution (Carnegie Classification-Special Focus). The primary motivations for redesigning the LLC training were to address gaps in competencies observed post previous face-to-face training sessions and to better accommodate the wide variety of schedules held by the LLC employees. Part-time staff and student workers are categorized as one of three employee groups within the LLC: Library, Academic Resource Center, and IT.

The static content was updated and redesigned with the assistance of two student workers and a part-time librarian, under the instruction of the IRT director (a trained instructional designer), utilizing PowerPoint and Office Mix, “a free plug-in which enabled users to create accessible eLearning content with rich analytics” (Russell Michalak and M.D.T. Rysavy, “Online onboarding: Library workplace training in a trilingual interactive online asynchronous environment,” in *Digital workplace learning: Bridging formal and informal with digital technologies* edited by Dirk Ifenthaler [New York: Springer, 2018]) to create 10 online training modules. At the time of this redesign, there were more L2 (second language learners) than L1 (first language learners) student workers, so the directors decided it would be beneficial to offer trainings in the most commonly used first languages: English, German, and Spanish. Student workers were selected to assist primarily based on their language abilities: one student worker was fluent in Spanish and English and the other fluent in German, Spanish, and English.

Our staff responded with mainly positive narrative feedback regarding the benefits they experienced with the redesigned training; however, their participation results were inconsistent. Those managed by the LLC director had 100 percent participation rates; however, a subset of students was managed by an IT supervisor, and therefore ultimate enforcement of completion was left to this supervisor (with inconsistent participation results). Comprehension results, as assessed by the pre- and post-tests, indicated a need for post-training improvement across all groups of employees since all groups experienced a decrease in post-test average from the pre-test average (3.76 percent for library and ARC employees and student workers and 5.88 percent decrease for IT student workers).

Ultimately, we felt this first iteration of the onboarding training redesign was successful despite the decrease in students’ post-test scores from their initial pre-test assessment. Students involved in the redesign process overwhelming reported that the experience was positive for them and helped them gain confidence with instructional design concepts that were completely new to them. LLC, ARC, and IT employees and student workers reported that they felt the trainings were helpful to them and shared that there had been some confusion regarding the fact that there was a pre- and a post-test and perhaps that might have contributed to the decrease in scores (e.g., they didn't take the post-test seriously since they had already answered the questions once).

We are currently designing another iteration of our trainings and this time we are working with a new IRT/HLLC employee, an experienced instructional designer. We shared our lessons learned with this individual, who is combining his decades of instructional design experience with research-based practices for eLearning to design the updated version of these trainings.

Textbox 4.6: Case Study on Socializing the UX Concept

Lisa Gayhart, head of the user inquiry experience,
New York University Libraries

The University of Toronto Libraries' UX Lab opened to the University of Toronto community in September 2017. Located in Robarts Library, the largest and busiest library out of 45 locations in Toronto, the lab is a structured service dedicated to user experience (UX) research and design, including iterative and proactive usability testing of the library's own products and services. Our broad mandate is to create a physical space for UX work in the library; support the library's own UX needs; provide space for student engagement and development; contribute to campus community building around UX; and perform iterative service assessment. In the lab, we support the University community by being a "living lab," a space dedicated to supporting innovation regardless of a user's expertise or prior experience. Users visit us to learn and practice UX skills; facilitate and participate in research and testing; perform or receive project consultations; use workstations and specialized software; and attend workshops and webinars.

UX tools and methods are commonly used in Information Technology Services, where I am based as the UX librarian. Getting UX out of IT and into the greater library is very important to me. I see UX as broadly applicable to all areas of the library, not only technology and design. Over the last few years, I have worked with different library departments to integrate UX into a variety of projects. Specifically targeting projects involving frontline user services, such as in-person reference service and building wayfinding, have increased visibility for UX and my role as the UX librarian. Although these projects successfully integrated UX tools and methods, many staff were still unaware of UX and how UX could enhance library projects.

Securing a physical location was an essential piece of the UX Lab project. The lab provides a "front door" for UX services: it's a tangible concept, something staff can engage with irrespective of their experience or comfort with technology. Since the lab is positioned as a library service for the entire university community, it's seen less as an IT project and more as a central resource. Once the UX Lab opened, most library UX services were rebranded as housed in the lab rather than IT. I promoted the lab's services through the usual communication channels, hosted an open house, and visited department meetings and committees. In speaking with staff, I understood the barriers to adopting UX as the perceived difficulty of the methodologies; a general lack of time; and a sense of technology overwhelm. In order to address these concerns, I tailored the UX Lab service model to give library staff more avenues for adopting UX in their work. Key aspects include: education, opportunities to DIY, and direct and ongoing support.

Dedicated support has been the key to integrating UX into the larger library. Through grant funding, I hired a graduate student experienced in UX and skilled at providing one-on-one support. Between the graduate student and myself, we provide in-person and remote project consultations, field questions about UX software, and support data analysis. The key to the support aspect of the lab is our drop-in hours. Every week, the lab is staffed and open for two hours. We see drop-in consultations, questions, or just plain curiosity from a range of users. A large roll-up banner stands outside the door to the lab inviting people to stop in with their questions. The drop-in hours have been an unmitigated success: many library staff have brought ideas and projects in progress to discuss; stopped to learn more about lab services; and brought student employees in for mentorship. Multiple staff members have commented that the drop-in hours encouraged them to engage and brought down perceived barriers to technology change.

Without consistent and methodical socialization, the impact of a technology change might not be fully realized. Even the right change at the right time can provoke a tepid response or outright rejection if training is an afterthought, communication is spotty, and people do not feel empowered to fully learn a new system and its entanglements. Deliberate socialization can improve the odds of successful technology acceptance. However, it is important to recognize that even the most careful and well-crafted plans can be insufficient. Consistent assessment can help you recognize red flags before they blossom into disasters if you are responsive and flexible enough to incorporate feedback into the change process as it evolves.

NOTES

1. Nancy M. Dixon, *The Organizational Learning Cycle: How We Can Learn Collectively*, 2nd ed. (Routledge, 1999), xiv, PDF.

2. Fred D. Davis, “A Technology Acceptance Model for Empirically Testing New End-User Information Systems: Theory and Results,” (PhD diss., Massachusetts Institute of Technology, 1986), http://hdl.handle.net/1721.1/15192.

3. Ibid., 24.

4. Nikola Marangunic and Andrina Granic, “Technology Acceptance Model: A Literature Review from 1986 to 2013,” *Universal Access in the Information Society* 14, no. 1 (2015): 81–95.

5. Eduardo Rivera, “Using the Flipped Classroom Model in Your Library Instruction Course,” *The Reference Librarian* 56, no. 1 (2015): 40, https://doi.org/10.1080/02763877.2015.977671.

Chapter Five

Planning for the Future

Iterative Adaptation and Organizational Learning

Assessment tools can help gauge a population's general tolerance for change and identify likely issues or pain points that can be managed through training and dynamic communication. However, planning for change is inherently speculative. The hard truth is that you will not know how your staff, stakeholders, and end users will respond to a technology change until you have begun to implement it and users interact with it in real time. All preliminary signs might gesture towards a seamless adoption of a new technology, but unexpected hurdles or barriers can suddenly materialize. As the case study in textbox 5.1 elucidates, even well-planned changes can take more time or support than originally anticipated.

Textbox 5.1: Case Study on Adaptation

Vanessa Washburn, reference and circulation coordinator,
Nelson Memorial Library

When I took on a student management position in a small academic library, I quickly discovered that the system of scheduling our 12+ library assistants was, simply put, a mess. It consisted of numerous papers, constant changes, forgotten time off, and numerous other issues. Seeing the frustration the system caused prompted me to begin searching for some form of scheduling app that would work for our group; after looking at multiple platforms, I settled on what I expected would be our best bet at improving the system, software called When I Work. I presented the idea during a staff meeting one Thursday morning, and it was generally well received by the other staff. We discussed the transition to the new platform (in the form of both desktop and mobile apps) and decided that the best process for our students would follow this three-semester transition:

1. Introduce the app to our students mid-semester and maintain the paper schedule being kept at the time.
2. Move the scheduling completely to the app, but maintain a paper schedule for a general guide of the root schedule, barring changes.
3. Retire the paper schedule and maintain the app as the only form of scheduling.

When we first began the launch, we realized that the transition would not be as straightforward as we'd originally anticipated. In order to integrate the app into our scheduling workflows, there would need to be more staff involvement and support than expected. I sat with each of our students as they made accounts, joined our workplace, and learned how to use the scheduler overall. This took time, but I think that one-on-one meetings were more effective than a group introduction. Each individual had the time and space to ask her own questions and have them answered without any perceived embarrassment or judgment.

Overall, I consider our switch to When I Work scheduling software to be highly successful. It has made communication overall far simpler and allows for more flexibility than a paper and pen. However, if I were to start again, I would provide a group orientation for general training before the individual meetings; in this manner, it may not have taken quite as long to implement or adjust to the new software. We will, therefore, be providing further training at our next orientation in the coming semester.

By budgeting for iterative change, you can preserve the wiggle room you might need to adapt based on the variegated emotional, behavioral, and cultural responses a technology change elicits. In this chapter we will explore some potential adaptation triggers during the change process, as well as some strategies for developing long-term goals and ensuring sustainable technology change and organizational growth

Many systems, software, and technologies are developed in iterative stages, to maximize responsiveness and create a more desirable end result. Despite the trendy connotations, agile and incremental approaches like those of Scrum and Kanban have a long track record of success.[1] Iterative development has become such a pervasive feature in technology and business organizations because it organizes action, maintains the sense of urgency Kotter endorses,[2] and creates opportunities to "adapt to changing requirements from customers while identifying and reducing certain risks that arise."[3] Perpetual adaptation is also intrinsically compatible with the defining characteristics of a learning organization, because a versatile and healthy organizational culture must constantly adapt to new challenges and circumstances.

The iterative development method can also be applied to the implementation and adaptation phases of technology change management. While a linear process that culminates in a finalized product might retain some appeal, that approach also magnifies risks and pressures. Linear development that promises a flawless finished product relies on planning and implementation processes that are not easy to modify once set in motion. If a major complication or opportunity for improvement is discovered after implementation has begun, it is difficult to adapt and incorporate that information into development or refinement. Iterative processes are circular rather than linear, making it easier to cultivate a balance between expectations and outcomes. When introducing new technologies or systems into a library, archive, or museum, the principles of iterative development model some beneficial strategies, such as staggered release, periodic reflection, and ongoing development.

IDENTIFYING ADAPTATION TARGETS

One of the most challenging aspects of an iterative change process is prioritizing adaptation needs and opportunities. Clearly, not every requested adaptation will be feasible or desirable. It takes patience, skill, and strategy to distinguish the immediately actionable from back burner tasks. The technology acceptance model (TAM) discussed in chapter 4 informs technology training and socialization processes, but it can also be employed to analyze where adaptation is needed to fully incorporate a new technology or system into your organization's operations and culture.

When we consider the spectrum of individual and group reactions a technology change can provoke, it is important to look for recurring patterns that might gesture toward opportunities to adapt. Within a library, the acceptance/rejection spectrum might underscore trends like partial or situational adoption of a new technology, or tolerance of the new system that is simultaneously accompanied by ferocious insistence that the previous version still be preserved or retained in some fashion. The "security blanket" of the outdated, yet familiar, system reveals a lack of full acceptance, which will need to be addressed by some combination of the following:

- Modifications to the system or technology itself
- Additional or more targeted training to bolster confidence and competencies

- More detailed documentation on new processes or procedures
- More visible involvement of the "guiding coalition"[4]
- Assessment of the cultural and social dynamics embedded in the change process

There can be more subtle signs of partial acceptance, such as when staff use new systems under supervision but relapse to the old way of accomplishing a task when no one is there to witness their workflow or decision-making. A web-scale discovery layer, for example, can be partially used by staff in certain circumstances but disregarded in others when the preference for single database searching reasserts itself, splintering the organization's cohesive progress towards fully realized change.

Occasional back-sliding should be expected during a technology change, and incorporated into the formal change plan or implementation timeline. Habits and preferences become engrained, especially when they are enmeshed with mental models, and it can be a struggle to incorporate a new technology or system consistently. While you may have invested a tremendous amount of personal time, energy, and other resources into a change process, do not take it personally if full acceptance is elusive at first. Do not automatically interpret a behavior that is closer to the rejection or begrudging tolerance side of the spectrum as an act of intentional resistance. Assuming intentionality can skew your judgment and undermine your objectivity and ability to adapt. Instead, keep in mind that most people cling to established methods, procedures, and tools because they are convinced that it is the ideal arrangement or configuration. The challenge is to leverage that underlying commitment to excellence into full change acceptance. This can be a valuable strategy when selling change as part of the socialization process discussed in chapter 4.

One useful technique might be initiating a simple open discussion about the benefits of the new technology or system when you observe or hear of someone clinging to the former tool, service, or technology. Emphasizing how full acceptance of the new Bluetooth scanners can save users time at checkout and allow staff to better serve visitors who might need special assistance can make your staff more inclined to relinquish their familiar wired scanners, even though they prefer them. Making small concessions when you can could also be a viable strategy. If your new system's default configuration is cumbersome for your staff, or aesthetically unpleasant, and you have the ability to customize it, enacting some changes that appeal to their preferences can go a long way toward sustaining their use and incentivizing acceptance.

End users' responses to a new system or technology can also fall along a spectrum. Because users rarely articulate feedback unless their experience falls into either positive or negative extremes, the feedback you receive might be skewed to reflect polarities, rather than capturing the complete picture of user reactions. Having a core group of users you can directly solicit feedback from, like a focus group or cluster of power users, can be a tremendous asset in crafting a more comprehensive picture of what users are thinking and feeling, and what adaptive measures you might need to consider.

For both staff and end users, reactions to new technologies might be inconsistent, which makes adaptive decision making especially messy. Someone can be an enthusiastic user or advocate of a new system one day and display begrudging tolerance the next. Stressful situations or interactions and time pressures can cause people to go on autopilot, unconsciously reverting to familiar processes or tools. While it is counterproductive to point fingers and assign blame when users, especially staff, are only tolerating a new technology, making radical adaptive changes in response to these behaviors can lead to significant setbacks. Before taking adaptive action, it is wise to step back and consider the larger implications.

There may be subtle indications that a new system or technology is floundering among staff, such as increased praise for the old system. An ILS that was barely limping along can suddenly be construed as an immaculate, perfectly designed tool if people are uncomfortable with or resistant to its replacement. Other indications of resistance or partial acceptance might be buried in transaction logs or system tickets. If an internal knowledge base, ticketing system, or wiki is being used to document transactions, pay close attention to any comments related to the technology change. If you have just launched a new discovery tool and your librarians are submitting descriptive transaction notes that begin with individual database searching, they might be falling a bit short of full acceptance. The path of least resistance becomes especially attractive if there are any glitches or systemic issues involving the new tool or system. A service outage or other severe setback during implementation could compromise your staff and users' trust.

MANAGING TRUST AND TECHNOLOGY ACCEPTANCE

Ideally, placing emphasis on the iterative nature of the technology change will cultivate some level of trust, but that foundation will need to be methodically developed. There are two levels of trust one must monitor and sustain: systems trust and interpersonal trust. As the *face* of the technology change, change leaders or the change team must earn the trust of internal and external users. Transparency is inherently important for healthy organizations, but its role is even more critical when technology is involved, due to the underlying dependence on expertise. Not every member of your library, archive, or museum staff is going to have the time, energy, and skills to learn the nuances of the new technology. If your staff does not trust change leaders' expertise or judgement, the change process will be plagued by challenges and obstacles. Trust also extends to the technology or system itself, however. Here are some obvious variables that can sabotage both staff and end users' trust in a new system or technology:

Unreliable. Sometimes it works, sometimes it does not.

Unattractive. An ugly interface or overly busy design can make users question the system's legitimacy.

Constant service interruptions or down time. This creates frustrations and incentivizes staff to find alternative ways of accomplishing tasks, which can sow the seeds of a shadow structure.

Incompatible with other things they like to use. If your new system or technology does not support preferred file types, for example, there can be loss of trust in the system and in you as the embodiment of the change process.

Exceedingly complex and difficult to learn. If the processes are counterintuitive or the tool takes a tremendous time commitment to master, people might have lingering suspicions about its effectiveness, value, and overall quality.

In managing and maintaining internal trust, develop the interpersonal and systems components equally. Interpersonal trust and rapport are important, but you do not want your technology change to depend on personal charisma. As previously discussed, *selling* change is important, but it does not take the place of legitimate assessment or methodical planning. In other words, charisma is not a sustainable strategy for promoting or enacting change. It might elicit more enthusiastic support early on in the change process, but it can easily crumble under the strain of a stressful change, which could compromise your ability to maintain trust and credibility in the future.

Developing and maintaining end users' trust can be more of a challenge. You may not have consistent interaction with your end users the way you do with staff. There can also be more varieties of comfort level, change tolerance, and predisposition to technostress.[5] However, if you have successfully socialized the impending changes among your end users, as discussed in chapter 4, there should be healthy communication channels that encourage end users to give changes a chance and share their impressions or ideas for improvement.

RESPONDING TO END USERS' FEEDBACK

Iterative adaptation should sustain both levels of trust by demonstrating the importance of feedback, validating users' observations and insights, and fixing problems when you can. When you make a change based on end user feedback, publicize that fact. A "You asked. We listened!" promotion or graphic can perpetuate open communication and reiterate your organization's commitment to incorporating feedback into your services and systems. Although your users may not be familiar with iterative or agile methodologies, people appreciate being heard and having their experiences validated.

Some technology changes may provoke asymmetrical consequences for your internal and external users. A change that dramatically alters internal workflows might have minimal impact on end users. Alternatively, technology changes that are barely noticed by staff might take months for end users to adapt to. End users will most likely prioritize service continuity, clear communications, and periodic updates. However, even when you achieve what looks like a best-case scenario, there might be dramatic backlash to or outright rejection of a technology change.

Because user responses cannot be fully predicted or anticipated, it is wise to always be prepared to coordinate damage control. You may not realize how attached users were to a certain technology or tool until it is replaced. The clunky typewriter gathering dust in the corner might be beloved by two or three vociferous users. The catalog request button you thought no one utilized could turn out to be your provost's favorite feature. As discussed in chapter 2, assessing what your users are actually engaging with and valuing before implementing a change can help offset surprise reactions. However, your picture of the users' status quo will always be incomplete. Usability projects and testing can be beneficial, but it is important to overlay both digital usage metrics, such as click and download activity, with use of other technologies, like library equipment, public computing stations, and so forth. One technique that integrates these perspectives into a cohesive narrative is customer journey mapping (CJM). Marquez, Downey, and Clement encapsulate the benefits of taking the time to develop a robust understanding of your users. Among other things, it "helps library staff determine the best solution by providing a deeper understanding of patron behavior. Libraries can use that understanding to develop and revise services."[6] That comprehension can also facilitate more effective change management, more targeted communication, and staff support strategies that align with your users' needs.

Cultivating sophisticated knowledge of your users' behaviors, preferences, and expectations can improve your planning and decision making, but it is best to expect some resistance to any change you introduce. Here are a few things to keep in mind when negotiating negative feedback:

- Do not let the loudest voice(s) determine your course. While it might be tempting to do whatever it takes to placate an adamant critic, try to buy yourself and your team time to properly process the complaint, think through the rationale, and locate corroborating evidence or feedback from others.

- Make sure your colleagues know you and members of the change team will stand behind the change and will take responsibility for responding to negative feedback or complaints.
- Involve your staff in crafting responses to negative feedback or complaints. As change leaders, you and your teammates should take responsibility for communication challenges, but the message or decision being disseminated can benefit from collaborative authorship.
- If you feel stuck or unprepared to deal with a specific criticism, reach out to other institutions for advice or guidance. Technology LISTERVs and discussion groups can provide useful insight into managing both the positive and negative aspects of change. Be sure to protect staff and user privacy whenever you post to a LISTERV or public forum.

The case study in textbox 5.2 provides a real-world example of how to deal with criticism in a constructive manner. Transparency, communication, and respect for varying perspectives and responses are essential.

Textbox 5.2: Case Study on Dealing with Criticism

Scott Rice, coordinator of technology services,
Appalachian State University

Innovative progress in an academic library is an ongoing endeavor for me and my technology team. I was named the coordinator of technology services in June of 2013. This position managed the Technology Services team, which consists of ten staff members and three faculty. The team is responsible for 90 percent of the technology spaces, resources, and services used by the library. Over the course of five years, I led our team in developing and/or modifying seven new and improved technology spaces, began to offer four additional services, and expanded our budget, outreach, and resources.

Prior to these changes, the budget remained essentially flat over many years and was primarily spent on faculty/staff desktop computers, a small circulating set of laptops, iPads, and printers. Our Digital Media Studio at the time was relegated to a small space unsuited to instruction that could hold only about ten computers. With the appointment of a new dean and me in the new position of managing the technology team, we set about systematically expanding the team's services and activities.

In January 2014, we opened the Tech Checkout Desk, which consolidated the technology checkouts being done on two separate floors of the building. This included the laptops and iPads that were being checked out at the Circulation desk and the cameras and video recorders being checked out by from the Digital Media Studio. In addition, we added Kindles, Galaxy tablets, and Arduino and Raspberry Pi kits. Since its opening, we have added 3D cameras, mice, cables, calculators, drawing tablets, Chromebooks, projectors, and a greater variety of video and audio recorders.

In August 2014, we opened both the 3D printing service (which later got folded into the Inspire Lab, our makerspace) and the Audio Room. In 2015, the Technology Services department started a digital conversion, organized an annual campus-wide teaching with technology fair, moved and expanded the Digital Media Studio, and opened a Game Development Room. The pace of change slowed somewhat in 2016, with the team taking over a service from the reference and instruction team and expanding it. This space, called the Print and Tech Support Zone, consolidated the majority of printing and scanning devices for public use into one area. In 2017, the team opened the Inspire Maker Lab and began a résumé printing service. Finally, in February 2018, the team opened the Video Recording Room, a simple but versatile space for library patrons to record video using higher-end equipment.

From 2013 halfway through 2016, these changes were aided by a library administration that saw the value in augmenting our technological spaces and were willing to expand the baseline technology budget to make it possible. Responses to the rapid expansion of the technology presence in the library were mixed. There were concerns within the library and the university that some of these services and spaces were unneeded. There were also concerns that too much emphasis was being placed on technology at the expense of traditional collections.

We adopted numerous strategies to attempt to allay criticism. Our first strategy was to make sure that we could demonstrate that these services were desired by the campus community by communicating our usage data. Assessment is emphasized at each of our service points. We count items checked out, questions answered, room reservations, prints made, everything that can be counted.

We also try to communicate the story that these numbers are telling by sending out a monthly Technology Newsletter. The newsletter includes statistical snapshots of the previous month’s technology usage numbers, news about changes in technology, items explaining policies and procedures, and information about the team itself.

The team also holds a yearly Technology Showcase intended to introduce the campus to the resources and services the library offers. In addition, several workshops are held throughout the year on various technology topics in order to ensure that staff and faculty within the library are kept up to date on developments in technology.

In addition, I feel that changes made within the last year and a half or so have benefitted from a change in approach that we have taken when introducing new services. When we opened the Inspire Maker Lab and the Video Recording Room, we took care to involve both the library staff and outside faculty by inviting them to open house events and tours. During these events we demonstrated the resources and how they could be used in teaching.

Many of these spaces and services seem to be performing successfully. The Tech Desk has grown to accounting for about a third of all checkouts done by the Library. The Audio Room is booked at close to 85 percent capacity on an ongoing basis, and we anticipate a similar rate of usage for the Video Room. The Inspire Lab has had a strong first year of operation. At least one service may be discontinued, as usage statistics have indicated that the Large Format Printing Service gets used only sporadically.

To further arm yourself against backlash, warn your administrators and executive leadership before a technology change occurs. A disgruntled user might find their way to a library director or board chair, and you do not want them to be blindsided. It is also possible that frontline staff will endure the most discomfort if a change is unpopular. Make sure they have your business cards on hand to distribute to patrons who want to complain when you or your teammates are not available on site. Having paper surveys or suggestion forms at the front desk can also help redirect verbal abuse into what might turn out to be helpful comments or feedback. While some user complaints might reflect general impatience or discomfort with change, feedback patterns can also bring unanticipated problems to the forefront so they can be addressed and resolved in the future. If you and your team elect to make a change based on negative feedback, the irate or impatient user's comment can be reframed as part of the institutional narrative of user-centric decision making and iterative change.

Even when a technology change inspires some negative feedback, it is important to publicize its successes. If e-book downloads have increased following the introduction of a new app, spread the word. If some users are incredibly pleased with the updated library or museum home page, ask for permission to tell that story and share it in your annual reports, on social media, and through other communication networks that might reach your users. Each success is an opportunity to further your library's identity as an evolving learning organization.

LOOKING AHEAD

Although orchestrating a technology change can bombard you with immediate concerns, pressing needs, and an overwhelming sense of urgency, the iterative model reminds us that change is never really complete. We might pause in the process, but it is a perpetual cycle of assessment, planning, selection, socialization, acceptance, adaptation, and support. There may not be overt signs of change, but technology leaders are always engaged in some form of change management, preparation, or assessment. This involves continuous support for the technology change, even when it appears as though the transition has gone through all the necessary stages.

There may be positive signs of full acceptance or even wisps of fledgling advocacy in response to the technology change, but that does not necessarily mean your organization as a whole has regained its equilibrium. Kotter warns of the dangers of prematurely determining that a change has been successful: "While celebrating a win is fine, any suggestion that the job is mostly done is generally a terrible mistake."[7] Openly acknowledging progress is a positive strategy, but premature congratulations can undermine the endeavor and invite complacency. As Kotter puts it, "until changes sink down deeply into the culture, which for an entire company can take three to ten years, new approaches are fragile and subject to regression."[8] Because change and culture are so inextricably intertwined, there will always be a steady supply of new variables to reconcile. Culture is not stagnant, and organizational culture can be especially fluid, given the influence of new hires, departmental changes, or external factors like budget cuts.

The interdependencies between technology and culture can also magnify the risks associated with technology change. While initial resistance is to be expected—and because organizations adapt at different rates—sometimes negative reactions to a technology change are about much more than the specific system or tool. One must be especially sensitive to the early signs of a burgeoning shadow culture or informal organization that mirrors the dominant culture but is governed by its own set of norms, practices, and expectations.[9] Such subcultures can have toxic side effects that endanger not only the success of your technology change but the organization's overall health.

Providing ongoing support for a change to ensure it is fully infused within your organization requires continual monitoring, communication, and training. You must also invest in your own skills and the facility with the technology or system. Staying up–to-date with new developments or features that affect your existing technologies is an integral part of maintaining your expertise and perpetuating trust. In addition to maintaining current knowledge regarding existing technologies, one must also be looking ahead to the next technology challenges and opportunities.

The strengths, weaknesses, opportunities, and threats (SWOT) analysis outlined in chapter 2 is also a fundamental tool for future planning and preparation. However, it is worthwhile to note that for technology planning, anticipating threats might absorb a disproportionate amount of time and energy. Some of the most arduous technology-related changes are the ones that are sudden or imposed. In order to better anticipate possible reactionary changes, it is beneficial to monitor legislation or controversy involving systems or technologies in any industry, not just libraries, archives, or museums. A privacy issue in one sector could instigate changes that impact all users or customers. The litigation surrounding accessibility and library resources is a primary example of a harbinger to take into consideration when updating your local technology plans.[10]

Focusing exclusively on contingency planning can make future changes seem grim and oppressive, however. To balance the periodic survey of potential mandates, it is a great idea to look at new applications and developments in systems and technology. It is also important to look beyond the discipline or discourse associated with your institution. Attending conferences in your discipline or professional area can be exhilarating and informative, but taking stock of what is happening in other spheres is just as important. Those working in health sciences, for example, might have unique and valuable perspectives on introducing new technologies in a stressful environment where successful implementation and acceptance can make the difference between life or death. Less dramatic developments, such as new strategies for managing user identities and privacy, might gain traction in business and corporate sectors before they filter down to other industries. The rate and intensity of innovation can vary depending on different industries' competitiveness and performance pressures, but even when a technology trend or development is not compatible with your specific organizational needs, gleaning insights from other fields will strengthen your big picture vision for the future of technology at your organization.

Your plans for the future might be localized to technology changes, but the innate connection between organizational change and technology change, that was previously discussed, reminds us that these changes can initiate a wide range of shifts and secondary and tertiary changes. Workflows and staffing might be affected by a new system. Even the physical components of a library or archive might undergo dramatic change. A shift from print collections to electronic resources will alter the arrangement of stacks and the usage of your building. Technology changes can even lead to reorganizations, either at the departmental or organizational level. In Novak and Day's survey of library reorganizations, they cite technology as a fundamental "driver for change" because it has "significantly impacted every facet of libraries over the last few decades."[11]

Since technology change has the potential to generate such wide-ranging organizational consequences, it should be compatible with an overarching mission, vision, and strategic plan.[12] When a technology change is situated within a larger sense of purpose, such as a shared vision, one hopes that any secondary changes inspired by the technology change will retain some latent alignment with big picture objectives.

As you refine plans for future changes, the role of feedback and participation remains just as important as it is during the other stages of change management. By maintaining open communication channels with your staff and end users, you can better identify unmet needs and areas for improvement. While the prospect of a shiny new system might be enticing, it is vital that future planning resonate with your local needs and resources. It might not make sense to invest in an automated check-in system if you only circulate five hundred books a year. If your end users are struggling to use e-books, they might not benefit from the construction of a brand new makerspace. Use technology planning to improve your organization, enhance the experience of internal and external users, and develop necessary skills or competencies among your staff and colleagues. A new technology or system will not solve your organization's problems. In fact, it can inadvertently reveal existing ones and generate new ones. However, strategic planning and methodical change management can optimize the impact of new technologies, giving your colleagues and users access to the tools they need to engage, adapt, and thrive, while simultaneously advancing your organization's progress toward the ideals of learning organization. When technology change is transformed from a destabilizing threat into a rich opportunity, organizations can learn how to make future changes that are responsive, manageable, and sustainable.

NOTES

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Appendix A

Recommended Readings and Resources for Change Management

ASSESSMENT

Survey Tools

Qualtrics: https://www.qualtrics.com/
Google Forms: https://docs.google.com/forms
Survey Monkey: https://www.surveymonkey.com/
LibWizard: https://www.springshare.com/libwizard/

Journals

Evidence Based Library & Information Practice (OA): https://journals.library.ualberta.ca/eblip/index.php/EBLIP/index. Published by University of Alberta Learning Services, ISSN 1715-720X

Qualitative and Quantitative Methods in Libraries (OA): http://www.qqml-journal.net/index.php/qqml/about. Published by ISAST, ISSN 2241-1925

Journal of Library Administration: https://www.tandfonline.com/loi/wjla20. Published by Taylor & Francis, ISSN 1540-3564

Readings

Connaway, Lynn Silipigni, and Marie L. Radford. *Research Methods in Library and Information Science*. ABC-CLIO, 2016.

Dobbs, Aaron W. *The Library Assessment Cookbook.* Association of College and Research Libraries, 2017.

Marquez, Joe J., and Annie Downey. *Library Service Design: A LITA Guide to Holistic Assessment, Insight, and Improvement.* Rowman & Littlefield, 2016.

Matthews, Joseph R. *The Evaluation and Measurement of Library Services*. ABC-CLIO, 2017.

Salkind, Neil J. *Statistics for People Who (Think They) Hate Statistics*. Sage Publications, 2016.

Conferences

AALHE (Association for the Assessment of Learning in Higher Education) Conference: https://www.aalhe.org/

International Conference on Qualitative and Quantitative Methods in Libraries: http://qqml.org/

Library Assessment Conference: https://libraryassessment.org/

CHANGE MANAGEMENT

Communication Tools

JIRA: https://www.atlassian.com/software/jira
Ryver: https://ryver.com/
Slack: https://slack.com/

Journals

Journal of Organizational Change Management: https://www.emeraldinsight.com/journal/jocm. Published by Emerald, ISSN 0953-4814

Journal of Change Management: https://www.tandfonline.com/loi/rjcm20. Published by Taylor & Francis, ISSN 1479-1811

Research in Organizational Change and Development: https://www.emeraldinsight.com/series/rocd. Published by Emerald, ISSN 0897-3016

Readings

Hiatt, Jeff, and Timothy J. Creasey. *Change Management: The People Side of Change*. Prosci, 2003.

Langer, Arthur M. *Information Technology and Organizational Learning: Managing Behavioral Change through Technology and Education*. CRC Press, 2018.

Velasquez, Diane L., ed. *Library Management 101: A Practical Guide*. American Library Association, 2013.

Conference

ACMP (Association of Change Management Professionals) Conference: https://www.acmpglobal.org/

LIBRARY TECHNOLOGY

News Resources

Digital Trends: https://www.digitaltrends.com/
CNET: https://www.cnet.com/
TechSoup for Libraries: http://www.techsoupforlibraries.org/

Journals

Information Technology and Libraries (OA): https://ejournals.bc.edu/ojs/index.php/ital/index. Published by LITA, ISSN 2163-5226

Library Trends: https://www.press.jhu.edu/journals/library-trends. Published by Johns Hopkins UP, ISSN 1559-0682

Library Hi Tech: https://www.emeraldinsight.com/loi/lht. Published by Emerald, ISSN 0737-8831

Readings

Block, Carson. *Managing Library Technology: A LITA Guide*. Rowman & Littlefield, 2017.

Burke, John J. *The Neal-Schuman Library Technology Companion: A Basic Guide for Library Staff.* American Library Association, 2013.

Silveira, Diana. *Library Technology Planning for Today and Tomorrow: A LITA Guide.* Rowman & Littlefield, 2018.

Conferences

Computers in Libraries: http://computersinlibraries.infotoday.com
LITA (Library and Information Technology) Forum: http://www.ala.org/lita/conferences
Code4Lib: https://code4lib.org/conference/

PROJECT MANAGEMENT

Project Management Tools

Basecamp: https://basecamp.com/
Trello: www.trello.com/
Monday.com: www.monday.com/
Confluence: https://www.atlassian.com/software/confluence

Journals

International Journal of Project Management: https://www.journals.elsevier.com/international-journal-of-project-management. Published by Elsevier, ISSN 0263-7863

Journal of Modern Project Management: https://www.journalmodernpm.com/index.php/jmpm/about. Published by Mundo Press, ISSN 2317-3963

Readings

Buser, Robin A., and Miriam Pollack. *Project Management for Libraries: A Practical Approach*. McFarland, 2014.

Schwalbe, Kathy. *Information Technology Project Management*. Cengage Learning, 2015.

Searcy, Carly Wiggins. *Project Management in Libraries: On Time, on Budget, on Target.* ALA Editions, 2018.

Conferences

Project Management in Practice: http://www.projectmanagementinpractice.com/
Agile & Beyond: http://www.agileandbeyond.com/2019/
APM (Association for Project Management) Project Management Conference: https://www.apm.org.uk/apm-conference/

RUNNING TRAININGS AND MEETINGS

Readings on Running Meetings

Gray, Dave, Sunni Brown, and James Macanufo. *Gamestorming: A Playbook for Innovators, Rulebreakers, and Changemakers.* O'Reilly Media, Inc., 2010.

Kaner, Sam. *Facilitator's Guide to Participatory Decision-making*. John Wiley & Sons, 2014.

Mann, Paige, and Sanjeet Mann. "Embedding Collective ownership into a Systems Migration." *The Serials Librarian*, 2018: 1–8.

Sibbet, David. Visual Meetings: *How Graphics, Sticky Notes and Idea Mapping can Transform Group Productivity*. John Wiley & Sons, 2010.

Readings on Classroom Management

Dowd, Heather, and Patrick Green. *Classroom Management in the Digital Age: Effective Practices for Technology-rich Learning Spaces*. EdTech, 2016.

Himmele, Persida, and William Himmele. *Total Participation Techniques: Making Every Student an Active Learner*. ASCD, 2017.

Tobias, Cynthia Ulrich. *The Way They Learn.* Tyndale House Publishers, Inc., 2013.

Readings on Core Competencies and Library Trainings

Allan, Barbara. *The No-nonsense Guide to Training in Libraries*. Facet Publishing, 2013.

Coghill, Jeffrey G., and Roger G. Russell, eds. *Developing Librarian Competencies for the Digital Age*. Rowman & Littlefield, 2016.

Smallwood, Carol, and Lura Sanborn, eds. *Teaching Technology in Libraries: Creative Ideas for Training Staff, Patrons and Students.* McFarland, 2016.

Appendix B

How to Run a Successful Pilot

Pilots represent valuable opportunities to gauge user interest in and aptitude for a potential new system or technology before making a commitment. Pilots can also be used to test new workflows and procedures before they are fully formalized. The feedback one might receive during a pilot for a new laptop checkout process can lead to iterative adaptation that improves the live version. Pilots can be instrumental during these change processes; however, they can also be difficult to manage effectively. Time is a valuable commodity, and interest levels are not easy to predict or maintain. While there is no magic formula for a successful pilot, the following are some tips and guidelines on how to optimize pilots.

Be selective about what you pilot.

- Too many pilots might lead to techno-fatigue for your colleagues and users. Also consider the spacing between pilots. Some libraries or information centers might only want to engage in one or two pilots each semester.
- Pilots represent a significant cost, even when they do not lead to an acquisition. The time and labor involved in administering and assessing the pilot can be quite costly, and then one must also consider the energy users put into engaging with the potential acquisition.
- Being selective doesn't mean you need to reject every pilot request or suggestion. Requests can still be greeted with enthusiasm, but perhaps organizing a web demonstration or information session before committing to a pilot can be an intermediate step. If a web demo isn't viable, reaching

out to other organizations who already use the potential acquisition can lead to some productive conversations and general information gathering. These perspectives can help you feel out the cost/benefit ratio for running a local pilot.

Consider the whole financial picture.

- Before piloting a potential new system or technology, it is wise to get a price quote. If the pilot is for something that represents cost avoidance or savings, that's important to emphasize. If the opposite is true, it's important to be candid about that, too.
- Consider both immediate costs and recurring financial needs for upgrades, data storage, and/or consumables, if applicable. Your colleagues in acquisitions and technical services may be great to talk to about balancing one-time and recurring costs, since their roles often involve both kinds of collections or resources. Technical services might also have some useful insights and suggestions on how to manage and evaluate a pilot process, due to their familiarity with resource trials.
- Piloting expensive systems or technologies can cause resentment if your colleagues are not being adequately compensated or have recently dealt with budget cuts. While you may not have direct knowledge of salary issues, an environmental scan can reveal trends like how long it has been since a Cost of Living Adjustment (COLA) or similar salary adjustments were implemented. Within your department or information center, be mindful of recent financial pressures. If your collections budget was just cut by 30 percent, it might not be appropriate to pilot a high-priced system, unless you can justify the expense in some way. Perhaps it dramatically increases efficiencies or contributes to the greater good, like a Universally Accessible Workstation.

Keep the pilot as open as possible.

- Try to lower the barriers as much as possible during a pilot. Restrictions or complicated regulations can deter people who might otherwise be mildly curious and/or willing to engage.
- Permissions should be as generous as possible without violating security or privacy requirements. If the pilot involves a system with tiered administrative rights, have at least two people assigned to those roles so there will be some redundancy in case permissions need to be altered during the pilot.
- Even if someone's literal job responsibilities are not directly connected to the pilot, try not to exclude them. Clearly, supervisors have discretion over

their direct reports' involvement with a pilot, and external forces like union rules and job classifications might limit participation opportunities. But the pilot itself should be structured to be as inclusive as possible.

- One benefit of openness is that you might get some fresh perspectives and vital feedback. It can also be a learning opportunity for those who may not have previously encountered the type of system or technology being tested.
- Openness is also symbolic, and lowering access barriers during the pilot stage can lead to more participatory technology adoption and engagement down the line.
- If there are restrictions during the pilot and it leads to an eventual acquisition, you might have to deal with an uneven frame of reference. Those who were allowed to participate in the pilot, or participated at different levels, will have had more exposure than other colleagues, and that asymmetry can be difficult to rectify.

Guide engagement with prompts or tasks.

- While excessive limitations or guidelines can be oppressive during the pilot period, some structure can actually be used to orient people and give them an entry point into the new system, tool, or service.
- Usability testing often involves some specific tasks or questions that guide a user's engagement with some system or interface. A similar approach can be adopted for technology pilots. Even very simple tasks can provide helpful guidance. For a new ILS, checking an item in and out can familiarize users with several layers of functionality, including the general navigation menu, patron database, circulation module, and internal alerts like check-in notes.
- It's important to remember that your colleagues and users may not be looking at a prospective system or tool the same way you are. You might be focused on how a customized feature will streamline invoicing or help disparate systems talk to one another more effectively. Your colleagues might be drawn to a totally different set of features or system traits.

Appendix C

Communication Tips and Tricks

Communicating about change is one of this book's recurring motifs. This prominence is a reflection of its underlying importance. While good communication strategies vary based on many factors, including intended audience and organizational culture, there are some general strategies that can help foster open, productive communication during a change process:

Pay attention to how colleagues communicate with one another.

Along with an environmental scan of existing technologies, workflows, organizational priorities, and other variables, it's important to get a feel for the communication landscape. Communication styles can be highly personalized, and what works perfectly in one group setting might be counterproductive in another. Try to pay attention to patterns of when and how colleagues are communicating with one another.

- Do they talk more over food? Is the lounge always abuzz with conversation?
- Do colleagues often go off site for coffee, lunch, or other non-work socializing?
- Do most people use humor, or do conversations tend to be more formal and matter-of-fact?
- Are there certain topics that typically put people at ease, such as vacation plans, a certain TV or movie series, or their pets?

These patterns can help you identify ideal circumstances and methods for communicating about change. A department that has a lively social rapport and frequently dines together might be more engaged in a meeting if you bring snacks or incorporate a fun activity like trivia or bingo. A more reserved group, on the other hand, might feel more comfortable in a succinct and well-structured meeting that doesn't stray too far from facts and details. These are obviously two extreme examples, but incorporating existing communication preferences into your change management can help alleviate stress and make the process more productive for all involved.

It is also important to remember that everyone is dealing with some form of difficult conversation on a daily basis, whether it's offering guidance to a direct report, negotiating with a vendor, or trying to help a frustrated user. Paying attention to how those around you navigate these challenges can help you fine tune your own communication techniques and craft a repertoire that will hopefully make change easier to talk about and discuss in a meaningful way.

Expect questions.

Instead of asking "Are there any questions?" a phrase like "What questions are there?" assumes there will be some need for clarification or explanation. In smaller meetings, another strategy might involve having every person present ask at least one question. This can provide those who might not otherwise feel comfortable speaking up with opportunities to convey concerns or get clarification. Change, especially technology change, often becomes more complex as the process goes on. If there is confusion or lack of clarity at an early stage, it can become even more problematic later on. It is best to build up from a foundation that is as solid as possible, rather than try to double back and explain things people didn't grasp early on.

Use your own experiences to set the tone.

Being candid about your own confusion or learning process can make people feel more open about revealing their knowledge gaps. Comments like "When I first visited this platform, it took me five minutes to find the log-in link," can normalize initial uncertainty. Personalizing a technology might make it seem more relatable, and storytelling in general is often used to improve audience engagement and information retention. These learning narratives can also reiterate the idea that everyone's knowledge and expertise is developed gradually over time.

Be as specific as possible.

Like the term *assessment*, words like *technology* and *systems* can carry some negative connotations or alienating entanglements. They can be vague or too broad for people to really connect with. Sometimes it might be useful to refer to an “alternative to EZproxy” instead of “a new authentication system.” This approach can lend itself to straightforward and specific communications about a change, but its avoidance of general terminology also means it is more suited to recipients with some frame of reference or baseline comprehension. Referring to EZproxy instead of authentication system is only helpful if your audience knows what EZproxy is and how it fits into an overarching schema of library systems architecture.

Take time to think.

It isn’t defensive to ask for time to contemplate a suggestion or comment. During in-person meetings or trainings, concerns or even demands might be directed toward change leaders. While the expectation for immediate response or action might be difficult to resist, the complexity of change, especially technology change, can make off-the-cuff decision making very difficult. Redirecting a question or suggestion to the group for discussion can be a positive response that generates ideas and perpetuates collaborative problem solving. If an immediate, concrete answer is expected, there is nothing wrong with saying something along the lines of, “That’s something I need to think more about. Let me do some research, and we’ll keep the conversation going.” Being a change leader does not mean you have perfect knowledge, and questions or conversations that go beyond your comfort zone are not threats to your credibility. Rather, they are opportunities to demonstrate that leaders need to perpetually learn.

If tensions flare, press pause.

Change, especially disruptive change, can test our professionalism and codes of conduct. While frustration and maybe even hostility can accompany change, it is important to keep all discussions respectful and civil. If change discussions are causing intense emotions or heated exchanges, sometimes it can be best to just stop and give everyone some breathing room. When someone is upset, they are physiologically less capable of engaging in calm, rational, conversation. Ending a meeting early might be an inconvenience in the short term, but it is better than having things devolve into hostile or aggressive exchanges. If professionalism slips away, it will take more time and energy to do damage control and restore trust than it will to give everyone time to cool off and get back to baseline.

Contextualize and define terms or concepts that might be unfamiliar.

Avoiding jargon is another persistent challenge for communicating about change. Giving an example after using a specialized term or acronym can be a way to remind people of what something means, or make terminology more accessible. Defining a term or acronym through an example can help even the playing field without being condescending. For example, when referring to the new Cricut machine in the makerspace, you can remind people of what it does by saying something like, “The vinyl decals we made with the Cricut look great in the new classroom.” Providing a use case in this instance can remind people that the Cricut cuts vinyl and other materials into shapes and designs. The detail about location gives people an opportunity to scope out the example if they haven’t had an opportunity to see it but don’t feel comfortable explicitly asking for more information.

Learn how to manage a meeting.

Those who work in libraries, archives, and museums might spend many hours in meetings each week. You might participate in a lot of meetings, but it takes a great deal of skill and discipline to effectively manage one, especially if the topic is unfamiliar or causes some level of discomfort, as change often does. Be strategic about which actions or discussions require meeting time. Having established agenda items can help provide structure and inform participant expectations. The classroom management techniques mentioned in appendix A can help support effective meeting management so gatherings can be conducive to productivity, professional growth, and transparency.

Ask for feedback.

Make it clear that you are interested in improving communication and actively encourage people to share thoughts, criticisms, or suggestions. Integrating assessment into a staff training or information session can benefit the next one. During face-to-face conversations, ask people if that last change update email was helpful, or if they have suggestions on how to make it more useful. Communication will never be perfect, but successful change planning and implementation hinges upon our ability to adapt and satisfy a wide range of communication needs.

Glossary

agile development: An approach to developing new tools or systems that prioritizes incremental adaptation and periodic improvements over a single comprehensive release.

change agent: An individual or group of individuals tasked with initiating change and leading the process. Change agents can come from any level or department within an organization. Although they can be new hires who are recruited to orchestrate specific changes or projects, change agents can also be existing personnel.

change process: The lifecycle of a change from environmental scanning and planning through implementation, assessment, and iterative adaptation.

customer journey mapping: An assessment strategy that can help visualize the way users are interacting with your building, services, and collections. Customer journey mapping can reveal pain points or stumbling blocks or capture a baseline against which to measure the impact of an impending change.

event chain diagram: A technique for visualizing tasks, roles, and actions in a workflow or process. Modeling processes in this way can help evaluate and improve existing operations while improving internal documentation.

flipped classroom: A pedagogical strategy that utilizes class time for hands-on or experiential learning, instead of lecture. The lecture or traditional instruction component is typically viewed or read by the student before class, taking the place of homework.

kanban: An example of iterative workflow management related to agile practices.

learning organization: An institution that encourages micro and macro development and growth. Learning organizations are positioned to thrive during a change process because they value continuous adaptation and evolution.

mental model: The internalized sense of self that informs how someone sees themselves, their work, and their colleagues. Mental models structure attitudes, define relationships, and shape change tolerance.

PEST: An analytical framework that takes Political, Economic, Sociocultural, and Technological factors into consideration. During the assessment and planning stages of a change process, PEST can be used to identify macro variables that impact change priorities and illuminate potential obstacles.

process improvement: A form of incremental change that enables organizations to perpetually enhance services, processes, or workflows. This approach to perpetual improvement is often used to proactively optimize operations, though it can also be employed to help an organization comply with new standards, quotas, or external pressures.

scrum: An example of the iterative development techniques commonly associated with agile development.

SWOT: An assessment framework that evaluates Strengths, Weaknesses, Opportunities, and Threats as they relate to a specific organization, department, or project. SWOT analysis can easily incorporate both macro and micro factors operating within one's environment.

technology acceptance: The degree to which a user is engaged with a new technology or system. Acceptance behaviors encompass regular and consistent use, reporting issues, requesting clarification, and helping other users navigate the system's intricacies. Acceptance is often dependent upon mental models, the executing and timing of a change process, training, and the individual's understanding of the technology's purpose, importance, and value. A technology change process is not fully successful until there is technology acceptance.

technostress: The distinct form of stress or anxiety caused by technology and its entanglements. Technology can be uniquely stress-inducing because of its complexity, accelerated rate of change, and the feelings of powerlessness one's dependence on technology can provoke.

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