HUMAN RESOURCE MANAGEMENT AT THE CROSSROADS

Challenges and Future Directions

Edited by

Alvaro Lopez-Cabrales
Ramon Valle-Cabrera

Human Resource Management at the Crossroads

Human Resource Management at the Crossroads:

Challenges and Future Directions

Edited by

Alvaro Lopez-Cabrales
and Ramon Valle-Cabrera

Cambridge
Scholars
Publishing

TABLE OF CONTENTS

Chapter One

Introduction:
The HRM Function Revisited

Alvaro Lopez-Cabrales
and Ramon Valle-Cabrera

Introduction

Human Resources Management (hereon HRM) has become a consolidated field of research in a short time. The reason is a wide range of theoretical frameworks have been used over the last decades to study individual behaviours and problematic situations raised in organisations.

Today, human resources are more than ever regarded as the cornerstone of many companies, and are treated as such. On the new economic scene, a company's competitive advantage lies in its workers' collective talent, rather than in its real-estate assets, technologies or means of production. Organisational competitiveness factors are largely linked to human resources, their abilities, skills or competences. Interest in human resources management has thus grown. It is people who ultimately make the difference, because the quality of the employees, their enthusiasm and work satisfaction, their experience and feeling of fair treatment affect company productivity, customer service, reputation and survival.

Human behaviour is, however, highly complex and its management engenders great uncertainties. Many studies currently seek to understand, with the utmost accuracy, the connection between different HRM approaches and companies' functioning. Nevertheless, HRM is still far from achieving general deterministic formulations enabling to predict the impacts of specific management policies.

As a result, the function of human resources has undergone significant transformations in recent years. These changes are linked not only to the

name and content but also to the role and position of human resources in a company.

In the twenty-first century in which we are living, the context in which companies operate has been profoundly transformed. The 2008 international economic crisis affected HRM particularly severely and brought about radical changes. Technological shifts have led to many uncertainties concerning the future of work, raising issues such as: what situation are HR departments in today? What new roles are expected of them or assigned to them? What new challenges must they face?

The works that compose this book attempt to shed light on these issues. They offer in-depth analyses of a range of current issues, that address present and future HRM concerns.

Chapters Included in this Book.

The entire evolution of HRM roles has led HR research to focus on concretely helping companies and contributing to conflict resolutions. Thus, a greater contextualisation of research studies is sought. Analyses of human resources practices must be linked to specific situations, such as innovation, knowledge management or economic crises. Current trends seek to understand both the contribution that human resources MAKE to these specific situations and the possible impact of these situations on HR.

A change of research focus is currently taking place in the field. Today, studies are expected to be more closely linked to business reality and delve more deeply into it. The trend has gone from examining whether HRM produces effects in companies, to seeking to understand why and how HRM has an impact on companies. We believe the most significant changes consist in:

- analysing new dependent variables (the dependent variable has traditionally been performance), notably: creativity, innovation, organisational citizenship behaviour (OCB), organisational abilities or change management, among others;
- incorporating mediating and moderating variables, such as organisational culture or employee characteristics;
- using integrative (multilevel) and multidisciplinary models;
- emphasising dynamic aspects.

Current research is also beginning to consider the socio-economic context and the company's characteristics, addressing issues such as:

- Economic crisis: analysing the impact of the crisis on human resources and studying how HRM can help to overcome the crisis.
- Gender and work-family reconciliation: studying the effects of women's incorporation in the labour market and finding solutions to the problems it generates.
- Diversity: locally, but especially in multinationals.
- Age: consequences of population ageing.
- Social and ethical responsibility: searching for a balance between companies' social responsibility criteria and the need to remain competitive.
- New technologies: examining how virtual teams are managed among other aspects.
- Institutional focus: legal aspects regarding the direction adopted by human resources practices.
- Studies focused on emerging countries, more innovative sectors, SMEs, etc.

For all the reasons above, this book presents a series of seven research studies that, in our view, shed light on new HRM contributions. They address aspects such as: the future of work; new variables to explain employee wellbeing; fresh structures to create more agile organisations; the challenges and impact of part-time jobs; or the managing of various paradoxes based on a sustainable HRM perspective.

The studies included in this book were regarded as the best papers (i.e. they were the most highly rated by our reviewers) presented at the 11th International Workshop on Human Resources Management, held on 25 and 26 October 2018 in Seville, Spain. The Workshop was organised by the Business Administration Departments of two Spanish Universities – the Pablo de Olavide University (Seville), and the University of Cadiz. The aim was to cover new key topics and research paths that would be attractive to any scholar working in the HRM field.

This biannual Workshop has given participants the opportunity to discuss major HRM issues ever since 1997, the year of its first edition. A number of renowned international HRM researchers from USA and European Universities were invited as keynote speakers. They have become an asset at each edition.

Previous Workshops have featured guest speakers from the USA, such as: Professors Michael Hitt (Texas A&M University), Randall Schuler and Susan Jackson (Rutgers University), Angelo DeNisi (Tulane University), David Lepak (Rutgers University), Anne Tsui (Arizona State University), John E. Delery (University of Arkansas) and Luis Gomez-Mejía (Texas

A&M University) and Herman Aguinis, from Indiana University. Past guest speakers from Europe include: Professors Michael Poole (Cardiff Business School), Paul Sparrow (University of Sheffield), Patrick Gunnigle (University of Limerick), Jaap Paauwe (Tilburg University), Paul Boselie (Utrecht University & Tilburg University, The Netherlands); Wolfgang Mayrhofer (Vienna University of Economics and Business, Austria) and Riccard Peccei from Kings College (London).

In the latest edition, held in Seville in 2018, Professors Jacqueline Coyle-Shapiro from London School of Economics and Pawan Budhwar, from the Aston Business School (UK) were the guest speakers. The participants included 75 professors and other university researchers from a range of Spanish and European Universities (e.g., Ghent, Tilburg, Twente, Saxion and Amsterdam VU, among many others).

The second chapter, by Milan R. Wolffgramm, Stephan Corporaal and Maarten J. van Riemsdijk, PhD, discusses how the introduction of new technology, such as artificial intelligence, virtual reality, and big data, will have an impact on tech sector work and the role of HR professionals. Based on semi-structured interviews with CEOs and HR directors from Dutch (high-)tech organisations, it was found that, within five to ten years, tech workers will be exposed to uncommonly high levels of complexity, uncertainty, connectivity, and interdisciplinary teamwork. Based on these future prospects, it has become clear that tech workers require new skills and smarter ways of working. This raises the need for HR professionals who understand the impact of state-of-the-art technology on tech workers' jobs and who are able to stimulate tech workers' continuous development.

Beltran-Martin, Bou-Llusar and Salvador-Gomez, in the third chapter, analyse the link between High Performance Work Systems (HPWS) and two types of outcomes, related to: (a) employees' wellbeing (affective commitment, AC), and (b) their efficacy, based on their task performance (TP) and contextual performance (CP) in a specific sample of Spanish firm R&D departments. Results showed that the communicative effectiveness of HR practices depends on the nature of employee-supervisor relationships. When these relationships are weak, HR practices are more useful to shape employees' perception of organisational support, and consequently their commitment. Nonetheless, when companies cannot implement HPWS (e.g. small companies), leaders may have a key role in promoting employee well-being. Supervisors and firms should be aware of the relevance of these relationships and invest in training supervisors to improve the quality of the Leader-Member Exchange (LMX) relationships between them and their subordinates in cases where HPWS cannot be effectively implemented.

In a fourth chapter, Houldsworth, McBain and Brewster cover another question of current interest to HRM academics and practitioners: is gender a predictor of career success? The authors followed a sample of 616 alumni of the world's third largest MBA, also one of the UK's oldest programmes. The MBA is ranked among the top 50 programmes worldwide and has traditionally focused on experienced managers. Their results showed that women reported greater levels of career capital development regarding the knowing-why and knowing-how aspects of career capital. In terms of subjective career outcomes, women reported greater levels of career satisfaction and self-efficacy; the results of the objective career outcomes (promotions and levels of work) showed no significant differences.

Chapter five presents a proposal from Nijssen, Farndale and Paauwe on how to develop agile organisations based on what the authors call a "chaordic" structure. Specifically, their study addresses how agile organisations combine bureaucratic and post bureaucratic elements in their organisational structure. Agile organisations are defined as organisations that have been able to survive in a dynamic ecosystem over a substantial period of time. The authors conducted case studies by selecting organisations that have survived and are still surviving in highly dynamic sectors. These sectors were selected based on a high level of unpredictable and continuous change affecting the organisations.

Another important topic of concern for HRM departments today is studied by O´Sullivan, Cross and Lavelle in Chapter six: the emergence and effects of part-time jobs not only in young women but also in older women. The authors examined: (i) secondary labour market employment among older female part-time workers based on a proxy indicator designed to incorporate private sector work and low wages; and (ii) employment benefits offered to this cohort compared to other worker cohorts examined in this study. The key findings suggest that these jobs were in the labour market's secondary sector, characterised among other aspects by private sector employment and low wages. In addition, compared to the other cohorts under study, this worker cohort was less likely to be offered key employment benefits. To conclude this chapter, a job's characteristics, rather than a person's characteristics, primarily dictate the terms and conditions of employment.

Chapter seven examines the micro-processes and routines of middle managers as they attempt to share an understanding of strategic change events. Kieran, MacMahon and MacCurtain identify nine characteristics of a highly impactful form of shared sensemaking, shown to lead to a number of positive organisational outcomes. These include: sensegiving back to

the leadership and onward to peers and teams, successful enactment of strategic change, positive perceptions of change outcomes and organisational climate, and employee well-being.

Finally, in Chapter eight, Bücker, Pascale and El Aghdas make use of a paradox lens to investigate how flexible HRM practices are perceived by employees in two organisations and how they fit into the three organising paradoxes in sustainable HRM, reflecting the economic, political, and socio-cultural contexts of two Dutch organizations. They identify three organising paradoxes reflecting the complexities of the Dutch economic, political and socio-cultural contexts: the '(inverted) flexibility/commitment paradox'; the 'self-management/(human-resource) management paradox'; and the 'sustainability/effectiveness and efficiency paradox'. The authors then describe the role of management and HRM in addressing the three paradoxes and whether they are able to involve management, HRM and employees in the process. The paradox lens leads us to search critically for current paradoxes and their tensions, analysing employees' perceptions on these tensions, and finally supporting management in developing an active approach, discussing paradox tensions with all stakeholders (management, HRM and employees).

All in all, these studies provide an accurate picture of today's relevant HRM issues, by bringing together different approaches and levels of analysis that are undoubtedly mutually enriching.

CHAPTER TWO

FUTURE OF WORK:
HOW TECHNOLOGY WILL IMPACT
THE WORKPLACE AND HR

MILAN R. WOLFFGRAMM,
STEPHAN CORPORAAL,
AND MAARTEN J. VAN RIEMSDIJK.

Introduction

The fourth industrial revolution, known as 'Smart Manufacturing' (Kang et al., 2016), 'Industrie 4.0 (BRD)", and 'Smart Industry' (NL), can be described as the digitization of the high-tech industry and focuses on the merger of three technological developments (Smart Industry, 2017). Firstly, new technologies have emerged that can be used in the production process, such as 3D printing and robotics. Secondly, there is the advanced digitization of product and process information using sensor and information technology, which increasingly automates production process management. For instance, using sensors, machines are capable of determining autonomously which action should be taken on a product at a specific stage in the production process. Thirdly, there is technology that integrates production equipment and human-beings in a smart way, across the boundaries of the company, e.g. machines that are capable of selecting and ordering parts at suppliers when running out of stock.

The prediction that technological developments, such as automation and robotization, will affect work (see for instance Scheele, 1990), has been repeated now for several decades. However, this time, a difference regarding the content and pace of change has been occurring. The content of change relates to the merger of the aforementioned technological developments, combined with cheap data storage, strong analytical software and fast internet technology. This combination generates possibilities for new developments to emerge, such as: virtual reality,

complex production process simulations, and autonomous production machinery.

The pace of change has to do with speed on the one hand, and the increasing penetration strength of new technologies on the other. The pace of change in the fourth industrial revolution is more rapid than ever before and has a broader and disruptive, rather than an incremental, character (Corporaal, Vos, Van Riemsdijk & De Vries, 2018). Not surprisingly, the discussion about the impact of the new industrial revolution on the future of work and the workforce, is mostly concerned with the question of which jobs will disappear due to technology (Went, Kremer, & Knotternerus, 2015; Frey & Osborne, 2017). The question however, regarding how the content of those tech jobs will change does merit much more attention than it is receiving at the moment (Ras et al., 2017 for an exception).

As recent studies show, new technologies are expected to make work more complex and require a highly-skilled workforce that is able to design, implement and use innovative technology (Usanov & Chivot, 2013). Furthermore, businesses are discovering new ways of organizing as a result of these technological developments and are adopting new business models, leading to a demand for new skills and competences too. Some high-tech organizations for instance, already allow customers to operate their manufacturing technology over the internet, enabling same-day delivery of orders. In such fully automated systems, there is hardly any need for operator intervention. The tech workers that still work there are in permanent contact with the customer. They help him through the (digital) production process, translate customer demands into final production, understand machine planning, have an excellent grasp of the supply chain and are adept at using methods of data analysis. Goos (2013) infers that such innovative ways of organizing will go hand in hand with developments such as self-managing teams, staff rotation, and ongoing training of competences, like co-operation and information sharing.

The aforementioned developments lead to a growing demand for a new set of skills and competences for staff, which are often described as '21st century skills', 'lifelong competences' or 'key skills' (Voogt & Roblin, 2012). These are the skills that allow staff to continue functioning in an environment that is being transformed by technological developments. They include skills such as: creativity, the ability to innovate, adapt and collaborate with other disciplines, and flexibility. Publications about 21st century skills often include abstract descriptions of the expertise, skills and competences required.

The goal of this paper is to specify how work and the required skills of tech workers will be affected by technological developments. As human resource management (HRM) plays an essential role in the optimization of both employee and organizational performance (Wright & Nishii, 2013), it is essential to formulate practical and meaningful implications for human resources (HR) professionals, for them to remain of significant value in a new industrial reality. In order to achieve the formulated goals, this article will answer the following research question: *how will work in the high-tech sector change due to technological developments in the upcoming five to ten years and how will these changes affect the role of HR professionals?*

Methodology

In order to understand and describe how technological developments will affect labour in the high-tech sector, a qualitative research approach was taken. 54 semi-structured interviews were conducted involving Dutch high-tech companies' CEOs and HR directors. Twenty respondents were from large companies (>250 employees) operating in the high-tech industry ("Smart Industry") and 34 respondents were from small and medium-sized enterprises (SMEs) in the following sectors: installation, mechatronics, construction, electronics, and IT. Companies were selected based on their factory floor technology. This selection criterium was used to generate more possibilities for practical examples during the interviews that would both determine and clarify the impact of technological developments. In total, 141 CEOs/HR directors of 141 companies were approached, resulting in a 38% response rate.

During the semi-structured interviews, respondents were asked to describe the technological developments that they expect to have an impact on work in their high-tech company for the upcoming five to ten years. The semi-structured interviews allowed researchers to ask for clarification of the technological developments mentioned by respondents, increasing both our understanding and the validity of results. By clarifying these developments with examples, respondents were challenged to describe the impact of technological developments on work in the high-tech sector as precisely as possible. To make the impact more tangible, respondents were also asked to describe how future work in the tech sector will differ from current job tasks.

The interviews were transcribed verbatim. The verbatim transcripts were imported into AtlastTI and coded by two independent researchers. In order to increase the results' validity, inter-rater reliably was realized as

both researchers compared their coding structures to agree upon the final codes to be used. Next, four researchers used the final codes to determine how technological developments change work. Through a group discussion, the researchers agreed upon five overarching developments that would clarify how future work in the tech sector is being influenced by technology.

Results

Based on the analysed interview data, five developments were found that show how the future of work in the tech sector will be influenced by technology. These findings exceed the boundaries of the tech workers' workplace as respondents mentioned how the tech workers' work environment will be affected by technology too.

1. *Tech jobs will become more diverse and demanding.*
The merger of smart software, big data, smart machinery, and robotics means that a tech worker's job will become more diverse and demanding in various ways:

- Technological developments will lead, according to the respondents, to more 'customized' products and services and a fast-growing number of product innovations. This means that tech workers should be more capable of rethinking their job on a daily - or even an hourly- basis and calls on the tech worker's ability to rapidly switch between different work demands, deploy a variety of knowledge and skills, and cope with changing task descriptions.
- There will be a greater need for smart collaboration between humans and technology. To illustrate, as a result of technology, traditional process operators are having to collaborate with robots and systems that are becoming increasingly complex. This means process operators should be capable of programming machines and configuring robots in the near future. Somewhat further down the line, when the complex technology can be (re)programmed by the use of a user-friendly tablet computer, or by using augmented reality, operator job complexity is expected to decrease. The majority of the respondents underline that they already sense a weak trend towards complexity reduction in high-tech production.
- The tech worker's development will become more important due to the constantly changing technology and machinery. Especially respondents from SMEs underlined that new technological

developments will be introduced at a speed the world is as yet not accustomed to. A large part of these respondents underlined that tech workers should keep up in order to be able to use the newest technology and machinery. Furthermore, tech workers should be better equipped to cope with unpredictable and unstructured situations.

These developments come with an important practical implication according to respondents: approximately half of respondents claim that tech jobs require employees with a higher formal educational level. In contrast, the other half of the organizations state that more intense, long-term, and company-specific educational programs and workplace learning should prepare tech workers for future job demands.

2. Work environments and team compositions will face radical change.
Technological developments lead to faster and more radical changes in the work environment of tech workers: they need to become more capable of working together in changing teams consisting of colleagues, customers, and suppliers. Respondents gave two reasons for the occurrence of this trend. First, processes within the value chain are becoming more integrated due to advanced technology and smart machines. This integration increasingly interconnects companies and facilitates an intense collaboration between them. Second, respondents expect that there will be more short-cycled projects due to technological developments. There will be – according to them – an increasing demand for Just-In-Time customization, which requires employees to work in multidisciplinary project teams. More often these project teams will cross departmental and company boundaries: people will collaborate for instance in global or virtual teams of suppliers and customers to design customized products.

3.   Work will become increasingly automated and robotized.
The robotization and automation of the factory floor is happening already and is expected to take over an increasing number of routine tasks. While larger organizations describe this as the current industrial reality, slightly less than half of SME respondents expect this to happen in the near future. *"Previously, there was someone who placed the product in the machine and pushed the button. That is vanishing more often. We could, like now, install a robot arm, but our series are not big enough for that just yet"*. Furthermore, respondents from SMEs expect that automation and digitalization will be reinforced by the demands and expectations of

suppliers and business-to-business clients. Respondents from both SMEs and larger organizations see another development: due to the advanced software, machines and systems in the production process will be better connected with each other and adjust themselves to each other. Many respondents, especially from larger organizations, underline that automation and robotization requires tech workers that are capable of interpreting (large amounts of) data, analyzing data, and using data to optimize processes and products/services.

4. *Work in production, assembly and maintenance will be supported by augmented and virtual reality systems.*
Virtual and augmented reality systems and cloud-techniques will generate opportunities to execute work activities remotely, such as maintenance and even assembly executed by customers themselves through augmented reality work instructions. Furthermore, step by step education of tech workers along with providing guidance during advanced work activities, becomes possible with these systems. *"I am coming from a company that operates globally. We can solve issues from a distance (...) by guiding the customer in what he should do, based on what you see on your screen"*. Finally, respondents – especially from larger organizations – underlined that virtual reality makes it possible to simulate process designs (digital twinning) and, based on the analysis of the simulations, generate opportunities for radical process optimizations, at a fraction of the costs involved in building a real production line.

5. *New product-market combinations drive worker adaptability and job uncertainty.*
Technological developments lead to different product-market combinations, business models, and different ways of organizing, according to larger companies. One respondent describes for instance, a new factory where customers can login on the machines, operate these machines, and receive their customized product the same day. In that process, operator influence is minimized and new questions regarding production planning, data-security, and supply chain management arise. Many CEOs, from both SMEs and larger organizations, stress that the increasing technological pressure forces an organization's adaptability. This implies that tech workers should be more capable of functioning in teams that can react rapidly and react more autonomously to market developments. Finally, mainly respondents from larger organizations mentioned that technological developments generate opportunities for the establishment of new business models. Especially the turnaround from

traditional production towards service provision (so-called servitization) was mentioned, which is being sparked by leveraging large amounts of (machine) data in a smart way.

Conclusions

This research takes a step towards the clarification of the (upcoming) changes in tech labour caused by an accelerating sequence of technological developments. High-tech organizations are preparing for technological developments that will rapidly and fundamentally change tech labour in the new industrial reality. These organizations predict: (1) tech jobs will become more diverse and demanding; (2) work environments and team compositions will face radical change; (3) work will become increasingly automated and robotized; (4) work in production, assembly and maintenance will be supported by augmented and virtual reality systems; and (5) new product-market combinations drive worker adaptability and job uncertainty. This study reveals how new technological developments are not exclusively important to larger organizations. In the eyes of the SME respondents in this study, it is certain that these technological developments will lead to a drastic change in their tech jobs. The remaining question is not if, but when these fundamental changes will occur.

This research confirms findings from previous studies which clarify how labour in the high-tech sector is being characterised by three main dimensions, as described by Levy and Murmane (2005): (1) solving unstructured problems; (2) working with new information; and (3) carrying out non-routine manual tasks. This research adds an important fourth and fifth dimension: (4) being able to function in changing and unpredictable work environments or projects; and (5) being able to complement or collaborate with developing technology, such as augmented reality, advanced machinery and (collaborative) robots. Tech labour will become – due to the impact of the five discovered technological developments – very complex and will force tech employees to develop themselves constantly.

Insights in the impact that technological developments have on tech work – as described by the respondents in the study – are revolutionary when compared to the ongoing discussion about the impact of automation on work (Scheele, 1999). According to respondents, this is because technologies such as smart machines, big data, and sensor technology, have been developed to an extent where they have become useful and affordable for both larger companies and SMEs. Once one company takes

the first step, the consequences for those lagging behind are such that a 'winner takes all' market tends to arise. Furthermore, the technologies are merging into new business concepts, such as 'smart factories', and advanced (software) systems that exceed the boundaries of individual organizations.

Finally, the findings show how technological developments that are being combined with IT-related developments, are becoming cheaper, smarter, and more widely applicable. These powerful technologies are starting to increasingly penetrate the daily reality of tech companies, leading, according to respondents, to adjustments in: (production) processes, ways of organizing, and business models, that will rapidly and fundamentally change the tech worker's job and work environment.

However, not only the future of tech workers is being affected by technology. For HR practitioners, the consequences of the aforementioned developments are also challenging.

From Human Resource Management to Organizational Design Expertise.
First, it is important that HR professionals help design jobs that continuously challenge employees to learn. Tech workers should be able to keep up with the pace of technological developments and learn to cope with new technologies. However, tech workers do not always have time available (nor the desire) for formal training, are not continuously challenged by their employers to learn, and do not always see the necessity to keep on learning (Corporaal et al., 2015). In other words, these tech workers are currently not being prepared for, but rather confronted with, new technology. Therefore, the HR professional should determine which technological developments will affect work in their companies and how it will impact jobs. Based on these predictions, they can define the required knowledge and skills. Once determined, the HR professional can, together with the (line) managers, help adjust production processes and the content of jobs, in order to – step-by-step – challenge tech workers to prepare themselves for what lies ahead. This requires HR professionals who can focus on the organization (primary process and job-design) side of the profession, suggesting a turnaround to an extent, from the classical 'human resource management' approach. Much of the current HR job is still rather instrumentally focused on rules and regulations (the administrative expert) or at establishing employee satisfaction and preventing health issues (employee champion) (Ulrich et al., 2012). We suggest the profession moves more quickly towards expertise in effectuating permanent learning and development through smart work (re)design. In other words, designing production processes and jobs in which tech workers are challenged to learn and develop themselves, should be the number one priority for HR

professionals in the high-tech sector. Not only will such HR professionals contribute to the competency development of employees, but their tech company will become increasingly attractive for the current and future workforce as well. This is relevant not only because technical staff are becoming increasingly scarce, but tech workers also underline that their current jobs do not invite them to learn and that they experience insufficient room for experimentation and innovation (TechYourFuture, 2016).

The HR Professional as Human Resource Developer
In addition to designing better and more stimulating jobs, HR professionals should design innovative, multidisciplinary development programs. They need to think beyond the traditional, formal training programs as prior research reveals that soft-skills training by external trainers, as well as traditional personal development plans, can deter tech workers from engaging in personal development activities (TechYourFuture, 2016). What tech workers need from their employer is: plenty of room to experiment; someone who challenges them to actively work together (on the factory floor); and a manager who guides them and offers flexibility at the right moment.   Such a development program incorporating (line) management could contain the following aspects:

- Group sessions, including members from both inside and outside the team, where the technical state-of-the-art is being discussed and tech workers are challenged through assignments to increase their 'soft skills', such as: working together with other disciplines, providing and receiving feedback to/from colleagues;
- Executing and evaluating innovative assignments that are related to the tech worker's job. This means that tech workers will work on small product or process innovation assignments. During these assignments, tech workers will learn – under supervision – how to design an innovation and how to cope with constraints coming from the organization or colleagues. This aspect is crucial as tech workers state: *"everyone underlines that employees should become more innovative and creative, but employees need concrete tools for that"*. (TechYourFuture, 2016).
- Sessions with suppliers and representatives from the tech industry on future tools, machines, processes and systems, in combination with assignments regarding the translation of these developments to implications for the tech worker's current job and the organization of his work. By working together on these assignments, tech

workers will learn how organizational knowledge and skills are related to personal expertise and how they can prepare for new technology and its consequences.

Building Bridges: learning communities and skills labs

Last, but not least, it is important that HR professionals participate in regional collaboration between organizations to stimulate development of tech workers. Not every organization has sufficient expertise or resources to realize the aforementioned practical implications. In the Netherlands due to this constraint, various educational institutes, government agencies, and (larger) companies are collaborating in so-called 'field labs', 'learning communities', and 'skills labs'. As part of these initiatives practical learning environments are being built. Companies contribute by inserting state-of-the-art knowledge and technologies (equipment) that are used in practice. There is government funding and education helps build curricula that are didactically sound and suit workers. These learning environments generate opportunities for businesses, students, and educational institutes – in close collaboration – to futureproof the tech worker. In order to create a learning environment that challenges the current tech worker, it is important that the learning environment: (1) is initiated by a group of companies; (2) captures the current state-of-the-art and vision and follows long-term developments; (3) can be used Just-In-Time and in-company by participating companies; (4) has short-term modules; (5) can be tailored to specific target groups; (6) uses tools, such as simulations, technology, or other equipment, that make it lifelike and recognizable (real) for people working in such organizations. Currently, such learning environments are being established in the Netherlands yet are still in their infancy. Nevertheless, these environments offer HR professionals and organizations a unique opportunity to bundle their strengths and learn from each other's best practices, which can lead to powerful learning environments that – because of the close collaboration with educational institutions – hopefully contribute towards the recruitment and education of enough new tech workers.

References

Corporaal, S., Riemsdijk, M. Van, Vuuren, T. Van, Kluijtmans, F., De Lat, M., & Morssink, T. (2015). Onweerstaanbaar worden voor de nieuwste generatie technici. *Tijdschrift Voor HRM*, 1–21.

Corporaal, S., Vos, M., Van Riemsdijk, M., & De Vries, S. (2018). Werken in de nieuwe industriële revolutie: Verwachtingen van

werkgevers in de techniek over de werknemer van de toekomst. *Tijdschrift voor HRM,* (2).

Frey, C. B., & Osborne, M. A. (2017). The future of employment: how susceptible are jobs to computerisation? *Technological Forecasting and Social Change*, *114*, 254-280.

Goos, M. (2013). *How the World of Work is Changing. A Review of the Evidence*. Geneva: International Labour Office Geneva.

Kang, H. S., Lee, J. Y., Choi, S., Kim, H., Park, J. H., Son, J. Y., ... & Do Noh, S. (2016). Smart manufacturing: Past research, present findings, and future directions. *International Journal of Precision Engineering and Manufacturing-Green Technology, 3*(1), 111-128.

Levy, F., & Murnane, R. (2005). *The new division of labor. How computers are creating the next job market*. New York: Russel Sage Foundation.

Ras, E., Wild, F., Stahl, C., & Baudet, A. (2017). Bridging the skills gap of workers in Industry 4.0 by Human Performance Augmentation Tools: Challenges and Roadmap. In *Proceedings of the 10th International Conference on PErvasive Technologies Related to Assistive Environments* (pp. 428-432). New York: ACM.

Scheele, D. (1999). *Arbeid en vaardigheid. Een literatuurstudie naar de veranderingen in arbeidsvaardigheden*. Rapportage voor de Wetenschappelijke Raad voor het Regeringsbeleid.

Smart Industry (2017). *Action Agenda Smart Industry*: Dutch Industry Fit for the Future. Retrieved March 30, 2018 from: http://smartindustry.nl/wp-content/uploads/2017/08/opmaak-smart-industry.pdf.

TechYourFuture (2016). *Ervaringen en wensen van jongeren in de techniek*. Enschede: TechYourFuture.

Ulrich, D., Younger, J., Brockbank, W., & Ulrich, M. (2012). HR talent and the new HR competencies. *Strategic HR Review*, *11*(4), pp. 217-222.

Usanov, A., & Chivot, E. (2013). *The European Labor Market and Technology: Employment, Inequality, and Productivity*. Retrieved March 30, 2018 from: https://www.hcss.nl/sites/default/files/files/reports/SC_The_European_labor_market_and_technology_employment,_inequality,_and_productivity.pdf.

Voogt, J., & Roblin, N. P. (2012). A comparative analysis of international frameworks for 21st century competencies: Implications for national curriculum policies. *Journal of Curriculum Studies*, *41*(3), 299-321.

Went, R., Kremer, M., & Knottnerus, A. (2015). *Mastering the Robot: The Future of Work in the Second Machine Age*. The Hague: WRR.

Wright, P. M., & Nishii, L. H. (2013). Strategic HRM and Organizational Behavior: Integrating Multiple Levels of Analysis. In D. E. Guest, J. Paauwe, & P. M. Wright (Eds.) (2012). *HRM and performance: Achievements and challenges* (97-110). Chichester: Wiley.

CHAPTER THREE

A MULTILEVEL ANALYSIS OF THE INFLUENCE OF HPWS ON EMPLOYEE WELL-BEING AND EFFICACY: STRENGTH OF THE HR STRATEGY AND LEADER-MEMBER EXCHANGE AS MODERATOR VARIABLES[1]

INMACULADA BELTRÁN-MARTÍN, JUAN CARLOS BOU-LLUSAR AND ALEJANDRO SALVADOR-GÓMEZ

Introduction

A great deal of empirical research in the field of human resource management (HRM) has examined the positive linkage between human resource (HR) systems, in particular high performance work systems (HPWS), and various measures of employee well-being and firm performance (Combs *et al.* 2006). However, Van de Voorde *et al.* (2012) highlight that many of these studies focus either on the relationships between HPWS and efficacy indicators, or on those between HPWS and well-being, and that little effort has been made to analyse the simultaneous effects of HPWS on both these outcomes. A simultaneous analysis may shed light on the contradictory arguments that have been proposed to explain the relationships between HPWS and both employee efficacy and well-being. On the one hand, from the conflicting outcomes perspective, employees managed through HPWS have to work harder and are under

greater pressure, so although HPWS may enhance firm performance they can also have a negative effect on employees' well-being (e.g. Peccei 2004). On the other hand, from the mutual gains perspective, HPWS may have positive effects on both the efficacy of the organisation and the well-being of its employees (Edgar *et al*. 2015). In our research we compare these a priori contradictory arguments by analysing the linkage between HPWS and two types of outcomes related to (a) employees' well-being (affective commitment, AC), and (b) their efficacy, based on their task performance (TP) and contextual performance (CP).

Prior studies analysing the influence of HPWS on employee well-being or efficacy have reached mixed conclusions about these relationships (Gardner *et al*. 2011; Innocenti *et al*. 2011; Jiang *et al*. 2012a; Beltrán-Martín and Bou-Llusar 2018). A review of these studies suggests that the effects of the different HPWS bundles on employee-related outcomes would be stronger when these bundles reinforce one another. That is, the synergy among the HPWS dimensions (i.e., inter-HR activity area fit) should also be taken into consideration to explain employee outcomes (Kepes and Delery 2007; Chadwick 2010). Among the different approaches to operationalise this synergy, several authors suggest that the dimensions of HPWS should not be considered as orthogonal, but as constituent parts of the whole HPWS (Arthur 1994; Delery and Doty 1996; Delery 1998; Jiang et al. 2012). The first purpose of our research is to examine the relationships between internally coherent HPWS and employee well-being and efficacy.

In addition, Jiang *et al*. (2013) argue that a more in-depth analysis of the relationship between HPWS and the employee variables requires consideration of the boundary conditions for the effects studied. These authors claim that the impact of HPWS on employee outcomes is likely to be affected by different contextual conditions. Specifically, following Ostroff and Bowen (2016), they recommend considering the social context in which the HPWS are implemented, since this context may determine HPWS efficacy. This leads to the second purpose of our study, namely, to examine the moderator role of the strength of the HR strategy and leader-member exchange (LMX) in the relationship between HPWS and employee well-being and efficacy (Bowen and Ostroff 2004). These two variables foster a shared employee perception of the situation, and they may therefore contribute to either strengthen or weaken the relationships between HPWS and employee outcomes (Bowen and Ostroff 2004).

Following Peccei *et al*.'s (2013) considerations about the highly context-specific nature of the effect of HR practices on employee well-being and efficacy, we provide evidence of the abovementioned

relationships in a sample of R&D departments of Spanish firms. We estimate a mediation model in which data on the relevant variables is collected from three different informants in each firm – HR managers, R&D managers and R&D employees – in two time periods. This research design reduces the risk of common method variance affecting the relationships analysed (Podsakoff *et al.* 2003). In this context, we adopt the collective (i.e. R&D department) as the unit of analysis. The term "collective" refers to an interdependent and goal-directed combination of individuals (the department in our study), with shared goals, embedded in an organisational context and interacting to perform interdependent tasks (Chan 1998; Gardner *et al.* 2011). Collective variables are of great interest in the HRM literature given their close relationship with organisational results. According to Pugh and Dietz (2008, 45), "performance at the unit level is often more of a barometer of success than the performance of individuals". Therefore, our position departs from much research analysing the relationships between HPWS and employee outcomes in which the individual (i.e., employee) is adopted as the unit of analysis.

The paper is structured as follows. In the first section, we present the general theoretical framework for our research and the definitions of the variables. We then analyse the influence of HPWS on the employee-related variables (well-being and efficacy). Next, we introduce the strength of the HR strategy and LMX as moderator variables in these relationships. After the theoretical review, we present our methodology and results, and finally, we discuss the main conclusions, implications and limitations of the research.

Theoretical Framework and Definitions

We adopt the mutual gains perspective (Van De Voorde *et al.* 2012; Peccei *et al.* 2013) to examine the relationships between HPWS and the employee-related variables. This perspective is based on the assumption that developing fully-fledged HPWS may have positive outcomes in terms of both employee well-being and efficacy. The theoretical model that guides our research is depicted in Figure 1. In this model, we also consider that the main relationships may be moderated by the strength of the HR system and by LMX.

Figure 1: Theoretical model
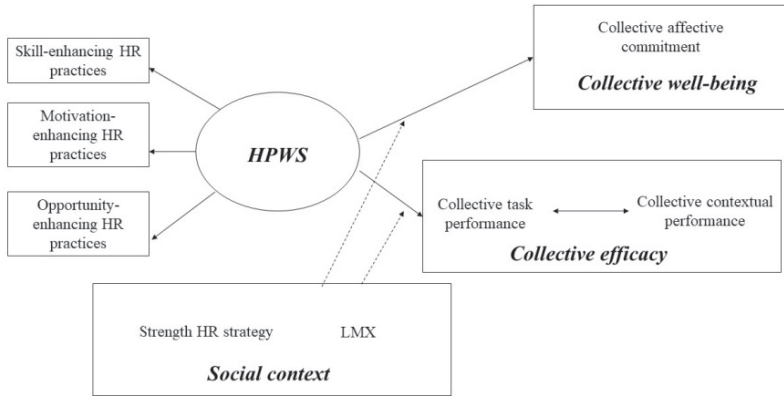
High performance work systems (HPWS) (independent variable) consist of an interconnected set of HR practices designed to promote workforce ability, motivation and opportunity (AMO) to perform behaviours consistent with organisational goals (Jiang *et al.* 2012a). According to the AMO model (Bailey *et al.* 2001), HPWS is made up of three interrelated HR bundles, namely skill-enhancing, motivation-enhancing and opportunity-enhancing HR practices. The set of skill-enhancing HR practices is designed to ensure that employees have a broad range of superior knowledge, skills and abilities (KSAs) (Way 2002). These practices include comprehensive recruitment, rigorous selection, and extensive training (Jiang *et al.* 2012a). The motivation-enhancing HR practices encourage the belief among employees that greater effort at work will lead to higher rewards (Jiang *et al.* 2012a). HR practices commonly classified within the motivation-enhancing domain are those related to incentives and rewards, extensive benefits, and career development (Subramony 2009). Finally, HPWS also include initiatives to give employees greater participation and control at work (Jiang *et al.* 2012a), such as employee participation in firm decision making, and the use of communication channels from the firm to its employees (opportunity-enhancing HR practices) (Subramony 2009; Gardner *et al.* 2011). The synergy or covariation among these three bundles is captured by a latent common HR policy that ties the HR bundles together (Wood and Albanese 1995).

As regards employee-related variables (our dependent variables), *employee well-being* is defined as the employees' affective commitment

(AC), which refers to their sense of integration in and belonging to the organisation (Peccei *et al*. 2013). It is one of the most widely used variables to measure employee well-being at work, particularly the happiness dimension of well-being[2] (Van De Voorde *et al.* 2012). Unlike other measures of employee happiness well-being used in the literature (e.g. job satisfaction), AC represents a broader conceptualisation of happiness well-being given that it is targeted at the organisation as a whole. Since our study focuses on the relationship at the department level of analysis, and given that commitment is a force that guides individuals towards a course of action that is relevant to the organisation (Meyer *et al*. 2006), we adopt AC as an appropriate variable to measure happiness well-being. At the unit level of analysis, collective well-being refers to the psychological state shared by a collective of individuals with regard to their common employer, which is manifested in feelings of loyalty and in a desire to invest mental and physical energy to help the organisation to achieve its goals (Gardner *et al*. 2011). In sum, collective well-being refers to aggregate positive affect and attachment to the organisation (Chun *et al.* 2013). We assume that collective well-being emerges out of the feelings shared by employees in a unit (department), so the resulting construct is functionally equivalent to the individual construct (Kozlowski and Klein 2000; Gardner *et al.* 2011). This functional isomorphism implies that the influence of the contextual factors, particularly HR practices, on individual well-being also appear at the aggregate (i.e., collective) level.

Regarding *employee efficacy*, previous research considers two dimensions: task performance and contextual performance. Task performance is related to meeting formal job requirements (Yu and Frenkel 2013). Following Borman and Motowidlo's (1993) definition, at the unit level of analysis task performance refers to the effectiveness with which the members of the unit, as a whole, perform activities that contribute to the unit's technical core, and achieve the unit's objectives and mission (Whitman *et al.* 2010). On the other hand, contextual performance refers to employees' behaviours that are discretionary, are not directly or explicitly recognised by the formal reward system, and that promote the effective functioning of the organisation (Organ 1988; Ehrhart 2004). At the unit level of analysis, contextual performance refers to the normative levels of CP performed in the unit (Organ 1988; Ehrhart 2004). The importance of CP lies largely in its manifestation at the collective level because that is where it has its strongest impact in the organisation

---

[2] Well-being has been defined in the literature as a multidimensional concept, made up of three dimensions, namely well-being as happiness, as health, and as relationships (Van De Voorde *et al*., 2012).

(Gong *et al.* 2010). In sum, both indicators of employee efficacy (TP and CP) are described as unit-level constructs that refer to the normative level of employee efficacy performed within the unit. Here, collective efficacy is not being considered as an exact equivalent to the average level of efficacy of the unit's employees, although it is tied to their performance. With collective efficacy, we refer to how the unit as a whole is perceived, that is, the standard mode of behaviour in the unit. Collective efficacy therefore differs in structure from the average individual-level efficacy because it captures interactive elements of the construct that are not included at the individual level of analysis (e.g. social interactions) (Morgeson and Hofmann 1999; Kozlowski and Klein 2000; Ehrhart 2004).

The social context variables (moderator variables) we consider are the strength of the HR strategy and LMX. The idea of the *strength of the HR strategy* draws on the notion of strong climates, defined as those situations in which employees share a common interpretation of what is important and what behaviours are expected from them. The strength of the HR strategy, as defined by Bowen and Ostroff (2004), comprises a set of features of the overall HR strategy (i.e., distinctiveness, consistency and consensus) that may lead to a strong climate situation and better employee well-being and efficacy. *Leader-member exchange* (LMX, Graen and Uhl-Bien 1995) is one of the most useful and frequently used approaches for studying the relationships between employees and supervisors and the impact that these relationships have on employee-related outcomes (Rosen *et al.* 2011). At the unit level of analysis, LMX reflects a psychological state shared among a set of individuals within a unit in terms of their relationships with their supervisors (Rosen *et al.* 2011).

In the following sections we present the theoretical arguments that sustain the relationships depicted in Figure 1. In so doing, we draw on a broad range of theoretical perspectives with the aim of providing strong arguments to support the relationships analysed (Peccei *et al*. 2013).

Testing the Mutual Gains Perspective

Following the premises of the mutual gains perspective, HPWS may have positive outcomes both in terms of employee well-being and efficacy. Peccei (2004) describes this perspective as the "optimistic perspective" because both employees and employers benefit from HPWS. Employees will benefit by feeling happier at work (i.e. higher affective commitment) and employers will benefit by having more productive workers (i.e. higher employee efficacy) (Van de Voorde *et al*. 2012).

Regarding the relationship between HPWS and employee well-being and according to self-determination theory (SDT) (Deci and Ryan 1985), HR practices that satisfy one or more of the employee's basic psychological needs (needs for autonomy, competence and relatedness) will contribute to higher AC (Gardner *et al.* 2011). HPWS contribute to satisfying these needs through skill-enhancing HR practices, since employees may interpret training investment as a signal that the organisation values their contributions, and therefore these practices help to satisfy their need for relatedness (Galunic and Anderson 2000). Skill-enhancing HR practices also raise feelings of competence in the workforce by increasing skill mastery, reducing role confusion and preparing employees for future promotions (Gardner *et al.* 2011). As regards motivation-enhancing HR practices, performance-based incentives and rewards satisfy employees' competence needs because they transmit signals of competence (Deci and Ryan 1985), and relatedness needs, because they encourage feelings of belonging to the group and the organisation (Tyler 1999). Finally, by allowing employees to participate in decisions and sharing information with them, opportunity-enhancing HR practices lead to a sense of identification with the firm, which contributes to feelings of relatedness and autonomy (Gardner *et al.* 2011).

As regards the relationship between HPWS and employee efficacy, HPWS lead to higher employee TP by enhancing the firm's human capital, that is, its employees' experience, education and skills. Regarding the skill-enhancing HR practices, an emphasis on rigorous and selective staffing processes is likely to contribute to a high level of collective human capital (Takeuchi *et al.* 2007), which corresponds to Youndt and Snell's (2004) idea of "acquiring" human capital. Furthermore, firms develop their human capital by providing training and feedback on employees' performance, thus enhancing the value and uniqueness of their collective human capital (Cabello-Medina *et al.* 2011). Firms can also improve their potential to attract and recruit the best and brightest individuals by providing their employees with competitive compensation and extensive benefits (motivation-enhancing HR practices) (Youndt and Snell 2004; Takeuchi *et al.* 2007). Moreover, when employees recognise that they are assessed and paid according to their contribution over time, they have an incentive to acquire knowledge that is more valuable to the company and more difficult for its competitors to imitate (Cabello-Medina *et al.* 2011). Finally, opportunity-enhancing HR practices are another way firms can develop their aggregate human capital by providing employees with opportunities to learn and develop their skills (Takeuchi *et al.* 2007). In sum, HPWS are expected to influence employees' productive potential by

increasing their levels of relevant knowledge and skills (Snell and Dean 1992), and raising the degree of perceived collective influence over decision making in their work.

HPWS may also increase employee CP. Several authors have drawn on social exchange theory (SET; Blau 1964) to argue that, through rigorous recruitment, selection and training activities (skill-enhancing HR practices), HPWS may signal to employees that the firm values them highly, and that they are considered important to its survival and success (Rhoades and Eisenberger 2002). Similarly, motivation-enhancing HR practices can increase employees' feelings that they are supported and valued by the firm (Snape and Redman 2010), while opportunity-enhancing HR practices may be regarded as recognition of their value to the organisation (Allen *et al.* 2003). Overall, shared perceptions of a supportive organisational environment motivate discretionary behaviours that contribute to organisational performance (Sun *et al.* 2007). If members of a unit perceive that the firm treats them fairly, and this perception is shared among the employees, they should interpret such treatment as representing a higher organisational support. In turn, this shared organisational support creates a feeling of obligation to repay the support they receive from the firm, based on the norm of reciprocity (Snape and Redman 2010). As Ehrhart (2004, 120) posits, employees managed through the same set of HPWS practices may develop a collective understanding of the exchange relationship with the firm and, thus, form shared behavioural responses to it. Social interactions among employees will result in similar responses to that perceived organisational support (POS), so the employees will be willing to reciprocate by showing higher levels of collective contextual performance (Witt 1991; Eisenberger *et al.* 2001; Erhhart 2004).

It is our view that knowledge about the relationships between HPWS and the employee-related variables can be advanced by considering the interrelationships between the three HR bundles. The idea of synergy emphasises the existence of interrelationships among the different components of a firm's HR strategy, and is linked to the ideas of horizontal fit, internal fit, complementarities or alignment (Chadwick 2010). In our study we adopt the virtuous overlap approach (Chadwick 2010), which rests on the assumption that HR bundles are mutually reinforcing, so that their conjoint effect is the primary determinant of the HR system's effectiveness. In terms of the conceptualisation of HPWS, and following Chadwick (2010), the virtuous overlap approach can be operationalised through the covariation among the three HR bundles (skill-, motivation- and opportunity-enhancing HR practices), so that the shared

or joint variance of the three HR bundles represents a latent common HR policy that ties the HR bundles together (Wood and Albanese 1995). From this perspective, an HR bundle may be more effective in stimulating the desired employee outcomes when the firm implements it in concert with other HR bundles (Ichniowski *et al.* 1997). Thus, the combined effect of the three HR bundles will contribute to enhancing the employee-related variables, as expressed in the following hypotheses:

> *Hypothesis 1: The combined effect of the skill-enhancing, motivation-enhancing and opportunity-enhancing HR practices will have a positive effect on collective well-being.*

> *Hypothesis 2: The combined effect of the skill-enhancing, motivation-enhancing and opportunity-enhancing HR practices will have a positive effect on collective efficacy.*

Social Context as a Contingent Variable

The contingency perspective holds that specific situational conditions may amplify or constrain the influence of HPWS on the outcomes of interest (e.g. Kim and Wright 2011). Specifically, Ostroff and Bowen (2016) suggested considering the social context in which the HPWS are implemented in order to better understand their contribution to the desired employee outcomes. With this aim, Bowen and Ostroff (2004) proposed the concept of the strength of the HR strategy, which refers to a set of features of the HR strategy that "send signals to employees that allow them to understand the desired and appropriate responses and form a collective sense of what is expected" (Bowen and Ostroff 2004: 204). By taking unit-level employee variables as our dependent variables, this theoretical framework is especially suitable to enhance understanding of the influence HWPS have on employee outcomes, since it emphasises the collective perceptions of employees. More recently, Ostroff and Bowen (2016) recommended analysing the role of leaders together with the strength of the HR strategy, given the key role that leaders play in the successful implementation of HR practices. Accordingly, in this section we analyse the moderating roles of HR strength and leader-member exchange (LMX) in the relationship between HPWS and employee well-being and efficacy.

The Moderating Role of the Strength of the HR Strategy

As Katou *et al.* (2014: 530) state, "only when perceptions are shared across employees, or when a *strong organizational* climate exists, is it

expected that employees will develop desired collective attitudes and behavior that will have a positive effect on organizational performance". Strong climates reduce levels of internal conflict and stress (Bliese and Halverson 1998); motivate employees to conform to the unit's norms and demands and put the general interest above their own (Sanders *et al.* 2008); and promote better communication among the unit's members, thus reducing the time spent on resolving conflicts in the unit (Lindell and Brandt 2000).

The relevance of the strength of the HR strategy also stems from its role in moderating the relationship between the HPWS and the employee outcomes (Katou *et al.* 2014). According to Bowen and Ostroff (2004), a strong HR strategy allows HR practices to generate a situation (a social structure) in which there is little ambiguity in the exchange between employees and employers, thus reinforcing the influence of the POS stemming from the use of HPWS practices on employee attachment to the organisation. In addition, it may also contribute to enhancing the influence of the HR systems on collective commitment by generating a sense of cohesiveness (Sanders *et al.* 2008) and belonging to the unit (Bliese and Britt 2001).

Finally, from attribution theory (Kelley 1967; Fiske and Taylor 1991), employees infer cause-effect attributions from HR practices in order to understand what behaviours are important and expected, a process that requires adequate and unambiguous information (Bowen and Ostroff 2004). The strength of the HR system is associated with how effectively HR systems communicate the strategic focus of the firm, providing clear expectactions about which behaviours are desirable and inducing conformity through social influence (Bowen and Ostroff 2004). Thus, strong HR strategies may increase the communicative power of the HR systems (Guzzo and Noonan 1994) to influence employee collective efficacy, by promoting collective responses that are consistent with organisational goals. For all these reasons, we expect that:

> *Hypothesis 3: The strength of the HR strategy will moderate the positive relationship between HPWS and collective well-being such that the relationship will be significantly stronger for strong HR stategies than for weak HR strategies.*

> *Hypothesis 4: The strength of the HR strategy will moderate the positive relationship between HPWS and collective efficacy such that the relationship will be significantly stronger for strong HR stategies than for weak HR strategies.*

The Moderating Role of LMX

In units with high-quality LMX, subordinates tend to receive more from their supervisors than in low-quality LMX units and as a result these employees experience more positive outcomes than those in a low-quality relationship with their supervisors. LMX helps to increase the quality of the relationships between the employees and the organisation, which creates obligations for employees to reciprocate the fair treatment they receive through positive attitudes and behaviours as a way of preserving the quality of the exchange relationship (Wang *et al.* 2005; Rosen *et al.* 2011). In addition, when leaders promote high-quality exchanges with employees, they can introduce a common interpretation among unit members (Naumann and Bennett 2000; Bowen and Ostroff 2004) and help clarify expectations and behaviour-outcome contingencies for employees (Ostroff and Bowen 2016), therefore contributing to employees' collective efficacy. At the group level, employees in units with high-quality LMX relationships are likely to exhibit positive attitudes and make efforts to contribute to the unit's efficacy (see Martin *et al.* 2016 for a recent meta-analysis).

During recent years, interest has emerged in the analysis of the interactions between LMX and the organisational context to explain employee outcomes (Erdogan *et al.* 2002; Piccolo *et al.* 2008). Supervisors are interpretative filters, since they help to implement the firm's goals and policies and communicate the characteristics of the work context to employees (Pereira and Gomes 2012). Following Ostroff and Bowen's (2016) suggestion, we apply uncertainty management theory (UMT, Lind and van den Bos 2002) to analyse the moderating role of LMX in the relationship between HPWS and the collective employee outcomes. UMT proposes that employees try to reduce uncertainty by searching for information from available sources, such as supervisors. When this source is not available (i.e. in low LMX relationships), employees turn to contextual information provided by the HR practices to reduce uncertainty about desired behaviours (Rosen *et al.* 2011). HR practices are one of the most important sets of communication mechanisms between the organisation and its employees (Tsui *et al.* 1997). Thus, in low LMX relationships, the information provided by HR practices is more salient and relevant to predict employee well-being and efficacy. These arguments can be summarised in the following hypotheses:

Hypothesis 5: Unit-level LMX will moderate the positive relationship between HPWS and collective well-being such that the relationship will be significantly stronger for low-LMX units than for high-LMX units.

> *Hypothesis 6: Unit-level LMX will moderate the positive relationship between HPWS and collective efficacy such that the relationship will be significantly stronger for for low-LMX units than for high-LMX units.*

Method

Sample and Data Collection Procedure

The fieldwork for this study was conducted on a sample of Spanish companies operating in different sectors, selected from the SABI Database (*Sistema de Análisis de Balances Ibéricos*). Company size was used to delimit the population of firms to those with 25 or more employees, in line with the literature that considers this as the minimum size necessary to identify companies with an explicit or formalised human resource strategy (Lepak and Snell 2002). Our study analyses variables at the unit level of analysis, in this case the companies' R&D departments. The linkages between HPWS, collective well-being and efficacy are thus analysed in the specific context of R&D employees. Employees in the R&D departments are professionals with highly specialised skills, whose experience and competence are key factors in developing new products and organisational success (Henan and McFadyen 2006).

Restricting the study to this area has several advantages. As HPWS refer only to one group of employees in the firm, the reliability of the HPWS measurement can be improved (Delery 1998). In addition, R&D employees are of great importance to company competitiveness in current environments, so managers are interested in improving these employees' well-being and efficacy.

Prior to sending out the questionnaires to the companies, we made initial contact with a random sample of companies either by telephone or email to confirm that they had an R&D department (this information is not available in the SABI Database). Firms without an R&D department were not considered further in the study. Data for our research came from three different sources in the firms with an R&D department. HR managers were contacted to measure the HPWS practices applied to the R&D employees and the strength of the HR strategy. Questionnaires addressed to the R&D employees included measures of employee well-being and LMX. Well-being and LMX data were then aggregated from the individual level to the unit level of analysis. Finally, data from the R&D manager were used to measure the collective efficacy of the R&D employees. The use of data obtained through multiple informants in each

firm allows researchers to avoid the risks implicit in common method variance that may appear when a single rater evaluates both the predictor and the criterion variables (Podsakoff *et al.* 2003).

Of the 350 firms invited to participate, the HR manager from 85 organisations provided answers on HPWS and strength of the HR system. The HR managers were informed about our research and we asked for permission to distribute the employee questionnaire to a randomly chosen sample of R&D employees in each firm. We assured all informants that participation was voluntary and that their responses would be treated confidentially and used only for academic purposes. The average number of staff in the R&D departments for our sample of companies was 13.48 employees. Resource limitations prevented us from surveying all R&D employees in each department, but we set a minimum of three employees to interview per firm. We obtained responses from 262 employees; the number of respondents per firm ranged between 3 and 6 employees. In a second wave of the study, five months later, we contacted the R&D managers of the 85 firms that had provided responses from the HR managers and the R&D employees and obtained responses from 83 R&D managers. As a result of matching, we obtained complete responses to all our variables from 83 firms. Fifty per cent of the firms were from the service sector (e.g. advertising and market research, computer programming and consultancy, etc.) and fifty per cent were industrial firms (e.g. manufacturers of machinery and equipment, metal products, rubber and plastic products, etc.)

Measures

HPWS were assessed using Gardner *et al.*'s (2011) scale. This scale describes HPWS as comprising a set of practices designed to increase employees' abilities, motivation and opportunity to participate. Respondents (HR managers) stated their level of agreement that the HR practices were used for the R&D employees in their firm (ranging from 1=strongly disagree to 7=strongly agree). We performed an exploratory factor analysis (EFA) and a confirmatory factor analysis (CFA) to test whether the proposed dimensionality of the HPWS corresponded to Gardner *et al.*'s (2011) original scale. The results of a CFA in which the three HR bundles were introduced as dimensions of a second-order factor representing the HPWS construct showed a good fit to the data (χ^2_{SB}=27.34; d.f.=22; p=0.20; BBNNFI=0.97; CFI=0.98; RMSEA=0.05), the loadings of the three subscales all being statistically significant (0.61, 0.50 and 0.73 for skill-enhancing, motivation-enhancing, and opportunity-

enhancing HR, respectively). This latent factor represents the internal fit among the HPWS dimensions and will be used to test hypotheses 1 and 2.

To develop a measure of the *strength of the HR strategy* (strength) we followed the proposal of Sanders *et al.* (2014) and Ostroff and Bowen (2016), who suggest asking the HR managers directly about the features of the strength of the HR system. This procedure has the advantage of obtaining a single, overall measure for each dimension of this strength (Bowen and Ostroff 2004). After revising the definition of the strength dimensions, we developed a 14-item scale in which the HR managers expressed their level of agreement (on a 7-point Likert scale) with the statements about the implementation of the HR practices in the firm. The EFA indicated that all the items loaded on a single factor, which is consistent with prior operationalisation of strength (Coelho *et al.* 2012). We estimated a CFA that included all the items as indicators of a higher-order factor corresponding to the strength of the HR strategy, which showed a good fit to the data (χ^2_{SB}=84.65; d.f.=61; p=0.02; BBNNFI=0.96; CFI=0.96; RMSEA=0.07). The loadings of all the items were statistically significant, ranging from 0.56 to 0.93, and the Cronbach's alpha of this scale was 0.94.

Employee well-being was measured using Allen and Meyer's (1990) scale of affective commitment. R&D employees assessed their individual AC on a 7-point Likert scale. The original scale included 8 items but attending to the factor loadings, item 8 of Allen and Meyer's scale was removed. The CFA of the remaining 7 items showed a good fit to the data (χ^2_{SB}=18.24; d.f.=14; p=0.20; BBNNFI=0.98; CFI=0.99; RMSEA=0.03), with a Cronbach's alpha of 0.86. Given that well-being was conceptualised at the unit-level, we performed several analyses to demonstrate reliability to aggregate the individual AC to the unit level of analysis. Specifically, we calculated a one-way analysis of variance (ANOVA), ICC (1) and r_{wg}. Results of these analyses revealed significant between-unit variance (F=2.45; p<0.0001). ICC(1) was 0.31 and the mean r_{wg} was 0.78. These results provide justification for aggregating employee well-being to the unit level.

R&D employees also assessed the LMX with their supervisors. For this purpose we used Dunegan *et al.*'s (1992) scale of LMX, which is composed of five items, assessed by the R&D employees on a 7-point Likert scale. The CFA including all the items as indicators of a single factor corresponding to LMX showed a good fit (χ^2_{SB}=3.58; d.f.=5; p=0.61; BBNNFI=1.00; CFI=1.00; RMSEA=0.00) with a Cronbach's alpha of 0.90. The results of the ANOVA indicate that for LMX there is also significant between-unit variance (F=3.51; p<0.0001). The values of

the ICC(1) (0.44) and the mean r_{wg} (0.77) also justified aggregating the individual LMX at the unit level.

Regarding collective efficacy, in line with our theoretical framework we included measures of task and contextual performance. As in previous studies (e.g. Gong *et al.* 2010; MacKenzie *et al.* 2011), we asked the R&D manager to rate the collective performance of the R&D employees as a whole (on a Likert scale ranging from 1=strongly disagree to 7=strongly agree). *Task performance* was measured using Van Dyne and LePine's (1998) 4-item scale. A CFA (χ^2_{SB}=2.68; d.f.=2; p=0.26; BBNNFI=0.97; CFI=0.99; RMSEA=0.07) supported the unidimensional scale, with a Cronbach's alpha of 0.88. We measured contextual performance with Van Dyne and Lepine's (1998) scale, which has also been used in some recent studies to measure collective contextual performance (MacKenzie *et al.* 2011). The CFA for this scale shows a good fit (χ^2_{SB}=18.09; d.f.=14; p=0.20; BBNNFI=0.94; CFI=0.96; RMSEA=0.06) with a Cronbach's alpha of 0.93.

The Appendix provides a detailed description of the measures used in our research.

Analytic Procedures

Structural equation modelling (SEM) methodology was applied to test the hypotheses. The statistical package EQS 6.3 (Bentler 2006) was used in the analysis. For hypotheses 1 and 2 the latent factor corresponding to HPWS was introduced as the predictor of well-being and the measures of efficacy (Model 1 in Table 1). A statistically significant structural parameter corresponding to the influence of this latent variable on the dependent variables indicates that the internal fit among the different HPWS is relevant to explain the employee-related outcomes. To test hypotheses 3 to 6 we introduced into the model the variables strength of the HR strategy and LMX as moderators in the relationship between HPWS and employee outcomes. In the first step, we estimated a path model in which we entered the three independent variables (HPWS, strength of the HR strategy and LMX) (Model 2 in Table 1) and in the second step, we also included the interaction terms between HPWS and strength and between HPWS and LMX (Model 3 in Table 1).

Table 1: Parameter estimates and standard errors (in brackets) of the models

	Model 1 Estimates (s.e.)	Model 2 Estimates (s.e.)	Model 3 Estimates (s.e.)
HPWS → Collective well-being	.541 (.14)***	.212 (.05)**	.196 (.05)**
HPWS → Collective efficacy (TP)	.114 (.12)	.210 (.11)	.201 (.10)
HPWS → Collective efficacy (CP)	.255 (.18)*	.186 (.13)	.186 (.11)
Strength → Collective well-being		.049 (.06)	.071 (.06)
Strength → Collective efficacy (TP)		-.096 (.09)	-.095 (.10)
Strength → Collective efficacy (CP)		.005 (.14)	-.025 (.13)
LMX → Collective well-being		.558 (.08)***	.488 (.09)***
LMX → Collective efficacy (TP)		-.212 (.10)**	-.261 (.11)**
LMX → Collective efficacy (CP)		-.183 (.18)	-.244 (.18)
HPWS* Strength → Collective well-being			.082 (.05)
HPWS* Strength → Collective efficacy (TP)			-.022 (.07)
HPWS* Strength → Collective efficacy (CP)			-.174 (.11)
HPWS*LMX → Collective well-being			-.227 (.07)**
HPWS*LMX → Collective efficacy (TP)			-.146 (.10)
HPWS*LMX → Collective efficacy (CP)			-.133 (.15)

Notes: Unstandardised coefficient estimates. Standard errors in brackets. *p<.10. **p<.05. ***p<.01

Results

In Model 1, we assess the combined effect of the complete set of HPWS practices on collective well-being and collective efficacy. Our results show that HPWS have a positive influence on collective well-being (0.541, $p<0.001$) and also on one of the indicators of collective efficacy (i.e. CP) at the 10% significance level (0.255, $p<0.1$). Overall, these results confirm hypothesis 1, but only partially support hypothesis 2.

To test the moderating effect of the strength of the HR strategy and LMX on the relationship between HPWS and the employee-related variables, we first estimate Model 2, which includes the direct effect of strength and LMX on the dependent variables. We find that LMX has a significant positive influence on collective well-being (0.558, $p<0.001$), but this effect is negative in the case of one of the measures of collective efficacy (i.e. task performance) (0.212, $p<0.05$). However, the strength of the HR strategy has no effect on any of the outcome variables.

Model 3 shows that the effect of the interaction term HPWS*LMX on collective well-being is negative and statistically significant (-0.227, $p<0.05$). This result indicates that the association between HPWS and collective well-being differs according to the level of LMX. The negative coefficient of the interaction term suggests that it becomes more positive at lower levels of LMX, which confirms hypothesis 5. The effect of this interaction term on the two indicators of collective efficacy is not statistically significant.

Discussion

The purpose of this paper was to examine the relationship between HPWS and employee well-being and efficacy. The results of our analyses show that the internal fit among the different HPWS dimensions has a positive effect on collective well-being and one of the measures of collective efficacy (i.e. contextual performance). As regards the moderating variables, in units with lower levels of LMX, the influence of HPWS on collective well-being is more positive than in units with higher levels of LMX.

Scholarly Implications

The internal fit among the different HPWS dimensions, operationalised through a latent factor in our models, uncovers significant relationships of HPWS with both employee well-being and one of the indicators of

collective efficacy (contextual performance). However, HPWS do not have a significant relationship with task performance as a measure of the collective efficacy of employees. Our study obtained mixed results as regards the controversy between the mutual gains and the conflicting outcomes perspectives. That is, when collective efficacy is considered as the extent to which the employees in the unit show high contextual performance, the mutual gains perspective comes to the fore, given that HPWS positively influence both well-being and efficacy. However, when we define collective efficacy as the R&D employees' task performance, the conflicting outcomes perspective emerges since HPWS contribute to higher employee well-being but they exert no influence on their efficacy (Peccei 2004). The measure of task performance could be refined in future studies, since according to Thamhain (2003), task performance in the R&D function should also take into account the transferability of the results into the marketplace. This would allow researchers to better examine whether the conflicting outcomes perspective makes sense in this context.

Regarding the moderator variables in the relationships between HPWS and employee outcomes, our results indicate that LMX moderates the relationship between HPWS and collective well-being according to the premises of uncertainty management theory. In low LMX contexts, the relevance of HPWS as a communication channel between the firm and its employees is stronger than in contexts characterised by high LMX relationships. Our results are consistent with prior studies, which highlighted the relevance of HR strategies as a communication channel between the firm and its employees in influencing the desired employee attitudes and behaviours (e.g. Nishii and Wright 2008).

Our estimation of the model with the moderating effect of LMX yielded an unexpected negative relationship between LMX and task performance. We consider that other moderator variables, not taken into account in the present study, may be required to explain this negative relationship. In this vein, prior studies suggest that LMX contributes to increase role clarity (Martin *et al*. 2016). In the context of R&D units, employees perform uncertain, non-standardised and creative tasks (Li *et al*. 2015), so the relevance of role clarity for these employees may not be as relevant. However, because this relevance may depend on the specific individuals, we suggest considering variables such as employees' internal locus of control (Kauppila 2014) or the dispersion in the quality of the relationships between the employees and the supervisors in a unit (Boies and Howell 2006) as moderator variables in the LMX and task performance linkage.

Contrary to what we expected, the strength of the HR system is not a significant moderator variable in the relationship between HPWS and the employee-related variables. These results support Ostroff and Bowen's (2004) suggestion that some of the factors that contribute to strong climates or shared perceptions among employees (e.g. LMX) may be substitutes for a strong HR strategy. We also observe that the strength of the HR system does not affect employee outcomes. In this regard, future studies should take into account the non-linear relationship in the influence that the strength of the HR strategy has on individual variables in order to gain a better understanding of the role of strength to increase employee well-being and efficacy. In this line, Pierce and Aguinis (2013) suggest that very strong HR strategies that lead to very high consensus among a group of employees could restrict the range of perspectives in the group, while very low consensus may lead to conflict, both of which could drive down unit performance outcomes.

Implications for Practice

Our results also have implications for management practice. Managers might wish to promote employee well-being and efficacy in light of their benefits to the organisation, as demonstrated in many studies. Our findings have implications for organisations' choice of HR practices. For our sample of companies and employees, we found that the joint effect of all the HPWS practices produces the same result. Therefore, managers wanting to increase their employees' commitment and helping behaviours should coherently implement the whole set of HPWS practices aimed at increasing employees' skills, motivation and opportunities to participate in the firm.

In addition, our analyses show that the communicative effectiveness of HR practices is dependent on the nature of the relationships between the employees and their supervisors. When these relationships are weak, HR practices are more useful in shaping employees' perception of organisational support, and consequently their commitment. Nonetheless, in companies that are not able to implement HPWS (e.g. small companies), leaders may play a key role in promoting employee well-being. Supervisors and firms should be aware of the relevance of these relationships and invest in training supervisors in order to improve the quality of the LMX relationships between them and their subordinates (Rosen et al. 2011) in cases in which HPWS cannot be effectively implemented.

Limitations and Future Research

Some limitations of this study should be noted. As our sample is restricted to the R&D departments of Spanish companies, the generalisability of our results to other types of organisations and employees might be limited. For this reason, we consider there is a need for future replication and extension of this research to other units or departments.

In addition, our independent variable (HPWS) was measured through managers' opinions about the nature of HR practices used in the firm. However, HR practices as designed by managers do not always correspond to employees' perceptions of such practices (Nishii and Wright 2008). Future studies should also measure HR practices based on employees' perceptions in order to analyse the extent to which employees experience what management intends in terms of HR practices, and what effect these employees' perceptions have on their well-being and efficacy.

References

Ahmad, S., and Schroeder, R.G. 2003. "The impact of human resource management practices on operational performance: recognizing country and industry differences". *Journal of Operational Management* 21: 19–43.

Allen, D. G., Shore, L. M., and Griffeth, R. W. 2003. "The role of perceived organizational support and supportive human resource practices in the turnover process". *Journal of Management* 29: 99–118.

Allen, N. J., and Meyer, J. P. 1990. "The measurement and antecedents of affective, continuance and normative commitment to the organization". *Journal of Occupational and Organizational Psychology* 63, no. 1: 1-18.

Armeli, S., Eisenberger, R., Fasolo, P., and Lynch, P. 1998. "Perceived organizational support and police performance: The moderating influence of socioemotional needs". *Journal of Applied Psychology*, 83: 288- 297.

Arthur, J.B. 1994. "Effects of human resource systems on manufacturing performance and turnover". *Academy of Management Journal* 37, no. 3: 670-687.

Bae, J., and Lawler, J.J. 2000. "Organizational and HRM strategies in Korea: Impact on firm performance in an emerging economy". *Academy of Management Journal*, 43: 502-517.

Bailey, T. 1993. "Discretionary effort and the organization of work: Employee participation and work reform since Hawthorne". Paper prepared at Golumbia University for the Sloan Foundation.

Bailey, T., Berg, P., and Sandy, C. 2001. "The effect of high performance work practices on employee earnings in the steel, apparel, and medical electronics and imaging industries". *Industrial and Labor Relations Review* 54: 525-543.

Barney, J. 1991. "Firm resources and sustained competitive advantage". *Journal of Management* 17: 99–120.

Bentler, P. M. 2006. *EQS structural equations program manual*. Encino, CA: Multivariate Software Inc.

Blau, M. P. 1964. *Exchange and Power in Social Life*. New York: Wiley.

Bliese, P. D., and Britt, T. W. 2001. "Social support, group consensus and stressor-strain relationships: Social context matters". *Journal of Organizational Behavior* 22: 425–436.

Bliese, P. D., and Halverson, R. R. 1998. "Group Consensus and Psychological Well-Being: A Large Field Study". *Journal of Applied Social Psychology* 28, no.7: 563-580.

Boies, K., and Howell, J. M. 2006. "Leader–member exchange in teams: An examination of the interaction between relationship differentiation and mean LMX in explaining team-level outcomes". *The Leadership Quarterly* 17, no.3: 246-257.

Borman, W.C., and Motowidlo, S.J. 1993. Expanding the criterion domain to include elements of contextual performance. In Schmidt N, Borman WC, Howard A, Kraut A, Ilgen D, Schneider B, Zedeck S (Eds.), *Personnel selection in organizations* (pp. 71–98). San Francisco: Jossey-Bass.

Bowen, D. E., and Ostroff, C. 2004. "Understanding HRM–firm performance linkages: The role of the "strength" of the HRM system". *Academy of Management Review* 29, no. 2: 203-221.

Cabello-Medina, C., López-Cabrales, Á., and Valle-Cabrera, R. 2011. "Leveraging the innovative performance of human capital through HRM and social capital in Spanish firms". *The International Journal of Human Resource Management* 22, no. 4: 807-828.

Chadwick, C. 2010. "Theoretic insights on the nature of performance synergies in human resource systems: Toward greater precision". *Human Resource Management Review* 20, no. 2: 85-101.

Chan, D. 1998. "Functional relations among constructs in the same content domain at different levels of analysis: A typology of composition models". *Journal of Applied Psychology* 83, no. 2: 234-246.

Chun, J. S., Shin, Y., Choi, J. N., and Kim, M. S. 2013. "How does corporate ethics contribute to firm financial performance? The mediating role of collective organizational commitment and organizational citizenship behaviour". *Journal of Management* 39, no. 4: 853-877.

Coelho, J. P., Cunha, R. C., Gomes, J. F. S., and Correia, A. G. 2012. "Developing and validating a measure of the strength of the HRM system: Operationalizing the construct and relationships among its dimensions". Working paper No. 0562, Nova School of Business and Economics, Lisbon.

Combs, J., Liu, Y., Hall, A., and Ketchen, D. 2006. "How much do high performance work practices matter? A meta analysis of their effects on organizational performance". *Personnel psychology* 59, no. 3: 501-528.

Cropanzano, R., and Mitchell, M. S. 2005. "Social exchange theory: An interdisciplinary review". *Journal of Management* 31, no. 6: 874-900.

Cropanzano, R., Howes, J. C., Grandey, A. A., and Toth, P. 1997. "The relationship of organizational politics and support to work behaviors, attitudes, and stress". *Journal of Organizational Behavior* 18: 159-180.

Deci, E., and Ryan, R.M. 1985. *Intrinsic motivation and self-determination in human behavior*. New York, NY: Plenum.

Deci, E. L., and Ryan, R. M. 2000. "The "what" and "why" of goal pursuits: Human needs and the self-determination of behaviour". *Psychological Inquiry* 11: 227-268.

DeJoy, D.M., Wilson, M.G., Vandenberg, R.J., McGrath- Higgins, A.L., and Griffin-Blake, C.S. 2010. "Assessing the impact of health work organization intervention". *Journal of Occupational and Organizational Psychology* 83: 139–165.

Delery, E.J., and Doty, D.H. 1996. "Modes of theorizing in strategic human resource management: tests of universalistic, contingency, and configurational performance predictions". *Academy of Management Journal* 39, no. 4: 802-835.

Delery, J.E. 1998. "Issues of fit in strategic human resource management: implications for research". *Human Resource Management Review* 8, no.3: 289-309.

Dunegan, K. J., Duchon, D., and Uhl-Bien, M. 1992. "Examining the link between leader member exchange and subordinate performance: The role of task analyzability and variety as moderators". *Journal of Management* 18, no. 1: 59-76.

Edgar, F., Geare, A., Zhang, J. A., and McAndrew, I. 2015. "Mutual gains or conflicting outcomes? How HRM benefits professionals". *International Journal of Manpower* 36, vol. 8: 1248-1265.

Ehrhart, M. G. 2004. "Leadership and procedural justice climate as antecedents of unit level organizational citizenship behaviour". *Personnel Psychology* 57, no.1: 61-94.

Eisenberger, R., Armeli, S., Rexwinkel, B., Lynch, P. D., and Rhoades, L. 2001. "Reciprocation of perceived organizational support". *Journal of Applied Psychology* 86, no.1: 42-51.

Erdogan, B., Kraimer, M. L., and Liden, R. C. 2002. "Person – organization fit and work attitudes: The moderating role of leader – member exchange". *Academy of Management Proceedings* (pp. F1 – F6).

Fiske, S. T., and Taylor, S. E. 1991. *Social cognition*. New York: McGraw-Hill.

Galunic, D.C., and Anderson, E. 2000. "From security to mobility: Generalized investments in human capital and agent commitment". *Organization Science* 11: 1–20.

Gardner, T.M., Wright, P.M., and Moynihan, L.M. 2011. "The impact of motivation, empowerment, and skill-enhancing practices on aggregate voluntary turnover: The mediating effect of collective affective commitment". *Personnel Psychology* 64: 315-350.

Gong, Y., Chang, S., and Cheung, S. Y. 2010. "High performance work system and collective OCB: A collective social exchange perspective". *Human Resource Management Journal* 20, no.2: 119-137.

Gong, Y., Law, K. S., Chang, S., and Xin, K. R. 2009. "Human resources management and firm performance: the differential role of managerial affective and continuance commitment". *Journal of Applied Psychology* 94: 263–75.

Graen, G. B., and Uhl-Bien, M. 1995. "Relationship-based approach to leadership: Development of leader–member exchange (LMX) theory of leadership over 25 years: Applying a multi-level multi-domain perspective". *Leadership Quarterly* 6: 219-247.

Guzzo, R.A., and Noonan, K.A. 1994. "Human resources practices as communications and the psychological contract". *Human Resource Management* 33: 447-62.

Henard, D.H., and McFadyen, M.A. 2006. "R&D Knowledge is Power". *Research Technology Management* 49, no.3: 41–47.

Ichniowski, C., Shaw, K., and Prennushi, G. 1997. "The effects of human resource management practices on productivity: A study of steel finishing lines". *The American Economic Review* 87, no.3: 291-313.

Jiang, K., Lepak, D. P., Hu, J., and Baer, J. C. 2012. "How does human resource management influence organizational outcomes? A meta-analytic investigation of mediating mechanisms". Academy of management Journal 55, no.6: 1264-1294.

Jiang, K., Takeuchi, R., and Lepak, D.P. 2013. "Where do we go from here? New perspectives on the black box in strategic human resource management research". *Journal of Management Studies* 50, no.8: 1448-1480.

Katou, A. A., Budhwar, P. S., and Patel, C. 2014. "Content vs. process in the HRM performance relationship: An empirical examination". *Human Resource Management* 53, no.4: 527-544.

Kauppila, O.P. 2014. "So, what am I supposed to do? A multilevel examination of role clarity". *Journal of Management Studies* 51, no.5: 737-763.

Kelley, H. H. 1967. "Attribution theory in social psychology". In D. Levine (Ed.), *Nebraska symposium on motivation*: 192– 240. Lincoln: University of Nebraska Press.

Kim, S., and Wright, P. M. 2011. "Putting strategic human resource management in context: A contextualized model of high commitment work systems and its implications in China". *Management and Organization Review* 7:153–174.

Kozlowski S.W.J., and Klein K. 2000. "A multilevel approach to theory and research on organizations: Contextual, temporal, and emergent processes". In Klein KJ, Kozlowski SWJ (Eds.), *Multilevel theory, research, and methods in organizations* (pp. 3–90). San Francisco, CA: Jossey-Bass.

Lepak, D.P., and Snell, S.A. 2002. "Examining the human resource architecture: the relationships among human capital, employment, and human resource configurations". *Journal of Management* 28, no.4: 517-543.

Li, Y., Wei, F., Ren, S., and Di, Y. 2015. "Locus of control, psychological empowerment and intrinsic motivation relation to performance". *Journal of Managerial Psychology* 30, no.4: 422-438.

Lind, E. A., and van den Bos, K. 2002. "When fairness works: Toward a general theory of uncertainty management". *Research in Organizational Behavior* 24: 181-223.

Lindell, M. K., and Brandt, C. J. 2000. "Climate quality and climate consensus as mediators of the relationship between organizational antecedents and outcomes". *Journal of Applied Psychology* 85, no.3: 331-348.

MacKenzie, S. B., Podsakoff, P. M., and Podsakoff, N. P. 2011. "Challenge-oriented organizational citizenship behaviors and organizational effectiveness: Do challenge-oriented behaviors really have an impact on the organization's bottom line?" *Personnel Psychology* 64, no.3: 559-592.

Martin, R., Guillaume, Y., Thomas, G., Lee, A., and Epitropaki, O. 2016. "Leader–Member exchange (LMX) and performance: A Meta Analytic review". *Personnel Psychology* 69, no.1: 67-121.

Meyer, J. P., Becker, T. E., and Vandenberghe, C. 2004. "Employee commitment and motivation: a conceptual analysis and integrative model". *Journal of Applied Psychology* 89, no.6: 991-1007.

Morgeson, F. P., and Hofmann, D. A. 1999. "The structure and function of collective constructs: Implications for multilevel research and theory development". *Academy of Management Review* 24, no.2: 249-265.

Naumann, S. E., and Bennett, N. 2000. "A case for procedural justice climate: Development and test of a multilevel model". *Academy of Management Journal* 43: 881–889.

Nishii, L. H., and Wright, P. M. 2008. "Variability within organizations: implications for strategic human resources management". In Smith, D. B. (Ed.), *The People Make the Place: Dynamic Linkages between Individuals and Organizations*. New York: Lawrence Erlbaum Associates, 225–48.

Organ, D. W. 1988. *Organizational citizenship behavior: The good soldier syndrome*. Lexington Books/DC Heath and Com.

Organ, D. W., Podsakoff, P. M., and MacKenzie, S. B. 2006. *Organizational Citizenship Behavior: Its Nature,Antecedents, and Consequences*. Thousand Oaks, CA: Sage.

Ostroff, C., and Bowen, D. E. 2016. "Reflections on the 2014 decade award: Is there strength in the construct of HR system strength?" *Academy of Management Review* 41, no.2: 196-214.

Peccei, R. 2004. "Human Resource Management and the Search for the Happy Workplace". Inaugural Address. Rotterdam: Erasmus Research Institute of Management.

Pereira, C. M., and Gomes, J. F. 2012. "The strength of human resource practices and transformational leadership: impact on organisational performance". *The International Journal of Human Resource Management* 23, no.20: 4301-4318.

Piccolo, R. F., Bardes, M., Mayer, D. M., and Judge, T. A. 2008. "Does high quality leader–member exchange accentuate the effects of organizational justice?" *European Journal of Work and Organizational Psychology* 17, no.2: 273-298.

Pierce, J. R., and Aguinis, H. 2013. "The too-much-of-a-good-thing effect in management". *Journal of Management* 39, no.2: 313-338.

Ployhart, R. E., and Moliterno, T. P. 2011. "Emergence of the human capital resource: A multilevel model". *Academy of Management Review* 36, no.1: 127-150.

Podsakoff, P. M., Mackenzie, S. B., Paine, J., and Bacharach, D. 2000. "Organizational citizenship behaviors: a critical review of the theoretical and empirical literature and suggestions for future research". *Journal of Management* 26: 513–63.

Podsakoff, P. M., S. B. MacKenzie, J. Y. Lee, and N. P. Podsakoff 2003. "Common Method Biases in Behavioral Research: A Critical Review of the Literature and Recommended Remedies", *Journal of Applied Psychology* 88: 879-903.

Pugh, S. D., and Dietz, J. 2008. "Employee engagement at the organizational level of analysis". *Industrial and Organizational Psychology* 1, no.1: 44-47.

Randall, M. L., Cropanzano, R., Bormann, C. A, and Birjulin, A. 1999. "Organizational politics and organizational support as predictors of work attitudes, job performance, and organizational citizenship behaviour". *Journal of Organizational Behavior* 20: 159-174.

Rhoades, L., and Eisenberger, R. 2002. "Perceived organizational support: a review of the literature". *Journal of Applied Psychology* 87: 698–714.

Roca-Puig, V., Beltrán-Martín, I., Escrig-Tena, A. B., and Carlos Bou-Llusar, J. 2007. "Organizational commitment to employees and organizational performance: A simultaneous test of configurative and universalistic propositions". *Personnel Review* 36, no.6: 867-886.

Rosen, C. C., Harris, K. J., and Kacmar, K. M. 2011. "LMX, context perceptions, and performance: An uncertainty management perspective". *Journal of Management* 37, no.3: 819-838.

Sanders, K., Dorenbosch, L., and de Reuver, R. 2008. "The impact of individual and shared employee perceptions of HRM on affective commitment: Considering climate strength". *Personnel Review* 37, no.4: 412-425.

Sanders, K., Shipton, H., and Gomes, J. F. 2014. "Guest editors' introduction: Is the HRM process important? Past, current, and future challenges". *Human Resource Management* 53, no.4: 489-503.

Snape, E., and Redman, T. 2010. "HRM practices, organizational citizenship behaviour, and performance: A multi level analysis". *Journal of Management Studies* 47, no7: 1219-1247.

Snell, S. A., and Dean, J. W. 1992. "Integrated manufacturing and human resource management: A human capital perspective". *Academy of Management Journal* 35, no.3: 467-504.

Subramony, M. 2009. "A meta-analytic investigation of the relationship between HRM bundles and firm performance". *Human Resource Management* 48: 745-768.

Sun, L., Aryee, S., and Law, K. S. 2007. "High-performance human resource practices, citizenship behavior, and organizational performance: a relational perspective". *Academy of Management Journal* 50: 558–77.

Takeuchi, R., Chen, G., and Lepak, D. P. 2009. "Through the looking glass of a social system: cross-level effects of high performance work systems on employees' attitudes". *Personnel Psychology* 62: 1–29.

Takeuchi, R., Lepak, D. P., Wang, H., and Takeuchi, K. 2007. "An empirical examination of the mechanisms mediating between high-performance work systems and the performance of Japanese organizations". *Journal of Applied Psychology* 92, no.4: 1069-1083.

Thamhain, H. J. 2003. "Managing innovative R&D teams". *R&D Management* 33, no.3: 297-311.

Tsui, A.S., Pearce, J.L., Porter, L.W., and Tripoli, A.M. 1997. "Alternative Approaches to Employee–Organization Relationship: Does Investment in Employees Pay Off?" *Academy of Management Journal*, 40: 1089–1121.

Tyler, T.R. 1999. "Why people cooperate with organizations: An identity-based perspective". *Research in Organizational Behavior* 21: 201–246.

Van De Voorde, K., Paauwe, J., and Van Veldhoven, M. 2012. "Employee well being and the HRM–organizational performance relationship: a review of quantitative studies". *International Journal of Management Reviews* 14, no.4: 391-407.

Van Dyne, L., and LePine, J. A. 1998. "Helping and voice extra-role behaviors: Evidence of construct and predictive validity". *Academy of Management Journal* 41, no.1: 108-119.

Wang, H., Law, K. S., Hackett, R. D., Wang, D., and Chen, Z. X. 2005. "Leader-member exchange as a mediator of the relationship between transformational leadership and followers' performance and organizational citizenship behaviour". *Academy of Management Journal* 48, no.3: 420-432.

Way, S. A. 2002. "High performance work systems and intermediate indicators of firm performance within the U.S. small business sector". *Journal of Management* 28: 765–85.

Wayne, S. J., Shore, L. M., and Liden, R. C. 1997. "Perceived organizational support and leader-member exchange: A social exchange perspective". *Academy of Management Journal* 40: 82-111.

Whitman, D. S., Van Rooy, D. L., and Viswesvaran, C. 2010. "Satisfaction, citizenship behaviors, and performance in work units: A meta analysis of collective construct relations". *Personnel psychology* 63, no.1: 41-81.

Witt, L. A. 1991. "Exchange ideology as a moderator of job attitudes - organizational citizenship behaviors relationships". *Journal of Applied Social Psychology* 21: 1490-1501.

Wood, S., and Albanese, M.T. 1995. "Can we speak of a high commitment management on the shop floor?" *Journal of Management Studies* 32, no.2: 215-247.

Youndt, M. A., and Snell, S. A. 2004. "Human resource configurations, intellectual capital, and organizational performance". *Journal of Managerial Issues* 16, no.3: 337-360.

Yu, C., and Frenkel, S. J. 2013. "Explaining task performance and creativity from perceived organizational support theory: Which mechanisms are more important?" *Journal of Organizational Behavior* 34, no.8: 1165-1181.

Appendix

Independent variable
High Performance Work System scale (rater: HR manager)
Please indicate the extent to which the following HR practices are used in this company for R&D employees, where 1= completely disagree; 7= completely agree with the statements:

1. Applicants undergo structured interviews (job-related questions, same questions asked of all applicants, rating scales) before being hired
2. Applicants take formal tests (paper and pencil or work sample) before being hired
3. The results of the performance evaluation process are used to determine employees' training needs
4. Employees can have their tuition fees reimbursed on completion of college classes
5. On average, how many hours of formal training do employees receive each year?
6. Employees in this job regularly (at least once a year) receive a formal evaluation of their performance

7. Pay rises for employees in this job are based on job performance
8. Employees have the opportunity to earn individual bonuses (or commissions) for productivity, performance, or other individual-performance outcomes
9. Employees have the opportunity to earn group bonuses (or commissions) for productivity, performance, or other individual-performance outcomes
10. Employees have the opportunity to earn company-wide bonuses (or commissions) for productivity, performance, or other individual-performance outcomes
11. Qualified employees have the opportunity to be promoted to positions of greater pay and/or responsibility within the company
12. Employees have a reasonable and fair complaint process
13. Employees are involved in formal participation processes such as quality-improvement groups, problem-solving groups, roundtable discussions, or suggestion systems
14. Employees communicate with people in other departments to solve problems and meet deadlines
15. Employees frequently receive formal company communication regarding company goals (objectives, actions, and so on)
16. Employees frequently receive formal company communication regarding operating performance (productivity, quality, customer satisfaction, and so on)
17. Employees frequently receive formal company communication regarding financial performance (profitability, stock price, and so on)
18. Employees frequently receive formal company communication regarding competitive performance (market share, competitor strategies, and so on)

Dependent variables
Employee well-being scale (rater: R&D employees)
Please indicate your agreement or disagreement with the following statements referring to your relationship with this organisation, where 1= completely disagree; 7= completely agree with the statements:
1. I would be very happy to spend the rest of my career within this organisation
2. I enjoy discussing my organisation with people outside it
3. I really feel as if this organisation's problems are my own
4. I feel "part of the family" at my organisation
5. I feel "emotionally attached" to this organisation

6. This organisation has a great deal of personal meaning for me
7. I feel a strong sense of belonging to my organisation
8. I think I could easily become as attached to another organisation as I am to this one (R)

Employee efficacy scales (rater: R&D manager)
Task performance scale
Please assess the efficacy of the R&D employees as a whole, where 1= completely disagree; 7= completely agree with the statements:
1. R&D employees in this firm fulfill the responsibilities specified in their job descriptions
2. R&D employees in this firm perform the tasks that are expected as part of their job
3. R&D employees in this firm meet performance expectations
4. R&D employees in this firm fulfill their responsibilities adequately

Contextual performance scale
Please assess the efficacy of the R&D employees as a whole, where 1= completely disagree; 7= completely agree with the statements:
1. R&D employees in this firm volunteer to do things for the R&D department
2. R&D employees in this firm help orient new employees
3. R&D employees in this firm attend functions that help the R&D department
4. R&D employees in this firm assist others with their work for the benefit of the R&D department
5. R&D employees in this firm get involved to benefit the R&D group
6. R&D employees in this firm help others in the R&D department learn about the work
7. R&D employees in this firm help others in the R&D department with their work responsibilities

Moderator variables
Strength of the HR strategy scale (rater: HR manager)
Please indicate your agreement or disagreement with the following statements referring to the implementation of the HR practices, where 1= completely disagree; 7= completely agree:
1. The HR practices described in the previous section are used in this firm for the majority of employees
2. This firm regularly informs employees about the initiatives of the HR department

3. This firm tries to enhance the understandability of the HR practices for employees by reducing their ambiguity (i.e. clear and transparent HR practices)
4. The HR department is seen as having high status and credibility in this firm
5. The HR department has significant and visible top management support in this firm
6. The HR practices in this firm allow employees to achieve their goals
7. This firm has appropriate incentives associated with performance of the behaviours desired from employees
8. The HR practices significantly contribute to the achievement of organisational goals
9. The HR practices make a significant contribution to achieving the desired employee skills and behaviours
10. The HR practices allow the employees to perceive the firm's actual goals and values
11. The HR practices applied in this firm are stable over time
12. The principal decision makers in this firm (top management, HR executives) share the same vision of the content of the HR practices
13. The employees perceive the HR practices in this firm as fair
14. The employees in this firm have the opportunity to express their opinion on the HR practices

Leader-member exchange scale (rater: R&D employees)
Please indicate your agreement or disagreement with the following statements referring to your relationship with your immediate supervisor, where 1= completely disagree; 7= completely agree with the statements:
1. I can count on my supervisor to help me when I need it
2. My supervisor is willing to use his/her authority to help me solve problems
3. Me and my supervisor work well together
4. I give suggestions to my supervisor about improving the work
5. My supervisor recognises my potential

CHAPTER FOUR

THE MBA AND REPORTED CAREER SUCCESS: A STUDY OF THE DIFFERENCES REPORTED BY GENDER

ELIZABETH HOULDSWORTH, RICHARD MCBAIN AND CHRIS BREWSTER

Introduction

The President of the World Bank, Jim Yong Kim, who became the first UN 'HeforShe' Thematic Champion of an international financial institution, points to the fact that women's economic opportunities lag those of men in every country in the world, at a cost to individuals, families, communities and economies (The World Bank, 2017). In corporate life, initiatives such as gender pay reporting are increasing the drive to ensure women are supported and rewarded in their careers but an Institute for Fiscal Studies report in the UK found that average earnings for female graduates 5 years after completing their degree are substantially lower than those for their male classmates (BBC Website June 14 2018). The focus of this chapter is upon one group of women, those who have completed an MBA. This study considers factors relating to career success post-MBA and includes career capital along with measures of both objective and subjective career success, comparing female alumni to their male counterparts and explores the extent to which their reported career outcomes post-MBA are similar to or different from those reported by their male counterparts. The chapter takes the following form: first we examine the literature on management education and the MBA, and on the associated gender issue and develop hypotheses about the differential position of men and women in relation to the career capital implications of the MBA and the subjective and objective outcomes. Then we present our

methodology for exploring these issues, present our findings and discuss the implications for research and practice.

Male and Female Managers and Graduate Education

Women are still disadvantaged in their careers relative to men (Schweitzer, Ng, Lyons & Kuron, 2011). They suffer from adverse wage gaps (Fortin & Huberman, 2002); receive smaller wage increases (Beach, Finnie & Gray, 2003); and have fewer promotions (Yap & Konrad, 2009). Lyness and Thompson (2000) highlight the fact that female managers have to perform better than male colleagues to prove themselves and are less likely to be promoted than their equally qualified male counterparts.

Graduate management education seeks to enhance the likelihood that graduates will be effective leaders, managers, or professionals (Passarelli, Boyatzis & Wei, pg 56 2018), though our study is set against the backdrop of commentators such as Pfeffer and Fong (2002: 80) who concluded that "there is little evidence that mastery of the knowledge acquired in business schools enhances people's careers, or that even attaining the MBA credential itself has much effect on graduates' salaries or career attainment". Despite this and recessionary conditions in recent years GMAC notes that more programmes reported growing application volumes for the 2016–2017 class year than reported declining volumes. (GMAC 2016). Wallen, Morris, Devine and Lu (2017) describe how over the past century, schools of business have become institutionalised at the world's major universities. Many students complete MBAs for career reasons. These are important for the Schools too, as emphasised by the MBA rankings. MBA rankings criteria include the career progress of alumni, the international focus of the programme, and the ideas generation (research capabilities) of the school (Bradshaw, 2007).

For women it could be argued that the completion of an MBA may be particularly beneficial, serving to put them on the same footing as their male counterparts and helping them overcome the barriers to their careers. Prior research is equivocal. Certainly, many see the MBA qualification as a prerequisite for senior posts (Baruch & Peiperl, 2000) and for many women it is seen as a way of breaking through the 'glass ceiling' (Burke, 1994; Leeming & Baruch, 1998). Thus the MBA is perceived by many women as a worthwhile investment, despite the criticisms outlined by Simpson (2006) who described the 'masculinisation' of the MBA in terms of both the focus it places on analytical and 'hard' skills (in place of what are traditionally construed as more 'feminine' skills relating to personal and interpersonal development) and points to the masculine nature of

management education overall.   A report in 2006 found that, despite the
fact that women's MBA graduation rates increased tenfold from 1970 to
2006, female MBAs lag behind their male counterparts in almost every
area, from pay to long-term advancement (Roth, 2006). However, Chen,
Doherty and Vinnicombe (2012) argue that to better understand female
career development it is important to focus on a wider conception of career
success than that captured in the external and objective measures of salary
and promotions. Referencing Feldman and Ng, (2007) and Sturges et al.
(2003) they call for the inclusion of subjective indicators of career success,
and we have responded to that here: we consider both the concept of new
careers (DeFillipi & Arthur, 1994: Inkson & Arthur, 2001) as well as
objective and subjective career success.

Career Capital

The focus of this chapter is to consider the extent to which completion
of an MBA provides a means for women to take ownership of and advance
their careers, so we adopt the concept of new careers (Arthur, Inkson &
Pringle 1999) which prioritises individual workers' interests over
organisations' interests through 'career self-management' (King, 2004).
Arguably, the MBA is a classic example of an individual investing in and
seeking to take ownership of her or his own career. Career capital has been
defined as the collection of previous work experiences, achievements,
knowledge and personal qualities, as well as potential. Thus, Inkson and
Arthur (2001: 50) suggest that "as we move from job to job, we do not
start each time from scratch… our careers serve as 'repositories of
knowledge'". The concept of new careers (DeFillipi & Arthur, 1994;
Inkson & Arthur, 2001) considers the development of the 'knowing why',
'knowing how' and 'knowing whom' elements of career capital and we
measure perceptions of career capital increase for each of the three types
of career capital as an indicator of career outcome:

- *Knowing why* concerns the individual's sense of purpose,
  associated with motivational energy and the confidence to follow
  an envisaged career (DeFillippi & Arthur, 1994). It includes the
  values, meanings and interests that determine how a person's career
  develops (Jones & Lichtenstein, 2000) and links with career clarity,
  satisfaction and confidence (Sturges, Simpson & Altman, 2003), as
  well as performance, through increased commitment. Noting the
  emphasis typically given to personal development on MBA

programmes, we might expect to see this being an area of reported increase.

- ***Knowing how*** refers to career-relevant skills, knowledge and abilities that accrue over time and that individuals can use throughout their working lives (Inkson & Arthur, 2001). They include soft skills such as people management and team-working skills, as well as harder skills such as technical competence in strategic planning and marketing techniques (Sturges, et al, 2003). It might be expected that an MBA would make a considerable contribution to the know-how of its students, given its broad ranging wide of disciplines.

- ***Knowing whom*** refers to the individual's intra- and extra-organisational networks, individual reputations, mutual obligations and information sources (Parker, Khapova & Arthur, 2009). The development of such social capital is one of the declared objectives of many MBA programmes.

Chen et al (2012) and Sturges et al (2003) are amongst a limited number of authors to consider gender differences post MBA in terms of the reported development of career capital. Career development literature points to the fact that organisation-specific knowledge and skills (which link to knowing how) are required for organisational success (Sullivan, Carden & Martin, 1998). At managerial levels individuals are valued for their broad functional knowledge and skills and for their ability to adapt to changing work conditions (McCall, 1998). Metz and Tharenou (2001) tested the hypothesis that human capital around knowledge and skills are more important to women in the earlier stages of their career with social capital (linked to knowing whom) becoming more important for senior roles. In fact, their results showed that human capital comprising both education and training and development is a key facilitator for female advancement at all levels. This serves to highlight how important women find what Adler and Izraeli (1994) describe as 'credentials'. It seems reasonable to assume that the MBA content and knowledge element of the MBA will serve as a key learning outcome for female graduate as they build their future careers.

At the same time, it is important to note that as MBA programmes typically invest heavily in personal development, we should expect that graduates will emerge with a greater sense of self-knowledge (linked to knowing why). Knowing why is also associated with increases in self-confidence and greater awareness of one's role and contribution. Although Simpson et al (2005) found that both men and women claim an

increase in confidence following the MBA, other commentators suggest this is particularly pronounced amongst female graduates (Sturges, et al, 2003). A study of MBA alumni in Canada by Sturges et al. (2003) indicated that confidence (knowing-why) was a career outcome for women, beyond gaining 'soft' and 'hard' skills. They attributed the women graduates increased confidence to acquiring managerial skills and to a sense of achievement following a hard and demanding academic programme. As a result of the MBA experience Sturges et al (2003) reported women as describing themselves to be more effective and efficient and more able to cope with change.

In terms of the final areas of career capital, 'knowing whom' it equates with what Metz and Tharenou (2001) describe as social capital. Commentators describe the exclusion of women from the dominant male social networks in organisations and suggest this to be a 'recurrent theme' which has a detrimental impact upon women's advancement to senior management levels (Metz & Tharenou, 2001; Tharenou, 1999). This echoes Kanter's (1977) discussion of the range of barriers faced by women in order to secure career success, highlighting how the dominant group (men) tend to heighten cultural boundaries by exaggerating their camaraderie, emphasising their differences from the token women, and excluding women from the informal interactions where critical information is exchanged. From the context of the MBA Sturges et al (2003) found both men and women to perceive the acquisition of skill and knowledge as more important than the creation of networks (knowing-whom). We therefore hypothesised that:

> Hypothesis 1: Female alumni will report higher levels of development of 'knowing why' and 'knowing how' than men, but not of 'knowing whom'.

Career Success

Career success has been defined as "the real or perceived achievement individuals have accumulated as a result of their work experiences" (Judge, Higgins, Thoresen & Barrick, 1999: 622). Supangco (2011) identified three objective measures of career success (salary increase, number of job promotions and hierarchical level reached) and two subjective measures of career success (satisfaction with one's career and with one's job). Ng, Eby, Sorensen and Feldman's (2005) meta-analysis found objective success to be directly observable and verifiable by others (Hughes, 1937, 1958) whereas subjective career success relates to the

individual's own feelings or judgment about job attainment and satisfaction (Heslin, 2005 & Judge et al., 1999).

In terms of the MBA and objective career success, Strunk and Hermann (2009) report that male business school graduates earn about €73,000 more than their female counterparts within the first ten career years. Patterson, Damaske & Sheroff (2017) found that men fare much better than women when moving to new organisations, suggesting that gender is more of an issue for individuals with shorter employment history in any one organisation. They conclude that external moves hamper women and may indeed stall their careers post MBA. In their meta-analysis Ng et al (2005) reported that women are likely to have lower expectations regarding career opportunities (skill development, sponsorship) and attainments (promotions) than men and are therefore more easily satisfied with the career opportunities and attainments they do reach. Supangco (2011), on the contrary, reporting on a study into objective and subjective measures of career success in the Philippines, found that gender did not explain variation in total compensation, number of levels from company president, or career satisfaction.

If the MBA is to be used as a springboard to a new career in a new organisation or new sector, we were interested to explore the differing reports of these objective career outcomes in terms of men vs women. Given that the dominant view from the literature points to fact that men still fare better than women in terms of objective career success post MBA we therefore hypothesise that:

Hypothesis 2: Female alumni will report lower levels of objective career success in terms of number of promotions, changing jobs, organisation or country, and being in a senior management role post MBA.

Subjective career success, on the other hand, relates to the individual's own feelings or judgment about job attainment and satisfaction (Heslin, 2005; Judge et al., 1999). A study of part-time MBA graduates and alumni in Brazil found that perceptions of the subjective effects of the MBA were stronger than perceptions of the objective effects (Fernandes, Personini, Cruz & Wood, 2015). Female graduates are likely to increase confidence and self-worth as a result of completing MBA studies, indicating the importance of such subjective career outcomes.

Linked to the concept of career satisfaction is the notion of self-efficacy. Bandura (1977: 126) describes self-efficacy as "the conviction that one can successfully execute the behaviour required to produce successful outcomes". Stajkovic and Luthans (1998) established a link between self-efficacy and work-related performance; and earlier studies

(Gist, 1989 & Wood, Bandura & Bailey, 1990) demonstrated its link with aspects of the management role. If, as suggested by Betz (2004), women experience barriers in developing self-confidence and self-efficacy then the MBA qualification may play a key role for them in support the development of this self-efficacy. So, we hypothesise that:

> Hypothesis 3: Female alumni will report higher levels of subjective career success in terms of career satisfaction and self-efficacy

Methodology

Our sample (n=616) was drawn from the alumni of the world's third largest and one of the UK's oldest MBA programmes. According to the rankings, the MBA features in the top 50 programmes worldwide and has traditionally focused on experienced managers (average current age whilst on the programme: 36), who have around 10 years' managerial experience pre-MBA.

Its operating model reflects that described by Bok (2003), whereby a provider uses technology to deliver content to students across many different locations. The product was marketed as being 'One MBA' and it represents an example of a British MBA being delivered in different locations, with large cohorts serviced from offices based in different partner offices in the Netherlands, Germany, Ireland, Australia & New Zealand, as well as Denmark, Trinidad and South Africa. The MBA is delivered via a number of modes, all of which are seen as 'executive' programmes requiring a minimum of three year's management experience. The majority of responses (444 in total) studied the Flexible Executive MBA which was completed in 3-5 years. The Executive MBA (136 alumni in this sample) was completed in 2-3 years, and the Executive Full-time MBA (36 alumni) was completed in 1-2 years. Both the Flexible Executive and Executive MBA's involved students who remained in work for the duration of the programme, whilst the Executive Fulltime programme was typically undertaken by students who had taken time out of their careers to study. All three modes of delivery provide access to the same core materials (online and text book formats) supported by a standardised workshop experience delivered by the same tutor pool, although the Executive and Executive Full-time modes had more workshop days than the Flexible Executive programme. Students all completed similar assessment regimes, comprising examinations, work-based assignments and a dissertation, with a shared team of marking tutors, although the Flexible Executive MBA did not include any group assessment, in contrast to the other programmes. The MBA programme

has considerable emphasis upon its personal development approach. This is taught via an assigned specialist tutor as a non-assessed module in order to encourage learners to reflect upon their career to date and their personal strengths and weaknesses and to use knowledge about self and personal values in pursuit of future career goals.

We tested our hypotheses on the alumni of this school, using an online survey. The business school now has in excess of 14,000 MBA alumni but, given the elapsed time since many of these completed their studies and the fact that many of them will now be retired, there is not an ongoing relationship in all cases.

After an initial targeted pilot, the mailing went to 5,469 more recent members of the MBA alumni for whom there was a current email address and a total of 816 responses were received, representing a response rate of just under 15%. This total included responses from alumni around the world, including South Africa, Trinidad and the Caribbean, but this study focuses upon the 616 respondents who completed their programme in the Anglo-phone countries of UK, Ireland, and Australasia, as well as from countries in the Northern European (Nordic) and Central European grouping. Table 1 shows details of the sample by country and office grouping. The respondent group comprised 130 females and 486 males, with this proportion reflecting this MBA programme overall.

Table 1: Sample characteristics (percentages in parentheses)

Variable	Male	Female	Total
Number	486	130	616
	(78.9)	(21.1)	(100)
Mean age	47.5	46.9	47.3
Mean years since graduation	9.5	8.7	9.3
Mean number of promotions post-MBA	1.7	1.6	1.7
Mode of Study			
Flexible	347	97	444
	(55.7)	(15.6)	(71.3)
Executive	105	31	136
	(17.0)	(5.0)	(22.1)

Full-time	34	2	36
	(6.0)	(0)	(6.0)
Senior management role			
Pre-MBA	91	24	115
	(18.7)	(18.5)	(18.7)
Post MBA	313	74	387
	(64.4)	(56.9)	(62.8)
Career Capital			
Knowing Why	33.3	34.9	33.6
Knowing How	30.4	32.1	30.8
Knowing Whom	29.1	29.8	29.2
Career satisfaction	22.5	23.6	22.7
Self-efficacy post-MBA	37.4	39.4	37.9
Same employer post-MBA	159	37	196
	(33.5)	(29.6)	(32.7)
In same job post-MBA	69	11	80
	(8.6)	(14.2)	(13.1)
In same country post-MBA	378	107	485
	(77.8)	(82.3)	(78.7)

We examined career capital using pre-existing items developed by Jokinen Brewster & Suutari (2008). Although originally designed for analysing career capital development amongst expatriates, the items can sensibly be utilised in career development in other contexts. The questions all used a seven-point Likert scale, ranging from 'not at all' (1) to 'very much' (7). All three career capital variables exhibited minor to moderate negative skewness and so were transformed by squaring the variable, and the results for the squared variables are given in the chapter.

'Knowing why' was measured with a set of questions designed to assess the increase in the understanding of personal values, work interests and capabilities. This study utilized a scale based on nine items. The scale reliability in the present study was 0.92. *'Knowing how'* was

operationalised through a set of 20 questions utilised by Jokinen, et al. (2008) based upon earlier work by Jokinen (2005). The reliability of the overall scale in the current study was 0.95. *'Knowing whom'* was measured using a four-item scale to assess the development of networking skills and social networks, and in the current study the reliability was 0.88.

In order to test Hypothesis 2 on objective career success MBA alumni were asked how many promotions they had received post MBA and whether they had changed job role, organisation and/ or country: dummy variables were created with no = 0 and yes = 1. They were also asked to report their perceived level of work pre- and post-MBA and a dummy variable was created for 'senior management role' (with no = 0 and yes = 1). We chose not to ask for salary data as an objective measure of career success because the range of professions in which the alumni operate, their widespread geographic location, the variability of exchange rates, and the potential sensitivity of this data, meant that any interpretation of the data could be misleading.

To test Hypothesis 3, we included perceptions around extrinsic and intrinsic career outcomes in order to capture how the individual feels about their occupation and progression, in line with Schein's (1978) concept of the internal career. We included a measure of career satisfaction based on an earlier scale from Greenhaus, Parasuraman and Wormley (1990). This scale is widely used for subjective career satisfaction, although it is recognised that some concerns have been raised about gender response variance by Hofmans et al. (2008). As the overall project had broader aims than to study the gender differences we opted to go with the measure. Items measured satisfaction with the achievement of goals for career advancement, skill development and income as well as career goals and overall career satisfaction. The coefficient alpha for the five-item scale was 0.94. In order to study self-efficacy we adopted a nine item & seven point Likert scale initially produced by Bennett (2011). The variable was squared to correct moderate negative skewness and the coefficient alpha for the scale was 0.95.

Control variables were included comprising respondent age (in years), years since graduation, and dummy variables for 3 regional groups (English speaking; northern European; and Central European); organisational size based on number of employees (up to 250 as the reference category, 251-1000, 1001-10,000 and more than 10,000) and for organisational sector (i.e. 'public', 'not for profit' and 'private', with 'mixed' as the reference category). No specific hypotheses were developed concerning the effects of the control variables.

Findings

Separate ANCOVA analyses were undertaken to test Hypothesis 1 with gender as the grouping variable and region, age, years since graduation, organisation size and sector as the covariates. Neither the organisation size nor sector variables were significant in any of the three tests, so they were removed from the analysis in relation to the career capital variables. Furthermore, given that these variables showed negative skewness, the variables were squared. In the sample of 611 respondents who provided career capital data the 127 females reported greater levels of 'know why' and 'know how' than men and roughly equal levels of 'know whom' as men. See tables 2a-c. Furthermore the difference in know why (35.2 compared to 33.3) was statistically significant ($F(1,605)=4.53$, $p=0.03$), as was the control variable region ($p=0.02$). In terms of 'know how' the difference (32.2 to 30.4) was significant at $p<0.10$ ($F(1,605) = 3.26$, $p=0.07$) while region ($p=0.04$), years since graduation ($p=0.02$) and age ($p=0.01$) were all statistically significant. For 'know whom' gender was not significant ($F(1,605) =0.45$, $p=0.53$) and of the control variables only region was significant ($p=0.02$). Hypothesis 1 is thus largely supported.

Table 2a: ANCOVA summary 'Knowing why'

Source	Sum of squares	df	Mean sq.	F	P	Partial eta squared
Gender	305.9	1	305.9	4.5	0.03	0.01
Age	157.8	1	157.8	2.3	0.01	0.00
Years since graduation	64.4	1	64.4	1.0	0.33	0.00
Region	505.7	2	252.9	3.7	0.02	0.01
Error	40867.2	605				

Notes: no organisational size dummy variables was significant $p<0.05$; n=611

Table 2b: ANCOVA summary 'Knowing how'

Source	Sum of squares	df	Mean sq.	F	P	Partial eta squared
Gender	260.2	1	260.2	3.2	0.07	0.01
Age	598.1	1	598.1	7.5	0.01	0.01
Years since graduation	428.5	1	428.5	5.4	0.02	0.01
Region	540.7	2	270.3	3.4	0.04	0.01
Error	48336.7	605				

Notes: no organisational size dummy variables was significant $p<0.05$; n=611

Table 2c: ANCOVA summary 'Knowing whom'

Source	Sum of squares	df	Mean sq.	F	p	Partial eta squared
Gender	55.2	1	55.2	0.5	0.50	0.00
Age	265.1	1	265.1	2.2	0.14	0.00
Years since graduation	182.0	1	182.0	1.5	0.22	0.00
Region	930.5	2	465.3	3.8	0.02	0.01
Error	73745.9	605				

Notes: no organisational size dummy variables was significant $p<0.05$; n=611

An ANCOVA analysis was undertaken to test hypothesis 2 in relation to number of promotions. The sample of 588 respondents who had provided data on promotions included 122 females and 466 males indicated that females averaged 1.57 promotions in relation to the 1.7 for men, but gender ($F(1,576)=0.12$, $p=0.73$) was not a significant predictor. Only years since graduation and age and organisational size (more than 1,000 employees) emerged as significant predictors of the number of promotions, see table 3

Table 3: ANCOVA summary 'number of promotions'

Source	Sum of squares	df	Mean sq.	F	p	Partial eta squared
Gender	0.2	1	0.2	0.0	0.70	0.00
Age	51.5	1	51.5	31.6	0.00	0.05
Yrs. since graduation	247.8	1	247.8	152.2	0.00	0.20
Region	5.3	2	2.7	1.6	0.19	0.01
Size (dummy 1001-10000)	14.8	1	14.8	9.1	0.00	0.02
Size (dummy 10001+)	8.8	1	8.8	5.4	0.02	0.01
Error	937.6	576				

Notes: non-significant variables was significant (p<0.05) excluded from table; n=587

While fewer female than male alumni reported being in the same job (8.6% compared to 14.2%) or the same organisation (29.6% versus 33.5%), the position was reversed in terms of location with 82.3% reporting being in the same country compared to 77.8% for men. However, in a series of logistic regressions (see Tables 4a-c) gender was only marginally significant in terms of predicting whether an alumnus was in the same job (p=0.054), along with age (p=0.04) and organisation size greater than 10,000 employees (p=0.04), but it was not significant in terms of predicting whether an alumnus remained in the same organisation or same country.

Table 4a: Logistic Regression summary 'Same Job'

Variable	Wald (d.f.)	Significance (*p*)	Exp (B) (odds ratio)
Gender	3.7 (1)	0.05	0.5
Age	6.2 (1)	0.01	1.1
Years since graduation	23.4 (1)	0.00	0.8
Region	1.7 (2)	0.40	
Dummy (1001-10000)	4.1 (1)	0.04	1.9
Dummy (10001+)	16.4(1)	0.00	4.5

Chi-squared (11) = 66.2, p=0.00, Cox & Snell = 0.10, Nagelkerke = 0.23, n=616
Note: only significant organisational size and sector dummy variables shown

Table 4b:Logistic Regression summary 'Same Organisation'

Variable	Wald (d.f.)	Significance (*p*)	Exp (B) (odds ratio)
Gender	0.8 (1)	0.37	0.8
Age	1.5 (1)	0.23	1.0
Years since graduation	24.2 (1)	0.00	0.9
Region	3.9 (2)	0.14	
Dummy (250-1000)	4.5 (1)	0.03	0.5

Chi-squared (11) = 54.8, p=0.00, Cox & Snell = 0.09, Nagelkerke = 011 n=596
Note: only significant organisational size and sector dummy variables shown

Table 4c: Logistic Regression summary 'Same Country'

Variable	Wald (d.f.)	Significance (*p*)	Exp (B) (odds ratio)
Gender	0.2 (1)	0.47	1.2
Age	1.2 (1)	0.15	1.0
Years since graduation	2.1 (1)	0.00	1.0
Region	8.5 (2)	0.01	
Dummy (Private)	6.2 (1)	0.01	.02

Chi-squared (11) = 23.6, p=0.00, Cox & Snell = 0.04, Nagelkerke = 0.13, n=611
Note: only significant organisational size and sector dummy variables shown

More male than female alumni reported being in a senior management position (64% compared to 57%) but in a logistic regression analysis (see Table 5) the only predictor to emerge as significant in terms of being in a senior management role was age ($p=0.05$). Thus Hypothesis 2 that Female alumni will report lower levels of objective career success was not supported.

Table 5: Logistic Regression summary: 'senior management role'

Variable	Wald (d.f.)	Significance (p)	Exp (B) (odds ratio)
Gender	1.8 (1)	0.12	0.7
Age	4.0 (1)	0.05	1.0
Years since graduation	0.9 (1)	0.12	0.7
Region	1.8 (2)	0.34	1.30

Chi-squared (11) = 25.92, p=0.00, Cox & Snell = 0.04, Nagelkerke = 0.06, n=611
Note: only significant organisational size and sector dummy variables shown

Three separate ANCOVA analyses were undertaken to test hypothesis 3. Once again, the organisation size and sector control variables were not significant predictors and were removed from the analysis.

In terms of career satisfaction, female alumni report higher average levels than male alumni (23.28 versus 22.48) and the difference was significant ($F(1,605)=5.81$, $p=0.02$) see table 6a. Of the control variables, only region emerged as a significant predictor in terms of career satisfaction ($p=0.02$), with alumni from the Northern European grouping reporting the highest level of satisfaction. The self-efficacy variable was squared to remove negative skewness. Female alumni reported higher levels of self-efficacy (see table 6b) and the difference in terms of gender was significant ($F(1,605)=5.2$, $p=0.03$) as was age ($p=0.03$) but no other control variables were significant.

Table 6a: ANCOVA summary 'career satisfaction'

Source	Sum of squares	df	Mean sq.	F	p	Partial eta squared
Gender	162.5	1	162.5	5.8	0.02	0.01
Age	19.5	1	19.5	3.6	0.40	0.00
Years since graduation	101.3	1	101.3	3.6	0.06	0.01
Region	215.0	2	107.5	3.8	0.02	0.01
Error	16918.8	605				

Note: no organisational sector or size dummy variables were significant p<0.05, n=611

Table 6b: ANCOVA summary 'self-efficacy'

Source	Sum of squares	df	Mean sq.	F	p	Partial eta squared
Gender	337.1	1	337.1	5.2	0.02	0.01
Age	325.8	1	325.8	5.0	0.03	0.01
Years since graduation	153.3	1	154.3	2.4	0.12	0.00
Region	312.4	2	156.2	2.4	0.09	0.01
Error	39277.4	605				

Notes: no organisational size dummy variables was significant p<0.05; n=611

Discussion

In terms of career capital, it is noteworthy that women report greater levels of development of knowing why, in line with what was expected from the literature around the enhancement of self-confidence for women completing an MBA. For knowing how the results are less convincing, although there is evidence to suggest women value their MBA programme as a means of providing them with career credentials. Results are different for knowing whom, associated as it is with networks and connections and

women do not here report a greater level of development. However, the fact that there is no significant difference either way in terms of the reported development of knowing whom may actually be a positive finding. It may be the case that women who have completed the MBA go on to experience similar developments in their knowing whom career capital as their male colleagues. Of course, it could also be argued that, despite the fact that MBA is often 'sold' as being about networking and associated benefits, if women start at a lower base and develop at the same rate as men this does nothing to close the gap. This is a point that needs further research.

In terms of career trajectories post MBA, Hypothesis 2 was not supported as there were no significant differences between men and women. However, although the data do not produce significant differences in terms of the number of promotions or reported seniority, they do suggest women experience lower levels of objective career success than men after an MBA. We know that women tend to be more negative than men in their own self-assessment (Mayo, Kakarika & Pastor, 2012), so it is difficult to know whether this accounts for this difference or whether their careers were (non-significantly) less successful. Further research is required in this and other contexts to consider this more fully.

In terms of career mobility post MBA there is some evidence of women using the MBA to change role, but not to change organisation or country. This may be connected with the need for many mid-career women to juggle their career with their family commitments (Emslie & Hunt, 2009; Vinnicombe & Singh, 2011) making changes to their place and country of work more difficult.

 The situation is clearer cut in relation to subjective career success or career satisfaction. Here hypothesis 3 was supported, with women reporting significantly higher levels of career satisfaction and self-efficacy. Thus, although women are not equalling men in terms of objective career outcomes our study does indicate that they have greater self-belief and are more satisfied with their careers post-MBA than their male counterparts. Whilst it may be argued that these higher levels of satisfaction may be a result of the limits they impose on their own career expectations (Hogue, Dubois & Fox-Cardamone, 2010), this should not detract from the fact that they are more satisfied.

Conclusions

In summary our findings highlight the fact that women are more likely than men to believe their career capital has been enhanced by an MBA yet,

despite years of advances, women have not yet have reached a position of parity in terms of likely career outcomes post-MBA. Nonetheless, they remain more satisfied with their postgraduate career outcomes.

Our study has several limitations and raises some questions for further work. First, we rely on quantitative analysis based on self-report data collected post-MBA and requiring some reflection on the pre-MBA experience. Such data may not be reliable, and individuals may opt to inflate their relative seniority. More important is the fact that this sample was taken from a much larger MBA population and could reflect a self-selecting group, possibly one with more interest in careers.

Despite the limitations, we believe our findings are important not only to all female current and prospective MBA students but also to a range of wider stakeholders including HRM professionals and others in organisational roles charged with improving diversity. Similarly, the findings are likely to be important for all those involved in the delivery and marketing of MBA programmes and MBA careers.

References

Adler, N. J., & Izraeli, D. N. (1994). *Competitive Frontiers*. Cambridge, MA: Blackwell.

Allen, D.G., Shore, L.M. & Griffith, R.W. (2003), "The role of perceived organizational support and supportive human resource practices in the turnover process" *Journal of Management, 29 (1): 99-118.*

Arthur, M.B, Inkson, K & Pringle, JK (1996). "The Boundaryless Career: A New Employment Principle for a New Organizational Era". *New York: Oxford University Press.*

Bandura, A (1977) Self-efficacy: "Towards a unifying theory of behavioural change". *Psychological Review, 84 (2): 191-215.*

Baruch, Y. & Pieperl, M. (2000) "The impact of an MBA on graduate careers" *Human Resource Management Journal, 10, (2): 69-90.*

Beach, C.M., Finnie, R. & Gary, D. (2003) "Earnings variability and earnings instability of female and males in Canada: How do the 1990s compare to the 1980s?" *Canadian Public Policy, 29 (s1), 41-64.*

Bennett, R. (2011) "Brand managers' mindful self-management of their professional experience: Consequences for pay, self-efficacy and job performance" *Brand Management 18, (8): 545-569.*

Betz, N. (2004) "Contributions of self-efficacy theory to career counselling: A personal perspective". *Career Development Quarterly, 54 (4): 340-353.*

Bradshaw, D. (2007). "Business school rankings: The love–hate relationship". *Journal of Management Development, 26(1): 54–60.*

Burke, R. J. (1994) "Women in corporate management in Canadian organisations: Slow progress?" *Executive Development, 7 (3):15-24.*

Chen, A., Doherty, N. & Vinnicombe, S. (2012) "Developing women's career competencies through an EMBA" *Gender in Management: An International Journal, 27 (4): 232-248*

DeFillippi, R. J. & Arthur, M. B. (1994). "The boundaryless career: A competency-based perspective". *Journal of Organisational Behavior, 15(4): 307–324.*

Doherty, N. & Dickmann, M. (2009) "Exposing the symbolic capital of international assignments". *International Journal of Human Resource Management, 20 (2): 301-320.*

Eby, L., Butts, M. & Lockwood, A. (2003), "Predictors of success in the era of the boundaryless career," *Journal of Organisational Behaviour, Vol. 24 No. 6, pp. 689-708*

Feldman, D. & Ng, T. (2007), "Careers: mobility, embeddedness, and success," *Journal of Management, Vol. 33 No. 3, pp. 350-77.*

Fernandes Personini Cruz, J. & Wood, T. (2015) "Perceived effects of part-time MBAs on careers", *Career Development International, 20, 6, 646-662*

Fortin, N.M. & Huberman, M. (2002) "Occupational gender segregation and females' wages in Canada: A historical perspective." *Canadian Public Policy, 28 (s1), 11-39*

Gist, M.E. (1989) "The influence of training method on self-efficacy and idea generating among managers". *Personnel Psychology, 42: 787-805.*

GMAC. (2016). *2016 Application trends survey report,* Reston, VA: Graduate Management Admission Council.

Heslin, P.A. (2005) "Conceptualizing and evaluating career success". *Journal of Organisational Behavior, 26 (2): 113-136*

Hogue, M.C, Dubois, L.Z & Fox-Cardamone, L (2010) "Gender differences in pay expectations: The roles of job intention and self-view". *Psychology of Women Quarterly, 34 (2), 215-227.*

Hughes E.C, (1958) *Men and their Work.* New York, NY: Free Press

Hughes, E.C. (1937) "Institutional office and the person," *American Journal of Sociology, 404-413*

Inkson, K., & Arthur, M. B. (2001). "How to be a successful career capitalist." *Organisational Dynamics, 30(1): 48–61.*

Jones, C., & Lichtenstein, B. (2000). "The 'architecture' of careers: How career competencies reveal firm dominant logic in professional

services'. In Peiperl, M., Arthur, M., Goffee, R. & Morris, T. (Eds)". *Career Frontiers: New Conceptions of Working Lives. Oxford, Oxford University Press. 153-176*

Judge, T, A., Higgins, C.A., Thoresen, C. J. & Barrick, M.R (1999). "The big five personality traits, general mental ability, career success across the life span". *Personnel Psychology, 52, 621-652*

Kanter, R.M. (1977) "Some effects of proportions on group life: Skewed sex ratios and responses to token women". *American Journal of Sociology*, *72, 965-990.*

King, Z. (2004) "Career self-management: Its nature, causes and consequences". *Journal of Vocational Behaviour 65(1): 112-133.*

Leeming, A. & Baruch, Y. (1998) The MBA as a bridge over the troubled waters of discrimination. *Women in Management Review*; 13 (3) 95-104.

Lyness, K. S. & Thompson, D.E. (2000) "Climbing the Corporate Ladder: Do Female and Male Executives Follow the Same Route". *Journal of Applied Psychology*, *85 (1): 86-101.*

Marsden, P.V, Kalleberg, A.L. & Rook, C.R. (1993) "Gender differences in organizational commitment: Influences of work positions and family roles". *Work and Occupations 20 (3): 368-90.*

Mayo, M., Kararik, M. & Pastor, J.C. (2012), "Aligning or inflating your leadership self-image? A longitudinal study of responses to peer feedback in MBA teams", *Academy of Management Learning & Education, 2012. Vol. 11. No. 4. 631-652*

McCall, M. W. (1998). *High Flyers*. Boston: Harvard Business School Press.

Metz, I. & Tharenou, P. (2001) "Women's Career Advancement the Relative Contribution of Human and Social Capital", *Group and Organization Management*, *26 (3): 312-342*

Ng, T.W. H, Eby, K.L, Sorensen, K.L. & Feldman, D.C. (2005), "Predictors of objective and subjective career success: A meta-analysis," *Personnel Psychology*, *58: 367–408*

Parker, P., Khapova, S. N., & Arthur, M. B. (2009). "The intelligent career framework as a basis for interdisciplinary inquiry." *Journal of Vocational Behavior*, *75(3): 291-302.*

Passerelli, A.M., Boyatsiz, R.E & Wei, H (2018) "Assessing Leader Development: Assessing Leader Development: Lessons from a Historical Review of MBA Outcomes", *Journal of Management Education, Vol 42 (1), 55-59*

Patterson, S.E, Damaske, A. & Sheroff, C. (2017) "Gender and the MBA: Differences in career trajectories, institutional support, and outcomes" *Gender & Society, 31 (3): 310–332*

Pfeffer, J. & C. T. Fong (2002) "The end of business schools? Less success than meets the eye," *Academy of Management Learning and Education*, *1, (1): 78-95*

Rhoades, L. & Eisenberger, R. (2002), "Perceived organizational support: a review of the literature," *Journal of Applied Psychology*, *87 (4): 698-714.*

Roth, Louise Marie. 2006. *Selling Women Short: Gender and Money on Wall Street*. Princeton, NJ: Princeton University Press.

Schweitzer, L., Ng, E., Lyons, S. & Kuron, L. (2011) "Exploring the career pipeline: gendering differences in pre-career expectations", *Industrial Relations*, *66: 422-444*

Simpson, R. (2006) "Masculinity and management education: feminizing the MBA", *Academy of Management Learning and Education, 5, (2): 182-193*

Simpson, R., Sturges, J. & Woods, A. (2005) "Gender, age and the MBA: an analysis of extrinsic and intrinsic career:" *Journal of Management Education*, *29 (2): 218-247*

Strunk, G. & Hermann, A. (2009) "Berufliche chancengleichheit von frauen und mannern, eine empirische untersuchung zum gender pay gap. IN:" *Zeitschriftfur Personalforchung*, *23 (3): 237-257.*

Sturges, J., Simpson, R., & Altman, Y. (2003). "Capitalising on learning: an exploration of the MBA as a vehicle for developing career competencies." *International   Journal   of   Training   and Development*, *7(1): 53-66*

Sullivan, S. E., Carden, W. A., & Martin, D. F. (1998). "Careers in the next millennium: Directions for future research". *Human Resource Management Review, 8: 165-185.*

Supangco, V.T. (2011) "Organizational and Individual Determinants of Career Success of MBA students". *Journal of International Business Research*, *10 (2): 113-128*

Tharenou, P. (1999). "Gender differences in advancing to the top". *International Journal of Management Reviews, 2: 1-22.*

"The World   Bank", (2017)   Accelerating Women's Economic Empowerment
http://www.worldbank.org/en/news/feature/2017/06/26/accelerating-womens-economic-empowerment

Varma, A. & Russell, L. (2016) "Women and expatriate assignments: Exploring the role of perceived organizational support", *Employee Relations*, *38 (2): 200-223*

Wallen, A. S., Morris, W.M., Devine, B.A. & Lu, J.G. (2017) "Understanding the MBA Gender Gap: Women Respond to Gender Norms by Reducing Public Assertiveness but not Private Effort". *Personality and Social Psychology Bulletin Vol. 43(8): 1150–1170*

Yap, M. and Konrad, A.M. (2009) "Gender and Racial Differentials in Promotions: Is there a sticky floor, a mid-level bottleneck, or a glass ceiling?" *Industrial Relations*, *64, (4): 594-619*

CHAPTER FIVE

A "CHAORDIC" ORGANIZATIONAL STRUCTURE TO ACHIEVE ORGANIZATIONAL AGILITY

MARK NIJSSEN, ELAINE FARNDALE AND JAAP PAAUWE

Introduction

To cope with frequent and unpredictable changes in the ecosystem organizations are building dynamic capabilities (Teece, Pisano and Shuen, 1997). These dynamic capabilities come in many forms (Helfat et al., 2007), including organizational agility, which allows the organization to purposefully, speedily and effortlessly formulate, decide on and implement alterations to the organizational configuration of the resource base from one state to another (Teece et al., 1997; Helfat et al., 2007; Dyer and Ericksen, 2006; Nijssen and Paauwe, 2012). A responsive organizational structure (a key component of organizational agility: Wilden, Gudergan, Nielsen and Lings, 2013) is considered a prerequisite for firms to respond to changes in the ecosystem, facilitating other aspects of agility such as organizational learning and workforce scalability (Dyer and Ericksen, 2006; Dyer and Shafer, 2003).

Dyer and Schafer (2003) refer to agile organizations as being "chaordic", a term coined by Hock (1999) to describe organizations that combine chaos, fluidity and flexibility with a minimum level of order, control, and predictability. In the literature on organizational structure, a distinction is often made between traditional bureaucratic structures and post-bureaucratic structures: 'post-bureaucratic forms were more relevant to the turbulent business ecosystem of the 21st century than were traditional bureaucratic forms' (Palmer, Benveniste, and Dunford, 2007; p. 1829). The traditional bureaucratic structure provides stability, predictability and avoids uncertainty (Ilinitch, D'Aveni, and Lewin, 1996),

while the post-bureaucratic structure provides flexibility and ability to cope with unpredictability (Rindova and Kotha, 2001).

To survive in a dynamic ecosystem, employees and management need to be flexible, to seize opportunities, and to be sensing the ecosystem constantly. Amid this turmoil, the organizational structure acts as a beacon of stability and predictability in an otherwise dynamic situation. This might explain why the bureaucratic organizational structure survives today (Diefenbach and Sillince, 2011; Pfeffer, 2013). The organizational structure could, however, also be designed in such a way as to facilitate employees and management in being flexible and quick to seize opportunities in the ecosystem (Rindova and Kotha, 2001). In other words, an agile organization needs a bureaucratic organizational structure to provide stability amid turmoil, however, it also needs a post-bureaucratic organizational structure to facilitate flexibility. This leads to two central research questions: (a) which elements of both the bureaucratic and post-bureaucratic structure are involved in achieving organizational agility; and (b) what mechanisms enable agile organizations to balance both bureaucratic and post-bureaucratic elements?

We contribute to the extant literature by developing a theory-based argument, supported by qualitative empirical evidence, about how agile organizations can combine an organizational structure that provides stability with one that also provides flexibility. In so doing, we move from a conflict-based view of bureaucratic versus post-bureaucratic organizational structure to a mutually supportive view. Our findings show that agile organizations have a 'chaordic' organizational structure in which both bureaucratic and post-bureaucratic elements are present. Furthermore, we contribute to the extant literature by identifying the underlying mechanisms for combining elements from both perspectives, including work climate, a focus on the firm's 'raison d'être', informal networks, and the appreciation of non-conformist behaviour.

Below we first discuss the concepts of organizational agility and the role of the organizational structure in creating agility. We develop competing propositions regarding achieving stability and flexibility through the different elements of the organizational structure: specialization, decision autonomy, participation in decision-making, and formalization (Mintzberg, 1979; Aiken and Hage, 1966). After describing the methodology, we then present the findings based on six case studies, from which we develop new propositions on the underlying mechanisms for balancing flexibility and stability through the organizational structure.

The Role of Organizational Structure
in Agile Organizations

Before discussing the role of organizational structure, we first explore the need for organizational agility based on unpredictable dynamics in organizational ecosystems. We then discuss the different elements of the organizational structure in relation to both the stability and flexibility necessary to survive in a dynamic ecosystem.

Dynamic Ecosystem and Organizational Agility

Organizations struggle when the rate of change in their environment outpaces the organization's capacity to keep up (Foster and Kaplan, 2001). The struggle becomes even more challenging when these changes are difficult to predict. When change is easily foreseen, it is straightforward to consider all options, decide on a response, and take appropriate action, but when change impacting the organization is frequent and difficult to predict, we refer to this as a dynamic ecosystem (Miles, Snow, and Pfeffer, 1974; Dess and Beard, 1984). Dynamics stem not only from the business environment or industry, i.e. buyers, suppliers, and competitors (Porter, 1980), but also from the institutions that co-determine the resources available to the organization (Dacin, Goodstein and Scott, 2002; Pursey, Heugens and Lander, 2009; Powell, 1998). The dynamic ecosystem includes both this business and institutional context (Teece, 2007).

Dynamic ecosystems have led to a focus on dynamic capabilities, which are the principal source of evolutionary fitness (Helfat et al., 2007). This is a measure for determining how well an organization can survive in a dynamic ecosystem by creating, extending, and modifying its resource base. Ulrich and Lake (1990) introduce an HRM perspective to dynamic capabilities, defining them as the ability to manage people for competitive advantage, focusing on internal structures and procedures. When combining the view of Ulrich and Lake (1990) with the view of Helfat et al. (2007), we can define a distinct dynamic capability: organizational agility. This refers to the ability to manage people through internal structures and processes purposefully to create, extend or modify the resource base of organizations to achieve survival in a dynamic ecosystem. Organizational agility is achieved through three clusters of management practices related to (a) the reconfiguration and transformation of the workforce, (b) organizational learning, and (c) coordination and integration of activities (Teece, et al. 1997; Nijssen and Paauwe, 2012), the latter being the focus of this paper.

The coordination and integration of activities are achieved through the organizational structure, which has long been a topic of research in coping with dynamic ecosystems (Burns and Stalker, 1961; Lawrence and Lorsch, 1967; Thompson, 1967; Galbraith, 1973; Mintzberg, 1992; Dyer and Shafer, 2003). A distinction can be made between the formal structure (official and prescribed arrangements and relationships) and informal structure that exists "…among members of a social system because of conscious or unconscious social processes." (Diefenbach and Sillince, 2011; p.1516). However, the distinction between formal and informal is not always clear and their effects cannot be easily separated. Instead, they are intertwined (Mintzberg, 1979; Rank, 2008). More importantly, Diefenbach and Sillince (2011) show that in cases where the formal structure is less present, the informal structure fills the gap. Hence the relevant elements of the organizational structure can present themselves both formally as well as informally.

Organizational Agility and Organizational Structure

Organizational structure is typically defined as 'the sum total of the ways in which [the organization] divides its labour into distinct tasks and then achieves coordination among them' (Mintzberg, 1979, p.2). Workforce division is often referred to as specialization (Mintzberg 1979), while workforce coordination includes three elements: decision autonomy, participation in decision-making, and formal standardization (Aiken and Hage, 1966). Furthermore, extant literature suggests a distinction can be made between bureaucratic (or mechanistic) and post-bureaucratic organizational structures (Dischner, 2015). The former provides stability and order while the latter provides flexibility. We discuss the elements of organizational structure considering both the bureaucratic and post-bureaucratic perspective, presenting competing propositions as to how they either facilitate or hinder stability and flexibility.

Specialization

Functional specialization refers to the degree to which a workforce is divided into individual jobs or organizational units (teams, departments, or business units) to execute similar tasks. In contrast, a divisional structure divides the workforce by related tasks, leading to a low level of specialization (Mintzberg, 1979). In practice, however, organizations seldom choose a strict functional or divisional structure, instead adopting hybrid structures (Legerer, Pfeiffer, Schneider and Wagner, 2009).

From the bureaucratic perspective, specialization leads to order and stability since tasks are predefined and have clear boundaries (Kira and Forslin, 2008). A low level of specialization requires employees to perform a broader range of tasks, define their own boundaries and have less focus, leading to more uncertainty and less opportunity to develop routine behaviour (Kira and Forslin, 2008). In line with post-bureaucratic organizational forms, this leads to employees being more flexible simply because the broader range of tasks requires them to be multi-skilled (Johnson, Wood, Brewster and Brookes, 2009). The same holds true for organizational units that are organized in a divisional rather than functional structure. As we have argued, agile organizations need to achieve both stability and flexibility simultaneously, hence we present competing propositions in order to understand better how each might be achieved simultaneously but not at the expense of the other:

Proposition 1a: Agile organizations implement a (bureaucratic) high level of specialization to provide focus, boundaries, and opportunities to develop routine behaviour aimed at stability.

Proposition 1b: Agile organizations implement a (post-bureaucratic) low level of specialization to help employees become multi-skilled aimed at increasing flexibility.

Decision Autonomy

Decision-making is an important process in a dynamic ecosystem: 'Overall, fast decision-making allows decision-makers to keep pace with change…' (Eisenhardt, 1989, p. 544). Decision autonomy refers to the extent to which employees can make their own decisions (Aiken and Hage, 1966). When decision autonomy is low – as in the bureaucratic organizational form – the decision-making process is centralized with most decisions being made by a small group of people (management team or board) or by an individual (CEO). This clarifies who makes the decisions and who is responsible and accountable for these decisions, which leads to less potential anxiety for employees and a more predictable decision-making process. In contrast, high decision autonomy (present in the post-bureaucratic organizational form) can lead to increased anxiety and fear of responsibility and accountability (Joiner, 2001) but can also lead to higher levels of intrinsic motivation (Piccolo and Colquitt, 2006), entrepreneurship, and leeway for employees to respond to ecosystem dynamics (Johnson, et al., 2009; Foss, Lyngsie and Zahra, 2015). This again leads us to competing hypotheses to explore in agile organizations seeking stability and flexibility:

Proposition 2a: Agile organizations implement a (bureaucratic) low level of decision autonomy to facilitate a clear and predictable decision-making process aimed at stability.

Proposition 2b: Agile organizations implement a (post-bureaucratic) high level of decision autonomy to increase levels of intrinsic motivation and leeway in decision-making aimed at flexibility.

Participation in decision-making

When discussing decision-making (de)centralization, we also need to consider the level of employee participation (Leifer and Huber, 1977). While decision-making autonomy refers to making the actual decisions, participation in decision-making refers to the extent to which employees can influence others' decisions. A low level of participation – most common in bureaucratic organizations – leads to low potential for internal conflict due to competing interests (Weber, 1958), in turn leading to greater stability. Participation, however, also affects the speed of decision-making and implementation of strategic decisions. Eisenhardt (1989) showed that rapid decision-making requires simultaneous consideration of multiple alternatives, which requires participation in the decision-making process. Furthermore, in post-bureaucratic organizational forms, participation in decision-making is expected to lead to buy-in (Heckscher, 1994), which leads to faster implementation of decisions. This again presents us with competing propositions for agile organizations wishing to balance stability with flexibility:

Proposition 3a: Agile organizations implement a (bureaucratic) low level of participation in decision-making to reduce the potential for internal conflict and thereby increase stability.

Proposition 3b: Agile organizations implement a (post-bureaucratic) high level of participation in decision-making to speed up decision-making and implementation by considering multiple alternatives and creating buy-in.

Formalization

Formalization (or standardization) refers to the presence of rules and procedures to prescribe behaviour (Hage and Aiken, 1969), as opposed to informal structures based on consultation (Leifer and Huber, 1977). In a dynamic ecosystem, formalization not only limits role ambiguity but also makes the organization more predictable, since the variables that trigger responses are predetermined as well as the possible responses

(Frederickson, 1986). In contrast, a low level of formalization might lead
to flexibility given that the absence of standardized responses to triggers in
the dynamic ecosystem means that employees can implement an
individualized response. Furthermore, in a dynamic environment, it is
increasingly difficult to establish a predefined response for all
circumstances. This balancing act between stability and flexibility leads to
our final set of propositions:

> **Proposition 4a:** Agile organizations implement a (bureaucratic) high
> level of formalization to limit role ambiguity and increase
> predictability aimed at stability.

> **Proposition 4b:** Agile organizations implement a (post-bureaucratic)
> low level of formalization to be able to formulate individualized
> responses to ecosystem dynamics.

In the table below, we summarize the aspects of the bureaucratic and
post-bureaucratic organizational forms and how they contribute to either
stability or flexibility. The table highlights the competing nature of the
propositions in that the advantage of one perspective is apparently the
disadvantage of the other.

Table 1 Overview of propositions regarding organizational structure contrasting bureaucratic and post-bureaucratic perspectives

Perspective	Structural element	Leads to…	Providing…
Bureaucratic	High level of specialization	Focus, boundaries, and opportunities to develop routine behaviour	Stability
Post-bureaucratic	Low level of specialization	Multi-skilled employees	Flexibility
Bureaucratic	Low level of decision autonomy	Clear and predictable decision-making process	Stability
Post-bureaucratic	High level of decision autonomy	Increased levels of intrinsic motivation and leeway in decision-making	Flexibility
Bureaucratic	Low level of participation in decision-making	Reduced potential for internal conflict	Stability
Post-bureaucratic	High level of participation in decision-making	Buy-in and fast implementation of decisions	Flexibility
Bureaucratic	High level of formalization	Limited role ambiguity and unpredictability	Stability
Post-bureaucratic	Low level of formalization	Individualized responses to dynamics in the ecosystem	Flexibility

Methodology

This study addresses how agile organizations combine bureaucratic and post-bureaucratic elements in their organizational structure, exploring why specific combinations of structural elements are effective for survival in a dynamic ecosystem. Agile organizations are defined as organizations

that have been able to survive in a dynamic ecosystem over a substantial period. Since we consider dynamic capabilities as a capacity - "the ability to perform a task in at least a minimally acceptable manner" (Helfat et al., 2007: 5) - we assume that these organizations have at least to some degree an organizational structure that is beneficial for surviving in a dynamic ecosystem. Since survival is not measured by quantifiable (financial) success, but simply by existing over a long period, we selected case organizations that had survived and were still surviving in a highly dynamic sector, i.e. subject to a high level of unpredictable (Miles, Snow, and Pfeffer, 1974; Dess and Beard, 1984).

     We selected six organizations distributed over three sectors: public broadcasting, high-tech systems (manufacturing), and engineering. The second criterion for selection was to have diversity in the primary source of ecosystem dynamics: either through the marketplace or the institutional context. Finally, since the institutional context plays an important role in the implementation of management practices (Dacin et al., 2002; Paauwe, 2004; Pursey et al., 2009), the third criterion was to have diversity in the degree of institutionalization. Table 2 presents an overview of the criteria and illustrative citations from informants on the level of ecosystem dynamics per case.

Table 2 Overview of case selection criteria and illustrative citations on the level of dynamics

Sector	Case	Unpredictable	Continuous	Impact
Public Broadcasting High level of intensity of institutional context Institutional context primary source of dynamics	A	"Yes, but that's always been inherent to public broadcasting. The uncertainty of 'will my program exist' is actually all of the time." - Manager	"I believe that on what I do, last year alone parliament asked 34 questions." - Manager	"This means that for the money that goes to public broadcasting, they have to guarantee a minimum acquisition…for the rest, we have to pitch. And this means shifting your resources constantly." – HR Manager
	B	"I think we know about half a year in advance, so you can take the appropriate measures. On the other hand, sometimes we unexpectedly get free time in the schedule" - Manager	"…they have promoted net 3 [the channel organization B broadcasts on] as young and innovative. So, you can only be innovative when you are willing to change your programming" - Manager	"…many employees come in and go out and this depends simply on the programs we have been able to score" – Manager
Engineering Low level of intensity of institutional context Marketplace	C	"…that is often triggered by an incident in a hospital. In Twente, a fire started in an operating room. Well, people react to that, research is being done and instantly it	"…or a company goes bankrupt where we were establishing a new office, a while ago it was a hospital in Delft…simply because it wasn't economically	"So, in the middle of last year…we had been working fulltime with 20 employees on this project. This was simply reduced to 1 or 2 people within 3 months." - Manager

		is a hot item for hospitals." - Manager		"feasible." – Manager
primary source of dynamics	D	"In planning time and deployment of employees, it's incredibly dynamic by definition. No project ever follows a plan from A to Z" – Works Council	"What our clients want from us changes constantly, so you have to sense these changes and react to them." - Manager	"If we look at our scheduled work, then it still looks quite healthy. However, if a few projects stal,l we have a serious problem. And we don't know." - Manager
High-tech Systems (Manufacturing) High level of intensity of institutional context Marketplace	E	"The whims in normal production, so the order intake, outside the seasonal patterns…low volume in complex products. So there is always something going on with materials that are lacking or that are incomplete." – Manager	"…my production plan…is anything but tight. It always fluctuates. Every day, every week, every moment it's different." - Manager	"But a system costs 1.5 million. So, if I am lacking 2 or 3 systems in [the period that we have potential under capacity] then this is more misery than I would have the entire period [that we also have overcapacity]." - Manager
primary source of dynamics	F	"You can see that we also vary enormously on turnover. And the number of machines also varies enormously." – Manager	"You can't really say what the plan looks like because within a year, everything can change. It can drop very fast or it can grow very fast." - Manager	"Well, I have 95% of direct employees bound to the production process. So, if the production process has a variance between 20% to 100%, then you have to do something with your employees." - Manager

Data were collected through semi-structured interviews with informants from the organizations and through document reviews. All interviews were recorded and transcribed. Either the HR manager or CEO of the organization was approached with a request to participate in the study in exchange for receiving a summary of the study findings. After their initial agreement, the HR managers were the first to be interviewed. Questions were structured around the following topics: the key business processes of the organization, the ecosystem dynamics, the practices contributing to organizational agility including the organizational structure, and the institutional context (see Appendix I for the interview schedule). In asking these questions, informants were also able to introduce their own related issues, leaving the interviewer open to emergent insights. In addition, the HR managers were asked to generate a list of relevant informants in their organization in three categories: other HR professionals, management, and works council members. Each informant was asked to suggest additional informants until no new names were mentioned and saturation was reached. This approach resulted in a total of 47 interviews. Details on interviewees are provided in Table 3.

Table 3 Overview of informants per case

Function	Case A	Case B	Case C	Case D	Case E	Case F
Sector	*Public Broadcasting*		*Engineering*		*High-tech Systems (manufacturing)*	
Size (employees)	*396*	*120*	*342*	*210*	*400*	*3,000*
HR Professional[1]	1	n/a	1	1	3	3
Management	5	8	5	6	5	4
Works Council[2]	1	n/a	1	1	1	1
Total	**7**	**8**	**7**	**8**	**9**	**8**

[1] In organization B, there was no HR Manager. One of the general managers was responsible for the HR portfolio, supported by an administrative assistant. In this case, we started the interviews with the General Manager. In organizations A, C, and D only one HR Manager was interviewed. This was due to the size of the organization, which allowed for only one HR Manager and one or two administrative assistants. In organizations E and F, there was a sizable HR department, allowing us to perform interviews with multiple HR managers; in organization F, this was due to the size of the workforce while in organization E, this was due to the presence of a corporate HR department as well as an HR manager for the manufacturing plant.

[2] In organization B, there was no Works Council.

The analysis of the data started with incident-by-incident coding (Charmaz, 2006). This initial process was performed by three investigators separately. The initial codes were then discussed, which lead to an agreed coding for each interview transcript and research memos based on the discussion between the three investigators. The second step was to harmonize the coding over all interviews and all cases. This was done by the lead author, who was the only investigator involved in the coding of all six cases (the other two investigators varied per two cases). The third step was to sort and integrate the initial coding into higher-order focused codes. The outcome of the focused coding was grouped into coherent categories and subcategories of indicators for the dimensions and features of the organizational structure. Table 4 gives an example of coding for case B.

Table 4. Example of the coding process

Initial coding	Focused coding	Dimension
Procedures on workflow	Procedures present	High level of formalization
Procedures related to budget		
Daily work meeting	Many meetings	
All employee information meeting		
Management team meeting		
Brainstorm meeting		

Results

Here we present our findings from the six cases regarding the different elements of organizational structure and how they provided stability or flexibility: specialization (at the organizational and individual level), decision autonomy, participation in decision-making, and formalization. We also present the way in which the organizations offset the advantages and disadvantages of the bureaucratic and post-bureaucratic approaches.

Specialization at the Organizational Level

We look at specialization at two levels: the division of the workforce at the organizational level and specialization at the level of an individual job. Table 5 provides an overview of the organization-level workforce division. Both public broadcasting and engineering have hybrid structures, in which the key business processes are arranged in a multidivisional 'M'-structure (focusing either on the products or the markets in which the organization

operates), with support staff organized in a functional 'F'-structure. However, in the high-tech systems sector, we see an F-structure for the key business processes, supported by functionally-oriented support staff organized in a matrix-like structure. This means that, for example, the shop floor controllers are part of a central support unit but are dedicated to one or more functional units in the key business process.

Table 5. Horizontal workforce division per case

Case	Sector	High-level specialization	Low-level specialization
A	Public Broadcasting	Hybrid structure but primarily focused on an M-structure based on a theme (history, art, news, etc.), supported by functional staff units.	Project teams for making specific TV shows
B	Public Broadcasting	Hybrid structure but primarily focused on an M-structure based on platform (TV, radio, new media), supported by functional staff units.	Project teams for making specific TV shows
C	Engineering	Hybrid structure but primarily focused on an M-structure with a mix of client focus (consultancy groups) and product focus (expertise groups), supported by functional staff units.	Project teams for specific client projects or business development opportunities
D	Engineering	Hybrid structure but primarily focused on an M-structure with a mix of client focus (consultancy groups) and product focus (expertise groups), supported by functional staff units.	Project teams for specific client projects or business development opportunities
E	High-tech Systems	Strictly F-structure (purchasing, manufacturing, planning, engineering, etc.). Supported in a matrix-like structure for the specific support units (designated	Project teams for new product development or process optimization

		support per manufacturing unit). General support units (HR, finance) are positioned as functional staff units.	
F	High-tech Systems	Strictly F-structure (manufacturing, logistics), supported by functional staff units (generic and specific).	Project teams for new product development or process optimization

Interviewees reported that the choice of this structure lies more in the common practice of the sector than in a choice based on either stability or flexibility. For example, organization A has recently shifted from a platform-based structure (TV, radio, and Internet) to a theme-based structure (culture, education, entertainment) in which all platforms are represented and work together. Both are still examples of the M-structure. Organization B indicated wanting to make a similar change in order to respond better to developments related to the Internet. This transition was deemed very much necessary but was less a response to ecosystem dynamics than to a long-term sector trend:

> "So, in fact, it is a revolutionary breakthrough in the organization of public broadcasters [in The Netherlands], because you will organize around themes. And that is the way in which the rest of the world is already organized" (Manager, organization A).

Although the choice of workforce division at the organizational level differs between the sectors, the interviewees indicated a common theme in that all organizations also have a project management-based structure parallel to the described M- or F-structure. In organizations A and B, the project teams were related to making specific TV shows; in organizations C and D, the project teams are related to specific client projects or business development opportunities; and in organizations E and F, the project teams are related to new product development or process optimization.

This project management allows them to respond to ecosystem dynamics by establishing a new, temporary project team quickly:

> "…so far, we have always been able immediately, almost immediately to put together a [project] team" (Works Council, engineering company C).

The tasks most related to ecosystem dynamics for each sector were conducted through the project-based structure, providing flexibility, whereas the M- and F-structures were able to provide stability as the 'home base' for employees, i.e., where people with similar expertise or focus would meet and exchange ideas and work less impacted by ecosystem dynamics would be conducted. This was best worded by a manager in organization F:

> "We are really project-based. So, we have an organization based on departments…that manage the expertise and people management. And then we have project leaders that recruit people from these groups to man the projects".

There is, however, the potential for conflict of interest in the appropriation of resources (i.e., employees) between the bureaucratic M- and F-structures and the post-bureaucratic project team structure:

> "…this department or another group where an employee comes from also has its own interests, own planning, and agendas" (Works Council, organization C); "When you want to do projects…you always have to see whether you can man these projects…but when it comes down to it, operations come first" (Manager, organization E).

For stability and flexibility to coexist, the resourcing of the project teams is very much a centralized decision. When a project team is required to respond to ecosystem dynamics, it is constructed through centralized management decision-making:

> "We are kind of pragmatic. So, imagine if [an employee] doesn't want to do it, but he is the only one. Well…then he will have to do it…we can't keep muddling through, we have to go on" (Manager, organization B); "Unless it is such an important project for [Organization C], that they [the Board] say 'well, we'll free you up, so you stop on this project, and you start in the other project', but that is really a mandate of the Board" (Project Manager, organization C); "[for the projects on product development] you need the knowledge and expertise from the units…so the unit engineer is put in the project team" (Manager, organization E).

Specialization at the Individual Level

All case organizations have a high level of specialization at the level of the individual job for most jobs, which aligns with a bureaucratic form. In public broadcasting, specialization is mostly both thematic and functional,

for example, a producer who is specialized in modern dance. This is mostly in order to achieve high quality although this reduces flexibility:

"Yes, because the content of our shows is dependent on the knowledge, quality, and expertise of our people in this area. And if we were to dilute this, then our shows would not be what we want them to be. So, to a certain extent [we accept] the rigidity" (HR Manager, organization A).

At the engineering companies, we see both thematic specialization (e.g., engineers specializing in airports) and functional specialization (e.g., technical draughtsman). The same applies to the high-tech systems companies where employees are trained in specialized tasks (e.g., how to build specific elements of the machines). The main reason for this focus on specialization and stability is the quality required to perform the task:

"So now we have chosen a solution focused on specialization…so they are effective as quickly as possible. But that eats away on your flexibility in the whole process. You have a number of people only able to do one specific thing" (Manager, organization F).

Simultaneously, we see that the organizations also value the importance of having multiskilled employees, which is in line with the post-bureaucratic form with its low specialization. For example:

"It's not that I expect the same knowledge from everyone. But the basic knowledge should be there. And then everyone should have their specialization" (Manager, organization A); "Keeping employees broad is very important to us…when it is busy on the construction side of the work, then that is where they will do most of the work, and otherwise more on the geotechnical side. That makes us more flexible when deploying employees" (Manager, organization D).

Several management practices were being implemented to broaden employee skills, including training, internships, and employee exchanges with competitors and partner organizations. For example:

"Afterwards, when you have some more breathing room…you can do more cross training and work on flexibility" (Manager, organization F).

Employees feel a need to invest in their level of multiskilling:

"…those are skills that one can learn relatively quickly…so there is a willingness to do different jobs within their field of work. People are intrinsically motivated" (Manager, organization A); "I've noticed that

employees like to have broader employability" (HR Manager, organization C).

This willingness to invest in multiskilling seems to be created by the work climate, whereby employees understand that they work in an organization that is facing a dynamic ecosystem. This understanding compels employees to invest in their multiskilling:

> "We are the type of show that springs into action when there is a flood. I don't have to worry…people are prepared to drop everything…. Everyone gets that, I don't have to explain this to anyone" (Manager, organization A); "But you may expect of employees that they currently know how the market works? But again, we don't have much problem explaining this. It is only a few percent that doesn't understand" (Manager, organization D); "A lot of employees, especially those working in the more cyclical sector, simply understand. They know better than us in our ivory tower that a downturn is coming" (HR Manager, organization F).

Decision Autonomy

Strategic decision-making is very much centralized in all the case studies, albeit combined with a participative approach. Table 6 shows that management in all cases is very much focused on considering the views of the employees in the strategic decision-making process. The way in which they do it differs. Organizations A and B consider it mostly as an ongoing process in which they are in dialogue with their employees. Organizations C and D have instituted formal processes, for example, by collecting specific input in the business planning process. Organizations E and F organize town hall meetings to discuss strategic decision-making as their size limits participation in the decision-making process.

Table 6. Centralized decision making

Case A	*'...in the end, I am responsible, so I will decide. But I make [my decisions] based on a certain process in which I take into account the input of people, the way I see it, and the way they see it'.* - Manager
Case B	*'So, we decide together, and we talk about it. But in the end, he [manager Television] is responsible for what we make, which message we carry out, and its success.'* – Chief Editor
Case C	*'Decision-making at the management meetings…everyone can say what they want. In the end, the board decides, so they can do with*

	[your input] what they want.' - Manager
Case D	*'Where the organization is going is mostly imposed top-down…The business unit objectives are mostly set bottom-up. So, everyone has the opportunity to suggest ideas on the objectives of the business units for the next few years.'* - Manager

In contrast, regarding the execution of daily activities for an individual job or team, the decision-making power is mostly decentralized, as illustrated by the quotes in table 7, except for organization D, where management was in the process of making a transition to more top-down steering:

> "That is now three years ago, we had a change in the board and the current board wants to steer more top-down, which isn't easy since you work in an organization with professionals, who all know better than the board how everything should work…But we are an organization that gives a lot of space for employee initiative …" (HR Manager, organization D).

The operational decentralization enables employees to respond quickly to ecosystem dynamics.

Table 7. Decentralized decision making

Case A	*'This is a fairly decentralized company. Someone at [program X] simply has to make sure that they are making a good show.'* – Manager
Case B	*'Yes, that is a fairly autonomous team. They are managed by me but not on a daily basis. They just do whatever they want and every week we discuss the broad outlines.'* – Manager
Case C	*'It is very much a culture of having your own responsibilities…I have always been a manager here and I always had the feeling that I was running my own company…this freedom to take my own initiative… this is something we cherish.'* Manager
Case E	*'I prefer to make my own choices and make sure that higher management doesn't have to make my choices for me. And we also give that responsibility to the employees.'* - Manager
Case F	*'But we give a lot of freedom. That is also what employees tell us: "I get a lot of responsibilities…I always work together, I solve problems together with employees from other fields of expertise".* – HR Manager

This balance between centralized strategic decision-making and decentralized job and team-level decision-making can only be achieved when employees exchange information with other employees and teams and thereby coordinate their activities and decisions. The informal network comes into play here:

"People are working in their own world. This also has its downsides. Because this way the overall picture is not that known" (Manager, organization A); "No, you don't need the director. You can go straight to the person whom you know is involved. And most of the employees know very well what the others do…that's the way it works, these are direct lines" (Manager, organization D).

This way, employees and teams can make informed and coordinated decentralized decisions. Table 8 gives an overview of the way the informal network works in different cases. Only organization E seems to be an exception to this rule:

"It is my role to make sure that all units are in harmony…so that they are all aligned" (Manager, organization E).

The organizations make use of different management practices to strengthen this critically important internal network, such as social events, onboarding programs for new employees, and mixed training events:

"It [training] creates a really enhancing network and within that network, you can see that with certain problems, employees reach solutions together much easier" (HR Manager, organization F).

Table 8. The informal network

Case A	*'So, if you don't know how to get things done, you know who you need to get things done.'* - Manager
Case B	'*You have to know these people. And they need to know you. Then they will grant you things more easily and they will do things for you more easily…. If you invest in it yourself and you go and have a drink with them in Amsterdam and you go and watch a recording, then everyone is willing to involve you.'* – Chief Editor
Case C	*'Then we organize a sociable drink. We did this on purpose…to let people look beyond their direct colleagues within their unit or location., so they have an organization-wide scope. But also, to learn from each other.'* – HR Manager

Case D	*'Well, we have an introduction program…so you have a connection with the people that come in at the same time…and well if we meet within the organization, we still feel this connection.'* - Manager
Case F	*'Also, for my own initiative, I often need someone. And I always know someone from another department. So, in that way you have an informal network that works really well. And that allows you to do your job efficiently.'* - Manager

Participation in Decision-making

Some informants indicated that participation in decision-making is mostly aimed at creating buy-in and thereby achieving fast implementation of decisions:

> "So before we introduce something, we have already discussed with the works council, we have asked a number of people, we have had someone develop some things, we let it drop…and then it's almost always done rather quickly" (HR Manager, organization A); "So we decide together and we talk about it but in the end, he [the manager] is responsible for what we make, which message we carry out, and the success of it" (Chief Editor, organization B); "Decision-making at the management meetings… everyone can say what they want. In the end, the board decides, so they can do with [your input] what they want" (Manager, organization C).

Although the reasons for implementing participation in decision-making differ, all cases apply a post-bureaucratic approach, allowing for greater flexibility. But with this approach comes the potential for internal conflict due to conflicts of interest in the process of input-giving:

> "That people feel involved with the organization as a whole, I think that is very important. That is important for us so that everybody is not working for themselves…You have quite a lot of big egos here, people are very convinced of what they do…it is good to embed this. This tones it down and gives peace of mind" (Manager, organization A).

The organizations try to counteract this potential risk by focusing on the 'raison d'être' of the organization and employees pick up on it:

> "You see in [our division], the strategy and vision are not 'we build beautiful systems'. No, we want to enrich and enhance people's lives. So that is also how you need to build your organization" (Manager, organization E); "What is very much in our DNA, is where we come from, in the sense that we make television for [our target audience]. That's why

many people feel it makes perfect sense that there are some things we do not do and other things we do" (Manager, organization B).

This 'raison d'être' guides employees to provide relevant input to the decisions being made.

Formalization

The level of formalization in procedures and rules is very limited in organizations A through D, although this is not the same as having no formalization:

"These are basically just codes of conduct" (Manager, organization B).

Regarding the level of formalization, a slow change to more formalization was occurring, as described in organizations B (although very limited) and F.

"So those are the rules [referring to expenses] that we have added over the last years" (Manager, organization B); "We have now been in existence for about 26 or 27 years. And slowly you get into a phase that requires some kind of organization. Something with more structure" (Manager, organization F).

However, this was not because of ecosystem dynamics per se. Other reasons given included the increased complexity of jobs (high-tech systems) and the need to account for public funding (public broadcasting).

In Organizations E and F, we saw the greatest formalization. In organization E, external forces (including regulatory approvals for medical systems) lead to formal procedures and rules. In organization F, the level of formalization is due to the complexity of the machines. Interviewees indicated that it was not possible for anyone to have a complete overview of the workings of the machines, which permeated their whole way of working.n Interestingly, it appeared that the formal rules and procedures were not strictly enforced and much of the formalization could be overruled by informal mechanisms:

"We worked with procedures, but you were rewarded if you didn't achieve things to procedure and added your own intelligence…I think it was appreciated" (Manager, organization F); "Why would we frustrate someone with a form, a way of working or the colour of a pen, simply because we put it in a procedure?" (Manager, organization E).

This appears to be a response to having too much formalization in relation to the level of individual specialization:

> "You have to deal with 80% or 90% highly-educated people. They like to invent a better system. They leave existing documents behind to think up a new method" (HR manager, organization C).

Discussion

In this paper, we have explored how organizational structure can provide both stability and flexibility in an agile organization. Based on the analysis of qualitative data from six organizations operating in a dynamic ecosystem, we see that both bureaucratic and post-bureaucratic organizational forms are in use. The findings also show that potential disadvantages when combining these elements are mostly offset by informal mechanisms. We summarize the findings on these structural elements in Table 9.

Table 9. Summary of findings across cases

Structural element	Choice and effect	Potential disadvantage	Countermeasures taken
Specialization at the organizational level	Both an M- or F-structure (**bureaucratic**) as well as a project management structure (**post-bureaucratic**)	Conflict of interest	Centralized decision-making on resourcing of project teams
Specialization at the individual level	**Bureaucratic:** high level of specialization aimed at quality and efficiency.	Employees are less multiskilled and flexible	Broaden skills through HRM practices, mediated by the role of work climate
Decision autonomy	**Bureaucratic:** central decision-making on strategic topics and resource deployment.	Limited ability of top management to have all the relevant information	Where possible, make use of the input of employees through participation in decision-making

	Aimed at speed and predictable decision-making and having a stable overall goal / strategic focus	and be able to interpret it correctly	
	Post-bureaucratic: High level of decision autonomy for individuals and teams, leading to high motivation and leeway to respond to ecosystem dynamics	Individuals and teams do not have an overview of all the relevant information and do not know what other individuals and teams are doing	Build a strong internal informal network in which coordination takes place naturally
Participation in decision-making	**Post-bureaucratic:** high level of participation in decision-making aimed at consensus and collating all relevant information	Potential conflict of interest	Focus on the goal / strategic 'raison d'être' of the organization. Coordinated by centralized strategic decision-making
Formalization	**Bureaucratic:** high level of formalization due to external pressure (law) and internal need for control	Rigidity due to rules and regulations that do not fit the dynamic reality	Value non-conformist behaviour over conforming to procedures

The findings also allow us to develop propositions for future research on the way in which bureaucratic and post-bureaucratic organizational forms are combined and balanced. We discuss the findings through the

four elements of organization structure: specialization, decision autonomy, participation in decision-making, and formalization.

The findings indicate that the choices organizations make regarding specialization differ between the organizational level (business units, departments) and the individual job level. The competing specialization propositions are both confirmed at the organizational level, i.e. both high and low forms of specialization are implemented. The case studies all have an M- or F-structure in which departments operate as specialized groups focusing on similar types of work or expertise. These departments provide stability to employees, allowing them to develop routine behaviour. Simultaneously, the organizations also use a project management structure for specific activities related to the ecosystem. By combining both the M- or F-structure with the project management structure, agile organizations can constantly 'tweak' the set-up of the organizational structure (flexibility) while keeping the core of the structure intact (stability).

However, when combining both types of structures, a new dilemma arises. In the project management literature, this is referred to as the resource allocation syndrome (Engwall and Jerbrant, 2002). This syndrome occurs when limited resources are available for multiple projects and there is no organizational slack. Solutions for this syndrome have been found in planning and scheduling. However, in a dynamic ecosystem with unpredictable changes in the environment, there are obvious limitations to the possibilities of planning. Another solution has been found in the process of 'politics, horse trading, interpretation, and sense-making' (Engwall and Jerbrant, 2002; p. 408). This might also lead to a subpar outcome with a high potential for conflict. In the organizations studied, we found that they deal with the resource allocation syndrome by having a strongly centralized decision-making process for resource allocation. For strategic projects, it is not the responsibility of the project manager to assemble the team, but it is a decision made by top management. This leads to our first proposition for future research to explore the balancing act between high and low forms of organization-level specialization:

Proposition 1: Agile organizations use centralized decision-making on resource deployment for strategic projects to balance the stability of an M- or F-structure with the flexibility of a project structure to achieve a tweakable organizational structure.

At the individual job level, only high levels of specialization were observed. At this level, the organizations studied appear to put quality stability first. This quality is achieved by organizing around specialized

functions, allowing employees to develop routine behaviour of a specialized nature and become good at their job. Only when a certain level of quality is obtained are investments made in broadening employee skills. However, this does not mean that employees are not focused on multi-skilling within the context of their specialized function. Employees are open to investing in broadening their skill set; an attitude that is driven by their natural understanding of the dynamic nature of the ecosystem in which the organization operates and the subsequent need for flexibility. However, broadening skills is not aimed at generic functions, it is aimed at being able to fulfil quickly another specialist function.

This individual-level understanding or subjective perception defines the work climate of the organization (Schneider, 2000), which appears to be the result of management practices aimed at providing contextual clarity. This is in line with Shafer, Dyer, Kilty, Amos, and Ericksen's (2000, p. 15) findings on organizational agility: 'a firm grasp of environmental and organizational realities was essential if there was to be any hope of achieving a high level of employee dedication to the [organization]'s overall success'. Research has shown that work climate mediates the effect of HRM practices – such as training or internships – on business outcomes such as flexibility (Gelade and Ivery, 2003). This leads to our second proposition for future research:

Proposition 2: Agile organizations balance the stability of individual specialization aimed at quality with the need for flexibility through multi-skilling by developing a work climate based on understanding ecosystem dynamics.

Related to our second set of propositions, decision autonomy was found to be low regarding resource deployment for strategic activities and projects, which was also the case for formulating the organizational strategic plan. By centralizing strategic decision-making, the organizations achieved predictability in the decision-making process. However, centralized decision-making has a negative impact on the intrinsic motivation of employees to contribute to realizing the organization's strategy. In the organizations studied, this effect was counteracted by providing opportunities for participation in the strategic decision-making process. This participation is not about making decisions together, but about providing input and influencing the decisions (Leifer and Huber, 1977). By doing so, we see that the organizations realized easier and faster implementation of decisions by building buy-in (Heckscher, 1994). Furthermore, by using techniques for participation, more input is

generated on what is going on in the ecosystem, which also allows for faster decision-making (Eisenhardt, 1989).

We also proposed that agile organizations would implement a high level of participation in decision-making to achieve buy-in and thereby fast implementation of decisions. However, high levels of participation may also lead to high potential for internal conflict (Weber, 1958), since the interest of the individual might not be aligned with the organization. In such a case, employee participation may need to be combined with direction and guidance. This practice of loose-tight leadership (Sagie, 1997) seems to be achieved in the case organizations by focusing on the 'raison d'être' to guide the input of employees through participation. This leads to our next propositions for future research in terms of how agile organizations combine centralized decision-making with participation in the decision-making process:

> **Proposition 3.a:** Agile organizations combine centralized strategic decision-making with opportunities for participation in the strategic decision-making process to quickly formulate a strategy in response to ecosystem dynamics.
>
> **Proposition 3.b:** Agile organizations combine centralized strategic decision-making with opportunities for participation in the strategic decision-making process, through which consensus is reached and decisions are speedily executed.
>
> **Proposition 4:** Agile organizations guide participation in the decision-making process with a centralized focus on the raison d'être of the organization to lower the risk of internal conflict.

In all activities other than resource deployment for strategic activities/ projects and developing the organizational strategic plan, the case organizations mostly used a high level of decision autonomy for teams and individual employees. However, a problem arises when decisions are decentralized. Teams and employees need to coordinate their decisions with those made by other teams and employees (Foss et al., 2013). There is a need to share relevant information to achieve concerted decision-making. The employees in the case organizations make use of their informal network to exchange information, which is the fastest and easiest way for them to synchronize their decentralized decisions to achieve a coordinated response to ecosystem dynamics. This leads to the following proposition for future research:

Proposition 5: Agile organizations use a strong informal network in combination with decentralized decision-making to achieve a concerted response to dynamics in the ecosystem.

Finally, due to external pressure and internal drivers for quality, the case organizations all have some level of formalization regarding processes and procedures. This results in legitimacy and quality, two important features of survival for any organization. This formalization might, however, also lead to rigidity when the formalized rules and procedures are enforced through the threat of punishment, as is the case in the bureaucratic tradition (Dischner, 2015). Similarly, organizations might provide incentives for not following rules as observed in the case organizations, which appeared to balance the potential rigidity of formalization with an appreciation for non-conformist behaviour. This leads to our final proposition for future research:

Proposition 6: Agile organizations offset the rigidity of formalization due to legitimacy and quality with an appreciation of non-conformist behaviour by not strictly enforcing rules and procedures.

Conclusion

The literature on organizational structure and coping with ecosystem dynamics often discusses the concept of adaptability (Dyer and Schafer, 2003). By combining both the bureaucratic form aimed at stability with the post-bureaucratic form aimed at flexibility, we have been able to identify the features of the 'chaordic' organizational structure required to survive in a dynamic ecosystem. Our study shows that the organizational structure needs to combine both bureaucratic and post-bureaucratic features to provide both stability and flexibility. More importantly, we have shown that several management practices help in combining these features successfully.

Although our study adds to the empirical work on organizational structures in agile organizations, it also has some limitations. The study was limited to six cases, based on 47 interviews. Future research might expand the study to more cases in dynamic ecosystems and perform contrast studies: first, comparing organizations in a low dynamic ecosystem with organizations in a high dynamic ecosystem; second, comparing organizations that are able to survive in a dynamic ecosystem to those that were not able to survive. This last issue is, of course, difficult to research. Survival is at best a binary outcome: organizations either

survive or they die. It is relatively simple to select organizations that survive, however, we are unable to measure how good they are at survival. In other words, the fact that they survived so far does not exclude the possibility that they will die tomorrow and it is more difficult to collect data from organizations that have died.

Moreover, the level of ecosystem dynamics is difficult to determine, as even in a stable ecosystem, organizations might implement practices related to the organizational structure due to best practices and isomorphic pressures (DiMaggio and Powell, 1983). These may or may not contribute to the survival of the organization, or they may even have a negative effect on the performance of the organization since it is possibly an overkill of management practices (Wilden et al., 2013). In addition, organizations might have the dynamic capability present without using it (Helfat and Peteraf, 2009). Future research may benefit from quantitative research based on self-assessments by management on the extent of ecosystem dynamics and the level of organizational agility present.

Finally, the lack of clear measures of organizational agility limits our study. We took the perspective of observing structural elements being used by organizations in a dynamic ecosystem, assuming that they would need a certain minimum level of organizational structure features that would contribute to survival. In so doing, we used a subjective definition of dynamic ecosystems. Future research is encouraged to explore these challenges and opportunities.

Despite these limitations, our study has shown the need for combining different organizational forms simultaneously to address different needs simultaneously. In order to survive in a dynamic ecosystem, agile organizations need both stability and flexibility. These features are not mutually exclusive, but mutually supportive. To achieve these mutually supportive effects, practitioners need to look further than just the structural elements; they also need to focus on the underlying mechanisms that make these combinations work.

References

Aiken, M. and Hage, J. (1966). Organizational alienation: a comparative analysis. *American Sociological Review*, 31(4), 497–507.

Burns, T. and Stalker, G. M. (1961). *The management of innovation*. London: Tavistock.

Charmaz, K. (2006). *Constructing Grounded Theory: A Practical Guide Through Qualitative Analysis*, London, Sage

Dacin, M. T., Goodstein, J. and Scott, W. R. (2002). Institutional theory and institutional change: introduction to the special research forum. *Academy of Management Journal 45(1)*, 45–47.

Dess, G. G. and Beard, D. W. (1984). Dimensions of organizational task environments. *Administrative Science Quarterly*, 29(1), 52–73.

Diefenbach, T. and Sillince, J. A. A. (2011). Formal and Informal Hierarchy in different Types of Organization. *Organization Studies*, 32(11), 1515–1537.

DiMaggio, P. J. and Powell, W. W. (1983). The iron cage revisited: institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 48, 147–160.

Dischner, S. (2015). Organizational structure, organizational form, and counterproductive work behavior: A competitive test of the bureaucratic and post-bureaucratic views. *Scandinavian Journal of Management*, 31, 501–514.

Dyer, L. and Ericksen, J. (2006). *Dynamic Organizations: Achieving Marketplace Agility Through Workforce Scalability* (CAHRS Working Paper #06-12). Ithaca, NY: Cornell University, School of Industrial and Labor Relations, Center for Advanced Human Resource Studies.

Dyer, L. and Shafer, R. (2003). *Dynamic organizations: Achieving marketplace and organizational agility with people.* In Peterson RS. Mannix, ET AL. (Eds.) Leading and Managing People in the Dynamic Organization. Mahway, NJ: Lawrence Erlbaum.

Eisenhardt, K. M. (1989). Making fast strategic decisions in high-velocity environments. *Academy of Management Journal*, 32, 543–576.

Engwall, M. and Jerbrant, A. (2002). The resource allocation syndrome: the prime challenge of multi-project management? *International Journal of Project Management*, 21, 403–409.

Foss, N. J., Lyngsie, J. and Zahra, S. A. (2013). The role of external knowledge sources and organizational design in the process of opportunity exploitation. *Strategic Management Journal*, 34,1453-1471.

—. (2015). Organizational design correlates of entrepreneurship: The roles of decentralization and formalization for opportunity discovery and realization. *Strategic Organization*, 13(1), 32–60

Foster, R. and Kaplan, S. (2001). *Creative destruction: why companies that are built to last underperform the market and how to successfully transform them.* New York: Currency.

Frederickson, J. W. (1986). The strategic decision process and organizational structure. The *Academy of Management Review*, 11(2), 280–297.

Galbraith, J. (1973). *Designing complex organizations*. Reading, MA: Addison-Wesley.

Gelade, G. A. and Ivery, M. (2003). The impact of human resource management and work climate on organizational performance. *Personnel Psychology*, 56, 383-404.

Hage, J. and Aiken, M. (1969) Routing technology, social structure and organizational goals. *Administrative Science Quarterly*, 14, 368-379.

Heckscher, C. C. (1994). *Defining the post-bureaucratic type*. In C. C. Heckscher, & A. Donnellon (Eds.), The post bureaucratic organization: new perspectives on organizational change. London: Sage.

Helfat, C., Finkelstein, S., Mitchell, W., Peteraf, M., Singh, H., Teece, D. and Winter, S. (2007). *Dynamic Capabilities: Understanding Strategic Change in Organizations*. Blackwell Publishing: Malden, MA.

Helfat, C. and Peteraf, M. (2009). Understanding dynamic capabilities: progress along a developmental path. *Strategic Organization*, 7(1), 91– 102

Hock, D. (1999). *Birth of the chaordic age*. San Francisco, CA: Barrett-Koehler

Johnson, P., Wood, G., Brewster, C. and Brookes, M. (2009). The rise of postbureaucracy: theorists' fancy or organizational praxis? *International Sociology*, 24(1), 37–61

Joiner, T. A. (2001). The influence of national culture and organizational alignment on job stress and performance: evidence from Greece. *Journal of Managerial Psychology*, 16(3), 229–242.

Kira, M. and Forslin, F. (2008). Seeking regenerative work in the post-bureaucratic transition. *Journal of Organizational Change Management*, 21(1), 76–91.

Lawrence, P. R. and Lorsch, J. (1967). *Organization and Environment*. Boston: Harvard Graduate School of Business Administration.

Legerer, P., Pfeiffer, T., Schneider, G. and Wagner, J. (2009). Organizational Structure and Managerial Decisions. *International Journal of the Economics of Business*, 16(2), 147-159.

Leifer, R. and Huber, G. P. (1977). Relations Among Perceived Environmental Uncertainty, Organization Structure, and Boundary-Spanning Behavior. *Administrative Science Quarterly*, 22(2), 235–247

Miles, R. E., Snow, C. C. and Pfeffer, J. (1974). Organization-environment: Concepts and issues. *Industrial Relations*, 13, 244–264.

Mintzberg, H. (1979). *The structuring of organizations: a synthesis of the research*. Prentice Hall.

—. (1992). *Structure in fives: designing effective organizations*. Prentice Hall.

Nijssen, M. and Paauwe, J. (2012). HRM in turbulent times: how to achieve organizational agility? *The International Journal of Human Resource Management*, 23(16), 3315–3335.

Paauwe, J. (2004). *HRM and Performance: Achieving Long-term Viability*. Oxford: Oxford University Press.

Palmer, I., Benveniste, J. and Dunford, R. (2007). New organizational forms: Towards a generative dialogue. *Organization Studies*, 28, 1829–1847.

Pfeffer, J. (2013) You're still the same: why theories of power hold over time and across contexts. *The Academy of Management Perspectives*, 27(4), 269–280.

Piccolo, R. F. and Colquitt, J. A. (2006). Transformational leadership and job behaviors: the mediating role of core job characteristics. *Academy of Management Journal*, 49(2), 327–340.

Porter, M. E. (1980). *Competitive Strategy: Techniques for Analysing Industries and Competitors*. New York: Free Press.

Powell, W. W. (1998). *Institutional theory*. In Encyclopedia of Management, Cooper CL, Argyris C. (Eds.), Oxford: Blackwell.

Pursey, P., Heugens, M. and Lander, W. (2009). Structure! Agency! (and other quarrels): a meta-analysis of institutional theories of organization. *Academy of Management Journal*, 52(1) 61–85.

Rank, O. N. (2008). Formal structures and informal networks: Structural analysis in organizations. *Scandinavian Journal of Management*, 24, 145–161.

Rindova, V. P. and Kotha, S. (2001) Continuous "morphing": competing through dynamic capabilities, form, and function. *The Academy of Management Journal*, 44(6), 1263-1280.

Sagie, A. (1997). Leader Direction and Employee Participation in Decision Making: Contradictory or Compatible Practices? *Applied Psychology*, 46, 387–415.

Schneider, B. (2000). *The psychological life of organizations*. In N. M. Ashkanasy, C. P. Wilderom, & M. F. Peterson (Eds.), Handbook of organizational culture and climate: xvii-xxii. Thousand Oaks, CA: Sage.

Shafer, R. A., Dyer, L., Kilty, J., Amos, J. and Ericksen, J. (2000) *Crafting a human resource strategy to foster organizational agility: a case study*, CAHRS Working Paper, 00 – 08.

Simon, H. A. (1976). *Administrative behavior (3rd ed.)*. New York: Free Press.

Teece, D. J. (2007). Explicating dynamic capabilities: the nature and microfoundations of (sustainable) enterprise performance. *Strategic Management Journal* 28(13), 1319–1350.

Teece, D. J. Pisano, G. and Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, 18, 509–533.

Thompson, J. D. (1967). *Organizations in action*. New York: McGraw-Hill.

Ulrich, D. and Lake, D. (1990). *Organizational Capability: competing from the inside out.* Wiley, New York.

Weber, M. (1958). In H. H. Gerth, & C. W. Mills (Eds.), *From Max Weber: essays in sociology* New York: Oxford University Press

Wilden, R., Gudergan, S. P., Nielsen, B. B. and Lings, I. (2013). Dynamic Capabilities and Performance: Strategy, Structure and Environment. *Long Range Planning* 46, 72-96.

Wright, P. and Gardner, T. (2000). *Theoretical and empirical challenges in studying the HR practice-Firm Performance Relationship.* CAHRS Working Paper Series.

Appendix I – Interview Structure

Opening questions:
1. What are the core activities of your organization?
2. What are the key characteristics of your organization?
   a. Size
   b. Age
3. To what level is your environment dynamic?
4. To what level does your organization have to be agile?
5. Does your organization intentionally create organizational agility?

Key business process
What are the key business processes in the organization? Why do these processes determine customer value? Which human resources are most relevant in these key business processes?
   a. Competitive advantage:
      a. What is the added value of your organization for your customers?
      b. What is the mission of your organization?
      c. On what elements does your organization compete with its competitors?

    b. Key business process:
        a. Which processes are most important for achieving value for your customers?
        b. How do these processes add value to your customers?
        c. Which are the supporting processes for the key business processes?
    c. Human resources:
        a. Which groups of human resources operate primarily in the key business processes?
        b. How can the jobs in the key business processes be defined regarding:
- Long-term / short-term approach
- Strategic value
- Organizational / generic knowledge and skills

Dynamic environment

Which elements constitute the environment? How dynamic is this environment?

    a. Industry:
        a. Which are your most important competitors?
        b. How can these competitors be described?
        c. How influential are these competitors?
        d. How dynamic is the industrial environment with regards to the rate of change?
        e. Can you rate the predictability of these changes?
        f. How do these changes impact your organization?

EXAMPLE?

    b. Organizational field:
        a. Which relevant associations constitute the organizational field?
        b. How influential are these associations?
        c. How dynamic is the institutional environment with regards to the rate of change?
        d. Can you rate the predictability of these changes?
        e. How do these changes impact your organization?

EXAMPLE?

Organizational practices
Are workforce scalability, organizational reconfigurability, and embedded organizational learning present as competencies of your organization? Which organizational practices are used to achieve these competencies?
    a. Presence of competencies:
        a. To what extent is your workforce (related to the key business processes) scalable?
        b. To what extent does the organizational infrastructure facilitate or hinder acting in a dynamic environment?
        c. To what extent is organizational knowledge obtained and shared in your organization?

<div align="center">EXAMPLE?</div>

    b. Workforce scalability practices:
        a. Which practices are in place for creating strategic alignment with your workforce?
        b. Which practices are in place for creating numerical flexibility?
        c. Which practices are in place for creating functional flexibility?

    c. Organizational reconfigurability practices:
        a. To what extent are there constraints in your organizational design?
        b. Which organizational practices have you implemented to enhance fluid organizational design?
        c. To what extent have you routinized the internal key business processes?
        d. To what extent is relevant information (real-time) available to your employees?
        e. Does your workplace design facilitate or hinder organizational agility?

    d. Embedded organizational learning practices:
        a. How is new knowledge obtained by the organization?
        b. How is knowledge sharing facilitated or prevented (formally and informally)?
        c. Who is responsible for knowledge creation and sharing?
        d. Is knowledge being created/shared at the inter- and intraorganizational level?

Institutional mechanisms

Which institutional pressures are relevant regarding organizational practices? How does the organization cope with these institutional pressures internally? How does the organization cope with these institutional pressures externally?

    a. Institutional pressures:
        a. Which institutional pressures are related to organizational practices?
        b. To what extent do these institutional practices hinder or facilitate organizational practices?
        c. Which agents play an important role in defining these institutional pressures?

    b. Organizational response (related to organizational practices discussed):
        a. Who is responsible for dealing with the institutional pressures?
        b. What strategy does the organization adopt to deal with these institutional pressures?

<div align="center">EXAMPLE?</div>

CHAPTER SIX

THE FORGOTTEN WORKFORCE: OLDER FEMALE PART-TIME WORKERS' JOB CHARACTERISTICS

MAEVE O'SULLIVAN, CHRISTINE CROSS AND JONATHAN LAVELLE

Introduction

Much of the research on the rationale for the proliferation of part-time working by females has focused on younger, rather than older, working women with much debate and little agreement on these reasons (Kalleberg 2009, Fagan and Rubery 1996, Salladarré and Hlaimi 2014, Blossfeld and Hakim 1997, Yoon and Chung 2016). Indeed research on female part-time employment has attracted much academic interest in recent decades with some key themes having been identified (Lind and Rasmussen 2008). On one hand, part-time working arrangements have been extolled as facilitating caring responsibilities, allowing women to maintain a presence in the labour market, avoid skills obsolescence and depreciation of their human capital (Hakim 1996, Houseman 2001, Rubery, Horrell, and Burchell 1994). On the other hand, women working part-time are more likely to be lower paid (O'Sullivan 2012, Russo and Hassink 2008), less educated, older and working in temporary, low-level jobs with poor job tenure (Manning and Petrongolo 2008, Salladarré and Hlaimi 2014). Given the seemingly contradictory nature of the characteristics associated with female part-time employment and especially given its popularity in recent decades, a better understanding of its key characteristics is long overdue.

Part-time jobs have typically been considered to be rooted in the secondary labour market (Tijdens 2002, Turner, Cross, and Murphy 2017), which consists of 'low level, unskilled jobs which require no specific training' (Dekker, De Grip, and Heijke 2002, 109). These jobs are often

inferior in nature, attract poorer conditions and rates of pay (Russo and Hassink 2008, Fernandez-Kranz and Rodriguez-Planas 2011, O'Sullivan 2012), offer fewer promotional prospects (Glover and Arber 1995, Gornick and Jacobs 1996, Ketsche and Branscomb 2003, McDonald, Bradley, and Guthrie 2006) and provide less security of employment (Manning and Petrongolo 2008, Salladarré and Hlaimi 2014, Tijdens 2002), compared with full-time positions. In addition to low pay and poor conditions, some academics (e.g. Picchio and van Ours 2016, Connolly and Gregory 2009, Doeringer and Piore 1971, Fagan and Rubery 1996, Tilly 1996, Cain 1976, Hotchkiss 1991, Dickens and Lang 1985) point to other negative characteristics associated with part-time jobs in addition to secondary labour market employment. These include lower returns to human capital, inferior working conditions, job instability and limited career advancement prospects partly as a result of fewer employer-sponsored training opportunities. Moreover, previous research has found that only a small percentage of women were able to use part-time jobs as a bridge to full-time positions (e.g. O'Reilly and Bothfeld 2002, Månsson and Ottosson 2011).

As a consequence of the apparent conflicting characteristics related to part-time working, our research seeks to ascertain which characteristics are associated with the jobs of older female part-time workers. We interrogate these issues through the theoretical perspective of Dual labour market theory as it provides a useful lens through which to advance our understanding of these job characteristics. Much of the research on part-time working tends to focus on its prevalence and constraints for younger women. As a result, we focus on the *older* cohort of women (aged 50 to 64) working part-time in Ireland. This is a cohort worthy of examination for three reasons. Firstly, as people grow older, the likelihood of working part-time increases (Barrett et al. 2011). Secondly, this cohort is noteworthy given the high rate of part-time work among older women in Ireland – over one-third of all working women and almost half of those aged over 50 worked part-time in 2017 (OECD 2019). Finally, Ireland is a particularly bountiful location for researching the characteristics of female part-time jobs given that it has one of the highest rates of part-time working in the EU (CSO 2017). By providing some clarity on the characteristics associated with these jobs, we address the lacuna in this area in the Irish context.

Dual Labour Market Theory and Part-time Work

Segmentation theories provide a demand-side perspective on part-time working as the labour market is viewed as being comprised of distinct segments which are governed by differing rules regarding wage setting and employment policies with limited movement between segments. Dual labour market theory, a version of segmented labour market theory, suggests that the labour market is best described as containing two separate and distinct segments (primary and secondary), each of which possesses disparate features (Doeringer and Piore 1971). The primary market offers jobs characterised by superior terms and conditions of employment and are usually located in large private-sector companies and public sector organisations. In contrast, Doeringer and Piore (1971) deem the secondary sector as having jobs which, relative to those in the primary sector, are much less enticing. Consequently, workers in the secondary labour market can experience discrimination, tend to display less job attachment, higher absenteeism, poor punctuality, are less educated and work in unskilled jobs paying low wages with high labour turnover, few promotional opportunities and strict and subjective disciplinary procedures (Leontaridi 1998, Doeringer and Piore 1971, Rutherford 2006). Jobs in the secondary labour market usually offer little opportunity to acquire the necessary skills and experience to progress to the primary labour market (Turner, Cross, and Murphy 2017) and tend to be in organisations characterised by badly developed or non-existent internal labour markets exhibiting several ports of entry and low-mobility clusters (Creedy and Whitfield 1988). Dual labour market theory consists of two tenets: jobs in the primary sector are rationed and different wage setting mechanisms are applicable for different sectors (Meyer and Mukerjee 2007).

The original theories of dualism and labour market segmentation devoted little or no attention to, or debate on, women's labour markets, according to Rosenberg (1989) and Ghilarducci and Lee (2005). However, Ghilarducci and Lee (2005) suggest that in order for the dual labour market hypothesis to be accurately tested, all workers must be included. Studies of female labour market participation indicate that women in general, and working mothers in particular, tend to work in jobs located in the secondary labour market (Doeringer and Piore 1971, Ghilarducci and Lee 2005). Contrary to previous research (e.g. Friedberg, Lang, and Dickens 1988), Ghilarducci and Lee (2005) found that Dual labour market theory holds for women's labour markets, even when wages are used as the only measure of compensation. Moreover, O'Connell and Gash (2003) empirically researched the significance of labour market segmentation and

mobility in accounting for differences in compensation between full- and part-time workers in Ireland. Findings from their study suggest that labour market segmentation significantly impacts upon hourly wages as workers in the primary sector earn more per hour than those in the secondary labour market. Furthermore, these researchers found that the adverse effect of part-time working on wages is as a consequence of the 'concentration of part-time jobs in the secondary labour market, rather than working time per se' (O'Connell and Gash 2003, 84). After having controlled for personal characteristics, these scholars found that women working part-time earned less than their full-time colleagues; this however was not the case for male workers.

Methodology

Previous research suggests that part-time work in most societies tends to be mostly the preserve of females and is concentrated in the secondary labour market (Turner, Cross, and Murphy 2017), whose attributes include private sector employment, leading to lower hourly pay and poorer working conditions (Fagan and Rubery 1996, Tilly 1996, Anxo et al. 2007). Consequently, the indicators used in this research as a proxy for secondary labour market conditions are private sector employment and low hourly pay – classed as mean hourly earnings of below €10.38. According to a report by Sigmar Recruitment (2014), occupational pension provision and health assurance have been identified by Irish employees as being the most important employment benefits. As employee benefits are strongly linked to better employment conditions (Galinsky and Bond 1998), this study set out to investigate whether older female part-time workers were offered employment benefits of pension schemes and health assurance. This leads us to the following research questions:

Research Question 1: the jobs of older female part-time workers are located in the secondary sector of the labour market whose features include private sector employment and low wages.

Research Question 2: older female part-time workers are more likely to be offered poorer employment benefits compared with older female full-time workers, older male part-time workers, younger female part-time workers and younger male part-time workers.

This analysis draws on the National Employment Survey (NES) from 2008, a matched employer-employee dataset with a particular focus on earnings and includes socio-economic characteristics such as public/private sector employment, total work experience and mean earnings per hour. The rationale for using NES data from 2008 is twofold.

Firstly, the updated National Association of Corrosion Engineers (NACE) Rev.2 classification of economic sector of employment was introduced in 2008 to bring it into line with other Central Statistics Office (CSO) series. Secondly, the 2008 survey provides information on employee earnings and workplace conditions prior to the global financial crash and ensuing recession providing us with a true picture of part-time employment. This survey was discontinued in 2010.

In total 9,002 enterprises were sampled in 2008 from which 4,395 responded, a response rate of 49 percent. In terms of employees, 72,712 were sampled yielding information on 65,535 individuals – a response rate of 83 percent. Approximately 14,619 respondents (26 percent) worked in the public sector with 50,916 (74 percent) employed in the private sector. Survey responses to the NES were weighted by the CSO to allow for the NES to be grossed up to the employed Irish labour force of approximately 1.8 million employees in 2008. This study comprised five cohorts of workers as follows (see Table 1 below):

Table 1: Study population by selected worker cohort

Cohort	2008
Older female part-time workers	68,935
Older female full-time workers	86,957
Older male part-time workers	13,528
Younger female part-time workers	75,566
Younger male part-time workers	27,028

Source: NES 2008

Selected Cohorts

The five cohorts of workers included in this study are as follows: older, female part-time workers (OFPTW); older, female full-time workers (OFFTW); older, male part-time workers (OMPTW); younger, female part-time workers (YFPTW) and younger, male part-time workers (YMPTW). The rationale for including these worker cohorts is to allow for an investigation as to whether the characteristics of the jobs for older females working part-time differ from other cohorts based on gender, age and employment status. All cohorts studied in this research work part-time with the exception of OFFTW. This cohort is included to examine whether any observed differences in job characteristics can simply be attributed to

employment status. The rationale for identifying the chosen cohorts based on the relevant criteria is explained in the following paragraphs.

Age: In terms of chronological age, older workers are conceptualised at different ages, however, they are generally referred to as those being aged 50 and over (ILO 2008, Chou and Choi 2011). Within the NES 2008, age is entered as a continuous variable. In order to carry out the analysis, this variable was recoded into a new variable which captured individuals into the age groups which were relevant for this research. Accordingly, older workers are defined in this study as being aged 50-64 and younger workers are those aged 20-34.

Gender: Part-time work is predominantly carried out by women (OECD 2012, Turner, Cross, and Murphy 2017, Kulik et al. 2014). In addition, the literature posits that gender may influence employment decisions in the later stages of working life (Duberley, Carmichael, and Szmigin 2014, Finch 2014, Loretto and Vickerstaff 2015). Consequently, gender was a variable which was included in the analysis to explore its relevance within this study.

Part-time work: The International Labour Organization (ILO) defines part-time work as regular work carried out during working hours distinctly short than normal (Doris 1998). Traditionally, part-time work in the UK and Canada refers to up to 30 hours per week (Kahne 1992), this is also the definition used by the OECD (2010). For the purposes of this research, part-time employees are defined as those who normally work less than approximately 30 hours per week (CSO 2008).

Key Variables

As no direct secondary labour market indicator is available, a proxy indicator is constructed to incorporate private sector working and average hourly pay. These measures are used as part-time work is generally perceived as occupying the secondary labour market, whose features include private sector employment, leading to lower hourly pay and poorer working conditions (Fagan and Rubery 1996, Tilly 1996, Anxo et al. 2007). Accordingly, the binary variable *Sector* had the following response categories: 0 = *public sector*, 1 = *private sector*. The earnings variable was aggregated into three earnings groups, namely: (i) low-paid – earned less than €10.38 per hour; (ii) up to median earnings - mean hourly pay of between €10.39 and €15.50 and (iii) above median earnings - mean hourly pay over €15.50 per hour. In order to test the construct, a binary variable, *Average hourly pay*, was created with two response options 0 = *up to and above median earnings*, 1 = *low-paid*.

The second construct tests whether OFPTW are likely to be offered fewer employment benefits compared with the other cohorts of workers examined in this research. The NES 2008 employee questionnaire asked if employees were offered employment benefits with six response options: (i) childcare facilities, (ii) health assurance, (iii) employee support/counselling services, (iv) pension schemes, (v) life insurance and (vi) income protection plan for illness. Accordingly, two binary variables were created as follows: (i) *pension schemes*, 0 = no, 1 = yes and (ii) *health assurance*, 0 = no, 1 = yes.

The independent variable is cohort of worker, with OFPTW being the reference group, and is derived from the sampled employees in each enterprise. This proxy variable incorporates gender, age (older or younger workers) and employment status (working full- or part-time). In addition, four control variables are utilised in the analysis in order to yield more accurate information on the observed relationships among the variables of interest in this study. These control variables have all been identified in the literature as potentially influencing observed relationships between variables. Therefore, the variables of nationality, firm size, service with employer and trade union membership are employed in this study.

Analysis

In order to present a quantitative description of the data, descriptive statistics were used initially to assess the frequency of responses and the range of values for the variables relevant to this research. Pearson chi-square test was performed to assess the independence of the variables. Multivariate analysis, in the form of binary logistic regression, was used to measure the association between the dependent and the independent variables as this technique is particularly useful when looking to predict the presence or absence of a particular characteristic (Tüselmann, McDonald, and Thorpe 2006). Sample size must be considered when using logistic regression, as with most statistical methods (Pallant 2010). For samples larger than N=25,000, the use of the Hosmer-Lemeshow test is not recommended as a measurement of model/construct fit, hence the use of the Chi-square test for goodness of fit for this purpose (Paul, Pennell, and Lemeshow 2013). Table 2 summarises the binary logistic regression results.

The Forgotten Workforce

Table 2: Summary of regression analysis results

	OFFTW Odds ratios	OMPTW Odds ratios	YFPTW Odds ratios	YMPTW Odds ratios	Chi-square	Nagelkerke R^2
Secondary labour market indicators						
Private sector employment	-.600***	NS	1.250***	-.898**	.000	.831
Low hourly pay	-.417***	-.603***	1.328****	1.055**	.000	.226
Employment benefits offered by employer						
Pension schemes	1.867***	-.729*	1.108***	1.085*	.000	.285
Health assurance	1.226***	-.680***	-.750***	-.860***	.000	.201

We detail some of the key descriptive findings before turning to regression analyses, which were used to test the hypotheses. The regression analyses provide confirmation that there are some notable differences between the job characteristics of older female part-time workers and the other worker cohorts examined in this study.

Results

Private Sector Employment

There were almost 1.6 million persons in employment in Ireland in 2008. Although there were more females (N=811,848) than males (N=787,449) in the labour force, females represented 43 percent (N=547,523) of those in full-time employment and 80 percent (N=264,325) of those working part-time during this period. Among OFPTW, almost two-thirds (64.4 percent, N=44,372) worked in the private sector. This figure is significantly lower than for the other part-time cohorts, but higher than the OFFTW cohort, where just over half (54.7 percent, N=47,544) worked in the private sector. Table 3 highlights the frequencies for worker cohorts.

The Forgotten Workforce

Table 3: Frequencies for worker cohorts

	OFPTW	OFFTW	OMPTW	YFPTW	YMPTW	N
Secondary labour market indicators						
Private sector employment	64%	55%	82%	78%	86%	185,445
Low average hourly pay	32%	13%	29%	42%	39%	57,715
Employment benefits offered by employer						
Pension schemes	50%	69%	33%	38%	35%	82,775
Health assurance	20%	30%	11%	13%	15%	30,597

Source: NES 2008

The data indicates that all cohorts of workers, apart from OMPTW, are statistically significant. After controlling for demographic and socio-economic characteristics, older female full-time workers (p<.01) and younger male part-time workers (p<.05) are less likely to be working in the private sector as compared to older female part-time workers (Table 4).

Table 4: Likelihood of OFPTW being employed in the private sector

Variable Worker cohort	N	B	S.E.	Odds Ratio
OFPTW (ref)	2,500			
OFFTW	2,839	-.511***	.030	.600
OMPTW	700	-.024	.060	.977
YFPTW	2,355	.223***	.034	1.250
YMPTW	901	-.107**	.052	.898
Nationality				
Non-Irish (ref)	1,024			
Irish	8,271	-.481***	.042	.618
Firm size				
Under 10 (ref)	1,417			
11 to 50	3,110	-.869***	.167	.419
51 to 200	1,493	-3.941***	.153	.019
201 to 500	973	-5.731***	.153	.003
500+	2,302	-7.093***	.151	.001
Service with employer				
Under 5 years (ref)	4,149			
Over 5 years	5,146	-.531***	.026	.588
Trade union membership				
Non-member (ref)	6,473			
Member	2,822	-.558***	.024	.572

Mean Hourly Earnings

Almost one-third (32.4 percent, N=14,395) of all OFPTW in the private sector were *low-paid,* i.e. earned less than €10.38 per hour (see Figure 1 below). This compares with 13.1 percent (N=6,220) of OFFTW, less than one-third (29 percent, N=3,238) of OMPTW, more than two out of every 5 (42.1 percent, N=24,856) YFPTW and 38.7 percent (N=9,006) of YMPTW. Among the older cohorts, the highest proportion of low-paid workers came from the older female part-time worker cohort with almost one-third being low-paid.

Figure 1: All cohorts: Private sector, mean earnings per hour (%)
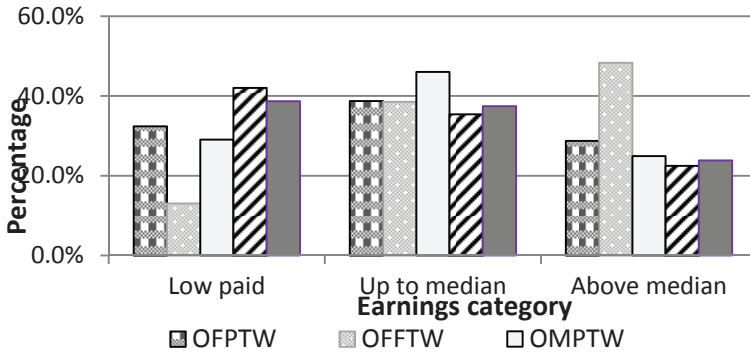
The data indicates that all worker cohorts are statistically significant. After controlling for personal and socio-economic characteristics, these findings reveal that in the private sector, older women working full-time (p<.01) and older men working part-time (p<.01) are less likely to be low-paid compared to older female part-time workers (Table 5). Accordingly, support is offered for Research Question one: the jobs of OFPTW are located in the secondary sector of the labour market whose features include private sector employment and low wages.

**Table 5: Likelihood of OFPTW receiving low average hourly pay**

Variable	N	B	S.E.	Odds Ratio
Worker cohort				
OFPTW (ref)	2,075			
OFFTW	2,107	-.876***	.020	.417
OMPTW	591	-.506***	.027	.603
YFPTW	2,085	.284***	.017	1.328
YMPTW	825	.053**	.021	1.055
Nationality				
Non-Irish (ref)	942			
Irish	6,741	-.337***	.017	.714
Firm size				
Under 10 (ref)	1,405			
11 to 50	3,085	-.407***	.015	.666
51 to 200	1,388	-.861***	.020	.423
201 to 500	699	-.726***	.025	.484

Variable	N	B	S.E.	Odds Ratio
500+	1,106	-1.428***	.021	.240
Service with employer				
Under 5 years (ref)	3,079			
Over 5 years	3,974	-.265***	.013	.768
Trade union membership				
Non-member (ref)	5,950			
Member	1,733	-.133***	.017	.876

Employment Benefits

This research question is explored using two employment benefits: pension schemes and health assurance. In terms of pension schemes, Figure 2 shows that half of all OFPTW (50.0 percent, N=20,501) were offered this benefit by their employer, compared with over two-thirds of OFFTW (69.1 percent, N=31,047), one-third (33.4 percent, N=3,399) of OMPTW, 37.5 percent (N=20,814) of YFPTW and 35.4 percent (N=19,813) of YMPTW. Figure 1.2 illustrates that 20 percent (N=7,813) of OFPTW were offered health assurance by their employer, compared with 29.8 percent (N=12,201) of OFFTW. Among the other part-time cohorts, health assurance was offered to 10.9 percent (N=1,006) of OMPTW, 12.5 percent (N=6,784) of YFPTW and 14.7 percent (N=2,793) of YMPTW.

Figure 2: All cohorts: Employment benefits offered by employers (%)
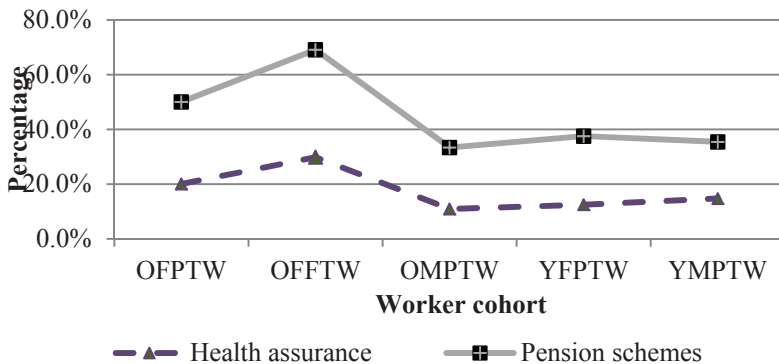
The data indicates that all cohorts of workers are statistically significant at the (p <.01) level. After controlling for demographic and socio-economic characteristics, older female full-time workers, younger female full-time workers and younger male part-time workers are more likely to be offered pension schemes compared to older female part-time workers (Table 6).

Table 6: Likelihood of OFPTW being offered pension schemes by employer

Variable	N	B	S.E.	Odds Ratio
Worker cohort				
OFPTW (ref)	1,909			
OFFTW	2,000	.625***	.017	1.867
OMPTW	526	-.316***	.028	.729
YFPTW	1,958	.102***	.018	1.108
YMPTW	750	.081***	.023	1.085
Nationality				
Non-Irish (ref)	837			
Irish	6,270	.378***	.018	1.460
Firm size				
Under 10 (ref)	1,275			
11 to 50	2,859	.164***	.016	1.178
51 to 200	1,302	.639***	.020	1.894
201 to 500	645	.893***	.026	2.443
500+	1,062	1.884***	.021	6.578
Service with employer				
Under 5 years (ref)	3,440			
Over 5 years	3,703	.929***	.013	2.533
Trade union membership				
Non-member (ref)	5,475			
Member	1,668	.521***	.016	1.684

Turning to the employment benefit of health assurance, the data indicates that all cohorts of workers are statistically significant at the p <.01 level. After controlling for demographic and socio-economic characteristics, older female full-time workers are more likely to be offered health assurance compared to older female part-time workers (Table 7). Accordingly, support is offered for Research Question two: older female part-time workers are more likely to be offered poorer employment benefits compared with older female full-time workers, older

male part-time workers, younger female part-time workers and younger male part-time workers.

Table 7: Likelihood of OFPTW being offered health assurance by employer

Variable Worker cohort	N	B	S.E.	Odds Ratio
OFPTW (ref)	1,771			
OFFTW	1,844	.204***	.022	1.226
OMPTW	505	-.386***	.040	.680
YFPTW	1,918	-.288***	.024	.750
YMPTW	735	-.150***	.030	.860
Nationality				
Non-Irish (ref)	859			
Irish	5,914	-.120***	.023	.887
Firm size				
Under 10 (ref)	1,228			
11 to 50	2,714	.241***	.024	1.273
51 to 200	1,251	.967***	.028	2.629
201 to 500	602	1.002***	.034	2.724
500+	978	1.831***	.027	6.238
Service with employer				
Under 5 years (ref)	3,327			
Over 5 years	3,446	.578***	.018	1.783
Trade union membership				
Non-member (ref)	5,224			
Member	1,549	.159***	.019	1.172

Discussion

As previously discussed, Dual labour market theory situates part-time jobs in the secondary segment of the labour market characterised by inferior working conditions, few promotional prospects and poorer rates of pay, compared with primary sector jobs (e.g. Fagan and Rubery 1996, Tilly 1996, Anxo et al. 2007). Various scholars of female labour market participation (e.g. Doeringer and Piore 1971, Ghilarducci and Lee 2005, Turner, Cross, and Murphy 2017) suggest that women are most likely to work in part-time jobs occupying the secondary labour market.

Private Sector Employment

Our findings reveal that two thirds of older female part-time workers in Ireland were employed in the private sector. Interestingly, after controlling for demographic and socio-economic characteristics, older female part-time workers were almost twice as likely to be working in the private sector compared with older females working full-time and less likely to be working in the private sector compared with younger women working part-time. These results confirm findings from the dual labour market literature (Salladarré and Hlaimi 2014, Payne and Doyal 2010) that part-time workers tend to be mostly female, younger and older. Furthermore, these findings are in agreement with Kalleberg (2009), Vallas and Prener (2012) and Yoon and Chung (2016) whose findings from the UK show part-time jobs to be precarious, secondary labour market employment.

In addition to the findings relating to the extent of part-time working by older females in Ireland, its prevalence, relative to the EU average, is also noteworthy. Significantly, findings from the current study show that the share of part-time employment by females is higher in Ireland, at 33 percent, than the EU average of 27 percent (Luong and Hébert 2009, OECD 2017), raising questions about the availability of 'good' quality jobs for women in contemporary Ireland. Given that public sector jobs are considered to be superior, the results suggest that this cohort has limited access to public sector jobs, compared to older women working full-time. On this point, Turner and McMahon (2011) suggest that, compared to the public sector, companies in the private sector are likely to offer inferior family friendly benefits to female workers and are therefore less attractive to women. McGovern, Smeaton, and Hill (2004) found that 'bad' jobs in the UK were related to part-time or temporary work by older or younger females.

Part-time Work and Earnings

Researchers of Dual labour market theory (e.g. Doeringer and Piore 1971, Zang 2002) propose that while human capital characteristics such as education and work experience are rewarded in the primary sector and can help to explain the fluctuations in wages in that sector, these characteristics are not rewarded in the secondary sector. Contrary to this argument, human capital theorists suggest that people seek to maximise their returns to educational attainment through employment and earnings and point to worker, rather than job characteristics as being the main determinant of productivity and consequently, wage differentials

(Fleischmann and Höhne 2013, Hughes and Nolan 1997). Findings from our research show that among the older cohorts, the highest proportion of low-paid workers came from the older female part-time worker cohort with almost one-third being low-paid (earning less than €10.38 per hour). After controlling for personal and socio-economic characteristics, these findings reveal that in the private sector, older female part-time workers were significantly more likely to receive low pay, compared with older women working full-time and older men working part-time. These results confirm a number of issues raised in the literature with regard to pay for older women working part-time and support Fernández-Kranz and Rodríguez-Planas' (2011) findings that the wage differentials between full- and part-time workers persist even after controlling for individual and firm-level heterogeneity. Indeed, with the exception of one study from the US (Blank 1990), these findings are in agreement with the conclusions from most EU and OECD countries that part-time workers receive lower average hourly wages compared with their full-time equivalents (e.g. Wolf 2002, Hu and Tijdens 2003, Manning and Petrongolo 2008, Connolly and Gregory 2008, Bardasi and Gornick 2008, Matteazzi, Pailhé, and Solaz 2014).

Findings from our study also concur with O'Connell and Gash's (2003) findings that labour market segmentation significantly impacts upon hourly wages, as those working in the primary sectors earned more per hour than those in the secondary sector of the labour market. Turner et al. (2017) argue that this type of occupational segregation leads to labour surpluses, thus reducing women's pay relative to men who, according to McGuinness et al. (2009) compete in different and less congested labour markets. The findings from this research, in agreement with Miller and Hayward (2006), McGuinness et al. (2009) and Turner, Cross, and Murphy (2017), reveal that older female part-time workers were significantly more likely to be low-paid compared with older men working part-time.

In agreement with commentators such as Manning and Petrongolo (2008), Russo and Hassink (2008), O'Sullivan (2012) and Salladarré and Hlaimi (2014), we find that older women working part-time in Ireland are more likely to be lower paid compared with older women working full-time and older men working part-time. This is an issue of concern for policy makers, as in an international context, Ireland has the fourth highest proportion of low-paid workers among OECD countries after the US, Estonia and South Korea, with the majority of these workers being women (OECD 2012). These finding also raise concerns for the risk of in-work poverty for this cohort, given that a recent study by Heyes and Lewis

(2014) found that this risk tends to be greater for workers in part-time, rather than full-time employment.

Employment Benefits

In addition to other negative connotations, Doeringer and Piore (1971) associate secondary sector jobs with poor working conditions. Gash (2008) suggests that employers' provision of good quality, part-time employment is likely to have an impact on the proportion of workers who work part-time by preference. However, most research has found part-time work to be of poor quality (e.g. Bardasi and Gornick 2008, Gash 2008). According to a recent report (Sigmar Recruitment 2014), occupational pension schemes and private health cover are deemed by Irish workers to be the two most important employment benefits. Indeed, occupational pensions and health care provision may be older workers' most valuable employee benefits.

Our research findings suggest that half of the older female part-time worker cohort was offered access to occupational pension schemes. To put this in context, Irish legislation requires employers, under The Pensions (Amendment) Act (2002), to ensure that employees have access to a Standard Personal Retirement Savings Account, regardless of employment status (The Pensions Authority 2016). After controlling for demographic and socio-economic characteristics, this research finds that older women working part-time were significantly less likely to be offered access to occupational pension schemes compared with their full-time counterparts. However, this cohort was more likely to be offered this employment benefit than older males working part-time and as likely as the younger part-time cohorts. Additionally, this research shows that only 20 percent of older female part-time workers were offered access to private health cover compared with 30 percent of older women working full-time. Regression analysis confirms that older women working part-time were less likely to be offered this benefit compared with older female full-time workers.

Our findings concur with those from Galinsky and Bond (1998) which found that companies in the USA are less likely to offer health care to part-time employees compared with full-time workers, suggesting access to employment benefits based on employment status. One yardstick for distinguishing between 'good' and 'bad' jobs, according to Kalleberg, Reskin, and Hudson (2000), is to compare workers' overall compensation levels which includes wages and additional benefits. As with employer-sponsored access to occupational pensions, our research finds that part-time working women had limited access to health cover compared with the

older female full-time cohort. This leads to the conclusion that access to employment benefits is contingent on employment status.

Conclusion

As a result of the feminisation of the paid labour force in recent decades, more than one-third of all working women and almost half of all older women work part-time in Ireland. However, this occurrence is not unique to Ireland; part-time work has also become more prevalent across the EU in recent times. Previous research (e.g. Leschke and Vandaele 2018) found that, compared to full-time work, part-time employment is more unstable and leads to higher rates of transition to unemployment. In addition, much of the literature characterises part-time jobs as secondary labour market employment, attracting lower rates of pay, few promotional prospects, poorer employment benefits and limited return on human capital investment, compared to full-time jobs (e.g. Fagan and Rubery 1996, Tilly 1996, Anxo et al. 2007, Fernandez-Kranz and Rodriguez-Planas 2011, Salladarré and Hlaimi 2014, Dekker and van der Veen 2015, Wenger 2001, Doeringer and Piore 1971). Given the negative characteristics associated with part-time employment, this study sought to address key gaps in the existing literature and empirical knowledge regarding the characteristics associated with the jobs of older females working part-time in the Irish labour market. Consequently, two hypotheses were tested which examined (i) secondary labour market employment among older female part-time workers through a proxy indicator constructed to incorporate private sector working and low wages and (ii) employment benefits offered to this cohort compared with the other cohorts of workers examined in this study. The key findings suggest that these jobs were located in the secondary sector of the labour market whose features include private sector employment and low wages. In addition, relative to the other cohorts studied in this research, this worker cohort was less likely to be offered key employment benefits.

The results from this study raise serious concerns regarding the likelihood for precarious employment for older females working part-time. These findings have implications at the individual, organisational and societal levels and speak to the value which is placed on the work undertaken by older females who work part-time. Researchers such as Fredman (2004) and Pollert and Charlwood (2009) highlight the vulnerability of women who alternate between paid and unpaid work; part-time female employment is particularly vulnerable as a result of the low pay associated with this work. In addition to low pay and employment

insecurity, O'Connor (2009) highlights precarious employment in the Irish context as leading to inadequate pension provision in later life. A heightened awareness is required by women of the short- and long-term financial implications of intermittent work attachment and part-time employment. The Irish Government recently legislated for improved working conditions for vulnerable workers through The Employment (Miscellaneous Provisions) Act 2018 which will come into force in March 2019. From an organisational perspective, employers may face increased employment costs arising from the implementation of this legislation which will have significant implications for the regulation of casual workers.

This innovative study's results support the findings of many dual labour market scholars who posit that these jobs generally occupy the secondary labour market, attracting lower hourly pay and poorer terms and conditions of employment. Given the pay and benefits found to be associated with these jobs, this type of employment can also lead to reduced access to social protection benefits, compared to full-time employment, as found by previous research. The findings lead to the conclusion that, in agreement with Dual labour market theorists, part-time employment among this worker cohort in the Irish context is secondary labour market employment where human capital characteristics are rewarded to a limited extent. This leads to the conclusion that it is primarily the characteristics of the job, rather than the person, which dictate the terms and conditions of employment.

References

Anxo, D., C. Fagan, M. Smith, M-T. Letablier, and C. Perraudin. 2007. Part-time work in European companies: Establishment survey on working time 2004-2005. edited by European Foundation for the Improvement of Living and Working Conditions. Luxembourg: Office for Official Publications on the European Union.

The Pensions Authority, 2016. What are my Pension Options. edited by The Pensions Authority.

Bardasi, Elena, and Janet C Gornick. 2008. "Working for less? Women's part-time wage penalties across countries." *Feminist economics* 14 (1):37-72.

Barrett, Alan, Rose Anne Kenny, George Savva, and Virpi Timonen. 2011. Fifty Plus in Ireland 2011. First results from the Irish Longitudinal Study on Ageing (TILDA). edited by A Barrett, G Savva, V Timonen and R Kenny. Dublin: Trinity College.

Blank, Rebecca M. 1990. "Are part-time jobs bad jobs?" In *A future of lousy jobs*, 123-155. Washington, DC: The Brookings Institution.

Blossfeld, Hans-Peter, and Catherine Hakim. 1997. *Between equalization and marginalization: women working part-time in Europe*: Oxford University Press.

Cain, Glen G. 1976. "The challenge of segmented labor market theories to orthodox theory: a survey." *Journal of Economic Literature* 14 (4):1215-1257.

Chou, Rita Jing-Ann, and Namkee G Choi. 2011. "Prevalence and correlates of perceived workplace discrimination among older workers in the United States of America." *Ageing and Society* 31 (06):1051-1070.

Connolly, Sara, and Mary Gregory. 2008. "Moving Down: Women's Part-Time Work and Occupational Change in Britain 1991–2001*." *The economic journal* 118 (526):F52-F76.

—. 2009. "The part-time pay penalty: earnings trajectories of British Women." *Oxford Economic Papers-New Series* 61:I76-I97. doi: 10.1093/oep/gpn043.

Creedy, John, and Keith Whitfield. 1988. "Earnings and job mobility over the life cycle: internal and external processes." *International Journal of Manpower* 9 (2):8-16.

CSO. 2008. Earnings and Labour Costs, Quarter 1 2008 (Final) Quarter 2 2008 (Preliminary Estimates). Dublin: Central Statistics Office.

Dekker, Fabian, and Romke van der Veen. 2015. "Modern working life: A blurring of the boundaries between secondary and primary labour markets?" *Economic and Industrial Democracy*:0143831X14563946.

Dekker, Ron, Andries De Grip, and Hans Heijke. 2002. "The effects of training and overeducation on career mobility in a segmented labour market." *International Journal of Manpower* 23 (2):106-125.

Dickens, William T, and Kevin Lang. 1985. "A test of dual labor market theory." *The American Economic Review* 75 (4):792-805.

Doeringer, Peter B, and Michael J Piore. 1971. *Internal labor markets and manpower analysis*: ME Sharpe.

Doris, Aedin. 1998. "Married Women in the Irish Part-Time Labour Market." *Economic and Social Review* 29 (2):157-178. doi: http://www.esr.ie/esrpage4.html.

Duberley, Joanne, Fiona Carmichael, and Isabelle Szmigin. 2014. "Exploring women's retirement: Continuity, context and career transition." *Gender, Work & Organization* 21 (1):71-90.

Fagan, Colette, and Jill Rubery. 1996. "The salience of the part-time divide in the European Union." *European Sociological Review* 12 (3):227-250.

Fernandez-Kranz, Daniel, and Nuria Rodriguez-Planas. 2011. "The part-time pay penalty in a segmented labor market." *Labour Economics* 18 (5):591-606. doi: 10.1016/j.labeco.2011.01.001.

Finch, Naomi. 2014. "Why are women more likely than men to extend paid work? The impact of work–family life history." *European Journal of Ageing* 11 (1):31-39.

Fleischmann, Fenella, and Jutta Höhne. 2013. "Gender and migration on the labour market: Additive or interacting disadvantages in Germany?" *Social science research* 42 (5):1325-1345.

Fredman, Sandra. 2004. "Women at work: The broken promise of flexicurity." *Industrial Law Journal* 33 (4):299-319.

Friedberg, Rachel, Kevin Lang, and William T Dickens. 1988. "The Changing Structure of the Female Labor Market: 1976-1984." *IRRA 41st Annual Proceedings*.

Galinsky, Ellen, and James T Bond. 1998. *The Business Work-Life Study, 1998: A Sourcebook*: ERIC.

Gash, Vanessa. 2008. "Preference or constraint? Part-time workers' transitions in Denmark, France and the United Kingdom." *Work, Employment & Society* 22 (4):655-674.

Ghilarducci, T., and M. Lee. 2005. "Female dual labour markets and employee benefits." *Scottish Journal of Political Economy* 52 (1):18-37. doi: 10.1111/j.0036-9292.2005.00332.x.

Glover, Judith, and Sara Arber. 1995. "Polarization in mothers' employment." *Gender, Work & Organization* 2 (4):165-179.

Gornick, Janet C, and Jerry A Jacobs. 1996. "A cross-national analysis of the wages of part-time workers: Evidence from the United States, the United Kingdom, Canada and Australia." *Work, Employment & Society* 10 (1):1-27.

Hakim, Catherine. 1996. *Key issues in women's work: Female heterogeneity and the polarisation of women's employment*. Vol. 4: Continuum.

Heyes, Jason, and Paul Lewis. 2014. "Employment protection under fire: Labour market deregulation and employment in the European Union." *Economic and Industrial Democracy* 35 (4):587-607.

Hotchkiss, Julie L. 1991. "The Definition of Part-Time Employment: A Switching Regression Model with Unknown Sample Selection." *International Economic Review* 32 (4):899-917. doi:

http://onlinelibrary.wiley.com/journal/10.1111/%28ISSN%291468-2354/issues.

Houseman, Susan N. 2001. "Why Employers Use Flexible Staffing Arrangements: Evidence from an Establishment Survey." *Industrial and Labor Relations Review* 55 (1):149-170. doi: 10.2307/2696191.

Hu, Y, and K Tijdens. 2003. Choices for Part-Time Jobs and the Impacts on the Wage Differentials. A Comparative Study for Great Britain and the Netherlands. In *An Integrated Research Infrastructure in the Socio-Economic Sciences*, edited by IRISS Workiing Paper Series. Differdange, Luxembourg: CEPS/INSTEAD.

Hughes, Gerard, and Brian Nolan. 1997. "Segmented labour markets and earnings in Ireland." *The Economic and Social Review* 28 (1):1-22.

ILO. 2008. Conditions of work and employment: Issues for older workers' information sheet. edited by International Labour Office. Geneva, Switzerland: International Labour Office.

Kahne, Hilda. 1992. "Part-time work: A hope and a peril." *Working part-time: Risks and opportunities*:295-309.

Kalleberg, A. L., B. F. Reskin, and K. Hudson. 2000. "Bad jobs in America: standard and nonstandard employment relations and job quality in the United States." *American Sociological Review* 65 (2):256-278.

Kalleberg, Arne L. 2009. "Precarious work, insecure workers: Employment relations in transition." *American Sociological Review* 74 (1):1-22.

Ketsche, P. G., and L. Branscomb. 2003. "The long-term costs of career interruptions." *Journal of Healthcare Management* 48 (1):30-30.

Kulik, Carol T, Susan Ryan, Sarah Harper, and Gerard George. 2014. "Aging populations and management." *Academy of Management Journal* 57 (4):929-935.

Leontaridi, Marianthi. 1998. "Segmented Labour Markets: Theory and Evidence." *Journal of Economic Surveys* 12 (1):63.

Leschke, Janine, and Kurt Vandaele. 2018. "Explaining leaving union membership by the degree of labour market attachment: Exploring the case of Germany." *Economic and Industrial Democracy* 39 (1):64-86.

Lind, Jens, and Erling Rasmussen. 2008. "Paradoxical patterns of part-time employment in Denmark?" *Economic and Industrial Democracy* 29 (4):521-540.

Loretto, Wendy, and Sarah Vickerstaff. 2015. "Gender, age and flexible working in later life." *Work, employment and society* 29 (2):233-249.

Luong, May, and Benoît-Paul Hébert. 2009. "Age and earnings." *Perspectives on Labour and Income* 21 (1):19.

Manning, Alan, and Barbara Petrongolo. 2008. "The Part-Time Pay Penalty for Women in Britain*." *The Economic Journal* 118 (526):F28-F51.

Månsson, Jonas, and Jan Ottosson. 2011. "Transitions from part-time unemployment: Is part-time work a dead end or a stepping stone to the labour market?" *Economic and industrial democracy* 32 (4):569-589.

Matteazzi, Eleonora, Ariane Pailhé, and Anne Solaz. 2014. "Part-time wage penalties for women in prime age: A matter of selection or segregation? Evidence from four European countries." *ILR Review* 67 (3):955-985.

McDonald, Paula K., Lisa M. Bradley, and Diane Guthrie. 2006. "Challenging the Rhetoric of Choice in Maternal Labour-Force Participation: Preferred Versus Contracted Work Hours." *Gender, Work & Organization* 13 (5):470-491. doi: 10.1111/j.1468-0432.2006.00318.x.

McGovern, Patrick, Deborah Smeaton, and Stephen Hill. 2004. "Bad jobs in Britain: Nonstandard employment and job quality." *Work and occupations* 31 (2):225-249.

McGuinness, Seamus, Elish Kelly, Philip O'Connell, and Tim Callan. 2009. Assessing the impact of wage bargaining and worker preferences on the gender pay gap in Ireland using the national employment survey 2003. ESRI working paper.

Meyer, C. S., and S. Mukerjee. 2007. "Investigating dual labor market theory for women." *Eastern Economic Journal* 33 (3):301-316.

Miller, Linda, and Rowena Hayward. 2006. "New jobs, old occupational stereotypes: Gender and jobs in the new economy." *Journal of Education and Work* 19 (1):67-93.

O'Connell, P. J., and H. Gash. 2003. "The effects of working time, segmentation and labour market mobility on wages and pensions in Ireland." *British Journal of Industrial Relations* 41 (1):71-95. doi: 10.1111/1467-8543.00262.

O'Reilly, Jacqueline, and Silke Bothfeld. 2002. "What happens after working part time? Integration, maintenance or exclusionary transitions in Britain and western Germany." *Cambridge Journal of Economics* 26 (4):409-439.

O'Sullivan, S. 2012. "Onwards and Upwards? Gender and Work in Ireland." *Sociology Compass* 6 (5):376-388.

O'Connell, P. J., and V. Gash. 2003. "The Effects of Working Time, Segmentation and Labour Market Mobility on Wages and Pensions in Ireland." *British Journal of Industrial Relations* 41 (1):71-95.

O'Connor, Julia S. 2009. "Precarious employment in the context of the European Employment Strategy." *Gender and the contours of precarious employment*:92.

OECD. 2010. Employment Outlook: Moving beyond the jobs crisis. Paris: Organisation for Economic Co-operation and Development.

—. 2012. Close the Gender Pay Gap Now. Paris: OECD.

—. 2017. OECD Labour Force Statistics. edited by OECD Employment and Labour Market Statistics (database). Paris: OECD.

—. 2019. OECD Labour force Statistics. edited by OECD. Paris: OECD.

Pallant, J. 2010. "SPSS survival manual, 4th." *England: McGraw-Hill Education*.

Paul, Prabasaj, Michael L. Pennell, and Stanley Lemeshow. 2013. "Standardizing the power of the Hosmer–Lemeshow goodness of fit test in large data sets." *Statistics in Medicine* 32 (1):67-80. doi: 10.1002/sim.5525.

Payne, S, and L Doyal. 2010. "Older women, work and health." *Occupational Medicine* 60 (3):172-177.

Picchio, Matteo, and Jan C van Ours. 2016. "Gender and the effect of working hours on firm-sponsored training." *Journal of Economic Behavior & Organization* 125:192-211.

Pollert, Anna, and Andy Charlwood. 2009. "The vulnerable worker in Britain and problems at work." *Work, Employment and Society* 23 (2):343-362.

Recruitment, Sigmar. 2014. Employee Benefits Report 2014. Dublin.

Rosenberg, S. 1989. "From Segmentatin to Flexibility." *Labour and Society* 14 (4):363-407.

Rubery, Jill, Sara Horrell, and Brendan Burchell. 1994. "Part-time work and gender inequality in the labour market." *Gender segregation and social change*:205-34.

Russo, Giovanni, and Wolter Hassink. 2008. "The part-time wage gap: A career perspective." *Economist-Netherlands* 156 (2):145-174. doi: 10.1007/s10645-008-9087-0.

Rutherford, Tod D. 2006. "Requiem or rebirth? Internal labour markets and labour market restructuring in the Kitchener and Sault Ste. Marie regions." *Canadian Geographer* 50 (2):197-216. doi: 10.1111/j.0008-3658.2006.00135.x.

Salladarré, Frédéric, and Stéphane Hlaimi. 2014. "Women and part-time work in Europe." *International Labour Review* 153 (2):293-310. doi: 10.1111/j.1564-913X.2014.00205.x.

Tijdens, Kea G. 2002. "Gender Roles and Labor Use Strategies: Women's Part-Time Work in the European Union." *Feminist Economics* 8 (1):71-99. doi: http://www.tandfonline.com/loi/rfec20.

Tilly, Chris. 1996. *Half a job: Bad and good part-time jobs in a changing labor market*: Temple University Press.

Turner, T., and J. McMahon. 2011. "Women's Occupational Trends in the Irish Economy: Moving towards High-skilled Occupations or Evidence of Deskilling?" *Gender, Work and Organization* 18 (SUPPL. 1):e222-e240.

Turner, Tom, Christine Cross, and Caroline Murphy. 2017. "Occupations, age and gender: Men and women's earnings in the Irish labour market." *Economic and Industrial Democracy*:0143831X17704910.

Tüselmann, Heinz-Josef, Frank McDonald, and Richard Thorpe. 2006. "The emerging approach to employee relations in German overseas affiliates: A role model for international operation?" *Journal of World Business* 41 (1):66-80.

Vallas, Steven, and Christopher Prener. 2012. "Dualism, job polarization, and the social construction of precarious work." *Work and Occupations* 39 (4):331-353.

Wenger, Jeffrey. 2001. The Continuing Problems with Part-Time Jobs. EPI Issue Brief. In *EPI Issue Brief*, edited by Economic Policy Institute. Washington, DC: Economic Policy Institute.

Wolf, Elke. 2002. "Lower wage rates for fewer hours? A simultaneous wage-hours model for Germany." *Labour Economics* 9 (5):643-663.

Yoon, Yeosun, and Heejung Chung. 2016. "New forms of dualization? Labour market segmentation patterns in the UK from the late 90s until the post-crisis in the late 2000s." *Social Indicators Research* 128 (2):609-631.

Zang, Xiaowei. 2002. "Labor market segmentation and income inequality in urban China." *The Sociological Quarterly* 43 (1):27-44.

CHAPTER SEVEN

THE MIDDLE MANAGER AS SENSEMAKER: THE ROLE OF HRM IN DEVELOPING SENSEMAKING CAPABILITY

DR. SARAH KIERAN, DR. JULIET MACMAHON AND DR. SARAH MACCURTAIN

Introduction

Contemporary perspectives of strategic change highlight the importance of developing organisational change capabilities. While the role of Human Resource Management (HRM) in supporting change capabilities is not new (Ulrich, Younger et al. 2012), the pathway to developing them is still unclear. In the past, HRM have relied on strategic change models such as those developed by Lewin (1947) and Kotter (1996). While such models are repeatedly challenged, they still provide solid foundations for key stakeholders to manage strategic change (Appelbaum, Habashy et al. 2012, Wetzel and Van Gorp 2014, Cummings, Bridgman et al. 2016). However, contemporary perspectives centre on the cognition underpinning strategic change (Maitlis and Christianson 2014, Sandberg and Tsoukas 2015, Brown, Colville et al. 2016). Through a dynamic and iterative process known as collective sensemaking, key stakeholders discuss, interpret and, once a shared understanding of the vision and plan has been reached, enact strategic change (Gioia and Chittipeddi 1991, Weick 1995). However, unlike the change models of old, the micro-processes of collective sensemaking are not yet fully understood (Brown, Colville et al. 2014, Balogun and Rouleau 2017). For HRM to develop and support sensemaking as an organisational capability, we need to identify and understand the individual practices in which key stakeholders engage during the process.

This chapter brings together findings from a study of middle managers as they attempted to make sense of strategic change. An innovative diary methodology captured the practices in which they engaged as they encountered a broad range of strategic change related events. By comparing and contrasting different practices, those that enabled or disabled collective sensemaking were identified. These findings provide a rich insight into how, when certain collective sensemaking practices are enabled and sustained over time, they can be perceived as strategic change capabilities. Furthermore, by understanding the specific activities and behaviours involved in these practices, HRM's role in developing them becomes clearer.

Sensemaking: Purpose and Process

Organisational sensemaking is defined as a response to an activity or event that disrupts the routine (Weick 1995). It has three distinct stages (Gioia and Chittipeddi 1991); scanning (the noticing of triggers or events), interpretation (the making sense of them) and action (responding to them). It is also rarely confined to one individual, as the noticing of triggers, sharing of information, comparing of different interpretations, and review of possible responses are all collective, social and discursive activities (Bartunek, Rousseau et al. 2006, Cornelissen 2012). Thus, sensemaking occurs at both individual-cognitive (Louis 1980, Starbuck and Milliken 1988) and collective-social levels (Gephart 1993, Weick 1995, Weick, Sutcliffe et al. 2005). Additionally, as we reflect, share interpretations and gather more information, it can lead to noticing new, related events that require the reinterpretation of previous understandings. Consequently, sensemaking is neither linear nor episodic but iterative and ongoing through a range of social processes including discussions, negotiations, stories, gossip, rumours and signals (Gioia and Chittipeddi 1991, Balogun 2006, Bartunek, Rousseau et al. 2006).

During sensemaking an interpretation and re-interpretation of events occurs, as more information is shared and understood and multiple perspectives of individual events emerge. However, an accurate interpretation of any one event may never be reached (Weick, Sutcliffe et al. 2005). Evidence shows that the view of the organisation as having a single agreed interpretative framework ignores the reality that those involved in strategic change will hold multiple perspectives, interpreting organisational events differently (Gephart 1997). So, even though others may have different interpretations, key stakeholders such as middle managers must diagnose the nature of each event in a plausible way so that

it can be managed, coordinated and distributed as appropriate (Balogun and Johnson 2004). As such, stakeholders come to share a common purpose or meaning about the organisation and, at a working level, share a common way of doing things that is understood and accepted by all. The sensemaking literature, particularly in the context of strategic change, highlights the importance of these shared understandings. However, how exactly collective sensemaking might lead to cognitive consensuality is limited and there are multiple factors at play which we have yet to fully understand (Maitlis and Christianson 2014, Balogun, Bartunek et al. 2015, Sandberg and Tsoukas 2015). To add further complexity, organisations frequently have to act quickly, even while still interpreting the event so that it is only after key stakeholders have acted that they truly understand it (Weick 1995, Weick, Sutcliffe et al. 2005). Therefore, sensemaking is also reciprocal, sometimes even random, as those involved respond they make more sense of the event and alter their actions as appropriate until some actions become enacted as sensible and a new mental model emerges (Maitlis, Vogus et al. 2013).

While one stream of literature positions sensemaking as an episodic event triggered by rare cues (Weick 1993, Beck and Plowman 2009), another refers to a broader temporal base, describing sensemaking as ongoing, moment-to-moment, without beginning or end, and involving the past, present and future (Weick, Sutcliffe et al. 2005, Gephart, Topal et al. 2010). Furthermore, while much of the literature focusses on sensemaking triggered by single events (Gioia and Chittipeddi 1991, Weick 1993, Beck and Plowman 2009), there have been calls to explore sensemaking triggered by more frequent, minor events. From this perspective, sensemaking is a routine, ongoing process in organisations (Gephart, Topal et al. 2010, Weick 2012, Maitlis and Christianson 2014). This positions sensemaking as an organisational capability, and therefore one that can be developed and supported by HRM.

The Middle Manager as Sensemaker

The middle manager perspective has long been considered highly valuable in the study of organisations (Wooldridge, Schmid et al. 2008). Their unique position between the leadership and operations, their appreciation of both the strategic and routine, their line of sight to potential future organisational states, and their detailed understanding of operations converge to form an organisational role, which is increasing in importance and complexity (Fronda and Moriceau 2008, Harding, Lee et al. 2014). The role of middle manager sensemaking in organisations has

been widely recognised in relation to the formulation and implementation of strategy, learning, entrepreneurship, innovation, problem solving, issue selling and crisis management (Dutton, Ashford et al. 2002, Wooldridge, Schmid et al. 2008, Lassen, Waehrens et al. 2009, Rouleau and Balogun 2011). In tandem, as the devolution of HRM to middle managers continues, their role as agents of strategic change is of particular relevance here (McGuire, Stoner et al. 2008). The middle manager sensemaking that occurs in response to strategic change is powerful as it has a significant impact on an organisation's ability to achieve desired strategic change outcomes (Luscher and Lewis 2008, Huy 2010, Maitlis and Christianson 2014). It has been the perception in the past that middle managers were the accused group in the story of strategic change, frequently portrayed as obstructive and resistant (Balogun 2003). Today however, they are seen as less of a blockage and more as a critical agent of strategic change, fulfilling a complex intermediary role as they operationalise the leadership's vision through their sensemaking (Balogun 2003, Fronda and Moriceau 2008). Their ability to arrive at a shared understanding is central to the successful enactment of their leaders' vision. (Balogun, Jacobs et al. 2014, Balogun and Rouleau 2017).

However, they do not always operationalise strategic change as their leaders envisaged (Balogun and Johnson 2005, Balogun 2006). Middle managers can overtly or covertly resist or significantly reshape strategic change, leading to unintended outcomes for the organisation (Balogun and Johnson 2005, Ford, Ford et al. 2008, McCabe 2011). The practices in which middle managers engage to attain a shared understanding of strategic change (or not) will provide new insights into their role in enacting strategic change.

Research Methodology

The research presented in this chapter was conducted among middle managers in three organisations already engaged in a process of strategic change. Organisations A and B are large sites of multi-national medical devices corporations in Ireland. Organisation C is a large, semi-state utilities company in Ireland. At the time of this research, all three were a minimum of 12 months into a process of strategic change that involved structural, cultural and process-based elements. All took a phased approach, guided by their interpretation of best practice change models. This typically included the early socialisation of the leadership's vision, inclusion of management and individual employee feedback as this became a plan, and regular, organisation-wide briefings as individual

change activities were implemented. The middle managers engaged in this research all reported directly to a member of the leadership team. Their roles varied from Operational to Project Managers across business activities such as Legal and Quality Affairs, Finance, Manufacturing, Sales, and Marketing. The majority were in the 35-45 year age range and had a college degree. All had direct reports, with the majority having between 6 and 8 each. Of the final sample of 42 middle managers, 17 were female and 25 were male. For an overview of the three organisational cases please reference Table I.

The identification of the practices involved in collective sensemaking necessitated a detailed investigation of the day-to-day activities, routines, interactions, experiences and feelings of middle managers, as they sought to make sense (and reach a shared understanding) of ongoing activities related to strategic change. Diary methodologies have been shown to be very effective in this regard (Balogun and Johnson 2004, Balogun and Johnson 2005). The three process stages of sensemaking: (1) scanning or perceiving cues, (2) interpretation or reaching a shared understanding and (3) enactment or taking action (Gioia and Chittipeddi 1991, Maitlis and Christianson 2014) were used to formulate a diary structure. Developed as an online, qualitative questionnaire, middle managers reported their activities and thoughts each week as they (1) scanned for strategic change activities (2) interpreted them through their individual and collective sensemaking processes, (3) acted on them (or not) as they deemed appropriate, and (4) reflected on these sensemaking efforts and the perceived consequences and outcomes of their action (or lack thereof). In addition to weekly accounts and reflections of their sensemaking, some quantitative measures of their overall levels of comfort with change and organisational support were also collected. Demographic data was collected in Wk 1 and feedback on the diary process in Wk 12.

Following introductory discussions with the leadership of each organisation, middle managers across six teams (two teams per organisation) were invited to participate in the research. The initial invitation was to a focus group within their own team. At this focus group, the researcher introduced the purpose of the research, the concept of sensemaking and the diary methodology. Participants were encouraged to discuss their context of strategic change. The online diary process was demonstrated and the range of questions that would guide them through a weekly exploration of their sensemaking were shared. This provided the researcher with a preliminary understanding of their strategic change context and facilitated a re-wording of some diary questions to ensure consistency of interpretation across all participating. Online diaries were

completed by all 42 participants, each week for 12 weeks, administered using Qualtrics software. The final usable sample of n38 had a $\geq$ 80% completion rate. This provided rich data captured in real-time (data gathering as strategic change activities unfold), cross-team (data from multiple perspectives), based on ongoing change experiences (data gathering as-things-happen, over time) and in different organisational contexts. The final number of usable diaries was n355.

Table I: Overview of three Organisational Cases.

Title & Sector	Organisational Reach	Research Site Focus	Senior Leadership Team Participants	Middle Manager Participants	Context of Ongoing Strategic Change
Org A Medical Devices	US Multi-National with over 150 sites globally. Total 11, 000 Employees.	Shared Services: Legal, Quality, HR, IT and Finance. Total 800 Employees.	EMEA CEO. HR Director. Finance Director. Legal and Quality Director. Total 4.	Finance Services: 4 Participants. Legal and Quality: 6 Participants. Total 10.	Embedding of new global High-Performance Culture centered on vision, mission, values, talent, project management and performance against global commercial metrics.
Org B Utilities	Indigenous to Ireland. Largely one site with small number of local operation sites. Total 2,000 Employees.	Manufacturing and Retail. Total 770 Employees.	CEO. HR Director. HR Specialist* Manufacturing Director. Retail Director. Total 5.	Manufacturing: 13 Participants. Retail: 7 Participants. Total 20.	Development of a new commercial strategy including a new vision, mission and values. Restructuring of 3 and downsizing of 1 Business Unit. Replacement of key members of the senior leadership team. Focus on more commercial and innovative culture.

The Middle Manager as Sensemaker

Title & Sector	Organisational Reach	Research Site Focus	Senior Leadership Team Participants	Middle Manager Participants	Context of Ongoing Strategic Change
Org C Medical Devices	US Multi-National. One US and two Irish sites. Total 4, 000 Employees.	Manufacturing Total 1,000 Employees.	CEO. HR Director. Ops I Director. Ops II Director. Total 4.	Operations 1: 4 Participants. Operations 2: 4 Participants. Total 8.	Development of an Irish Site Strategy to add-value beyond best-practice manufacturing. Introduction of Kaizen Continuous Improvement to senior leadership team and middle manager levels. Further development of Kaizen in line with accredited recommendations and introduction to broader organisation.
Total Research Participants of 51			**12 Senior Leaders + 1***	**38 Middle Managers.**	*One HR Specialist

Diary data was analysed thematically (Braun and Clarke 2006) using NVivo software. Qualtrics data was exported into Excel, mapping out each question, week by week, with the unique identifier allowing for the mapping of each diary question/answer back to each middle manager. Each diary entry was then coded, categorised and re-coded thematically until a final set of key themes emerged. NVivo software enabled an individual content and frequency analysis of diary entries and the comparison and/or corroboration of themes within teams, across teams, and across organisations. NVivo frequency reports by organisation, team, individual, and diary date provided a comparative insight into the process of sensemaking within and between individual middle managers over time. Reports also provided insights into different meanings attributed to the same organisational event. Analysis of these reports resulted in the identification and isolation of the frequency of common practices and outcomes attributed to collective sensemaking, or the lack thereof.

Findings identified a number of organisational micro-practices and routines in which middle managers engaged, that not only enable shared sensemaking but are strongly associated with positive strategic change outcomes. The identification of these practices, and the role each plays in creating a sustained collective sensemaking capability among such a critical group as middle managers, provides a clear pathway for HRM to develop a range of supporting policies and HR practices.

The Practice of Sensemaking

Create Discourse Opportunities

The first clear practice identified as leading to sustained collective sensemaking was the frequency and quality of formal discourse opportunities between middle managers and leaders. Research to date has shown that collective sensemaking is not the passive process that its cognitive foundations might imply. It involves a cyclical interplay of questioning, sharing information, meaning making and action in a non-sequential, often random manner (Weick 2005, 1995). Given the middle managers intermediary role in the organisation (Floyd and Wooldridge 2008, Balogun and Johnson 2005), their individual and collective sensemaking acts as the foundation for their role as ferryman during strategic change: connecting different actors and events to create meaning during the periods of senselessness which strategic change creates (Weick 1995, Fronda and Moriceau 2008). Middle manager discourse is the fulcrum of this sensemaking activity (Balogun et al. 2011, Bartunek 1987,

1984). This study identified a range of social and collective discourse activities in which they engage such as talk, discussion, negotiation, and stories, which they perceive as closely related to their ability to make shared sense of strategic change events. The critical differentiator between the naturally occurring sensemaking (general discourse) and the more impactful collective sensemaking (discourse leading to shared understandings) is associated with the level of formality given to these discourse opportunities by each organisation. Findings across the six teams show that middle managers reported discourse on strategic change events to varying degrees with their leaders, peers, own team and at home. The perceived degree to which it occurs, perceptions of whether or not the discourse opportunity leads to valued collective sensemaking, and the actors involved vary significantly across teams but are relatively consistent within teams. Those with more frequent references to formal, collective discourse on strategic change events, describe opportunities with a member or members of their leadership team more often. These same middle managers are more likely to report having made sense of strategic change activities and ultimately enacting them themselves or with their teams.

> We have an opportunity to go over the week's needs on a very regular basis. We either have a 121 with our Director or then there's the team meeting as well. We also have the full leadership team meetings and at each of these you can talk it out and that is very important when you have so much on the go….Knowing those meetings are coming up each week is the safteynet for all the craziness each new week can bring at the moment.
>
> Org C Ops II MM Diary.

> Well he is just different (Director) to all the others, I have worked in a few Business Units, and he stands out from all the rest as someone who wants you to get involved……He wants your opinion and he wants to make sure we are all on the same page. And not just in passing, he puts the time in the diary to do it and then he shows up which is more than you could say of others at that level.
>
> Org B Retail MM Diary.

However, many middle managers reported less frequent perceptions of formal, collective discourse. Either there were no opportunities for discourse or it was informal and 'on the run'. Findings show they are then less likely to progress to claims of understanding requirements or enacting them with their teams. In fact, they are more likely to express confusion on requirements, often with significant disparities of understanding of these requirements across a single team.

> I mentioned it to her (Director) this week and she said she would have a
> think about it but she hasn't come back to me yet and I am doing this diary
> at 4.30pm on Friday! I know she is busy and in and out a lot but it would
> help me greatly if I understood better what she and the others (Leaders)
> had in mind for this project………….I am hesitant to get stuck into it until
> I understand it fully so I am a bit worried about that.
>
>   Org A L&Q MM Diary.

> Haven't heard anything from them (Leaders) in months at this stage.
> Nothing to update……….. I said it to our Director when I bumped into
> him the other day that we all need to sit down to think this through. I have
> guys coming up to me every day and it's hard to know what to say to them
> and there are rumours going round and it's hard for me to manage that
> when I don't know myself that the next step is going to be. I am tired of it
> now.
>
>   Org B Manufacturing MM Diary.

Findings suggest therefore that collective sensemaking can be supported
through the development of frequent, formal discourse opportunities. They
should involve a range of tried and tested meetings, of varying duration, at
varying intervals, and involving a range of actors. However, the ongoing
involvement of leaders, beyond just the initial stages of strategic change, is
particularly important.

Turn Discourse into a Collective Sensemaking Opportunity

Those middle managers who describe more frequent, formal, collective
discourse opportunities also describe themselves as having made sense of
strategic change events. While the concept of 'sensemaking' is not in the
vernacular of middle managers per se, they make more references to
having 'got things', 'made sense' of things, 'understanding' things and so
on, than those with fewer opportunities for formal discourse.

Furthermore, when engaged in formal discourse, middle managers are
more likely to self-initiate strategic change activities than those who do
not, even within the same organisation. We can conclude therefore that
ongoing formal discourse opportunities encourage a more proactive or
emergent strategic change among middle managers and their teams. This
is considered fundamental to the concept of strategic-as-practice
(Balogun, Jacobs et al. 2014, Whittington 2017).

> Happy to crack on now that I get it……..I wasn't so sure at first but I see
> now how the pieces are coming together so am keen to start the team into
> it…….I want to talk to the Project Team again because I think we can take

this further, I see more opportunities now that I have had the chance to let
it sit in the back of my head for awhile.

<div align="right">Org C Ops II MM Diary.</div>

The ratio between what were categorised as formal, informal or self-
initiated change events is interesting. In Org C, where there were high
levels of formal discourse, most change events were either formal or self-
initiated. One can conclude therefore, that formal discourse opportunities
and the shared understandings which result, lead to a more controlled
strategic change environment on the one hand, and a more proactive
strategic change environment on the other. In contrast, in Org A and B, the
lack of formal discourse and shared understandings led to perceptions of a
more 'unplanned' strategic change and a less proactive middle manager
community.

Progress Collective Sensemaking on to Middle Manager Sensegiving

The reciprocal role between middle manager sensemaking and
sensegiving and the critical part it plays in realising their potential as
lynchpins of strategic change is significant (Huy 2010). Findings in this
study show those who engaged more in formal, collective discourse with
their leaders and peers, described discourse and sensegiving with their
own teams more often.

It is clear to me now that my job is to make this happen with my own team
and I have already started getting them to make suggestions in the way
(Director) has been doing with us……..Now that I have my own head
around it I am very comfortable in getting them to deconstruct it for
themselves.

<div align="right">Org B Retail MM Diary.</div>

Therefore, this would suggest that where middle managers have the
opportunity to achieve a shared sense of strategic change, they are more
likely to progress this sensemaking activity down through the
organisation. Looking at the nature of discourse with their teams also
highlights that a lack of formal discourse above will reduce the quality of
sensegiving below. That is, they may be having formal discourse with
their teams but it is about making sense of the chaotic organisational
climate rather than sensegiving on the enactment of strategic change.

> At this stage, I am just trying to manage my team's anxiety about what they are hearing on the grapevine…I see my role more as trying to protect them from the uncertainty that I am living with week to week. It is very frustrating that I cannot move things forward with them still…we are ploughing ahead on some of the tasks but I don't think our heads are in the space yet, where I think they should be.
>
> <div align="right">Org A Finance MM Diary.</div>

In summary therefore, findings show that the creation of formal, planned, discourse opportunities had a substantial influence on middle manager opportunities for sensemaking, sensegiving and their perceptions of their shared sensemaking ability.

> You know from the first few days of working here that the idea of talking through things and thinking through things is really valued from the top down. I wouldn't have seen as much of that in other places I have worked. Even the CEO, you get to meet him regularly, at least once a month and for an Operation's Manager that is not the norm…..You start to understand that the way here is to pull together on the process, take the time to understand things, to take everyone's view into the mix and then to get stuck in and push things forward……I have started to get that really that's the only way to get things done because Christ there is so much to do.
>
> <div align="right">Org C Ops I MM Diary.</div>

Signal there is Time and Space for Sensemaking

The role of creating the appropriate time and space to enable collective sensemaking has been noted (Balogun 2003, Dutton et al. 2002, Dutton et al. 1997). In fact, resistance to change can be viewed as organisational members expressing the need for the time and space to make sense (DuBrin, Ireland et al. 1989, Brown and Starkey 2000). The challenge for middle managers in operating under many business-as-usual time constraints, with limited resources over which they have no control, has also been acknowledged (Dutton, Ashford et al. 1997, Dutton, Ashford et al. 2002). The findings in this study suggest that signalling there is time allowed for collective sensemaking is critical. Middle manager perceptions and experiences are quite polarised in that some repeatedly referenced the necessity of taking the time to make sense of things while others perceived their organisation as not valuing or allowing them the time.

> Yeah, the change is already happening even if you can't see it yet, it has already started. People need to understand that. It has started once you start thinking about it and that is probably the most important part of the change. My boss trusts me that I am getting it started.

Org C Ops II MM Diary.

This is juxtaposed to some teams where time is not a resource. It is either a problem that disables sensemaking or the time taken to make sense of things is just not valued.

> It would be nice to have the time to sit down and think things through but if it was done in 8 weeks last time then the view from the top is that it can be done in 6 weeks this time……and I worry about making the same mistakes and things have changed in between as well and I haven't got my head around that…….we are like hamsters on a wheel.
>
> Org A L&Q MM Diary.

The role of strategic change metrics (the targets, measures and deadlines associated with strategic change) is not explicitly addressed in sensemaking literature but has been identified in the context of reducing organisational mindfulness (Weick and Sutcliffe 2006). It has also been shown that potential strategic alternatives can be dismissed or discrepancies normalised (Dunbar and Garud 2009, Maitlis and Christianson 2014) by an organisation's strong focus on production targets (Vaughan 1996, Maitlis and Christianson 2014). Findings in this study indicate that an organisation's signalling of metrics can have a significant enabling or disabling influence on collective sensemaking. Metrics that are perceived as having been designed to guide sustainable strategic change outcomes enable shared sensemaking but those perceived as targets and deadlines to be achieved, above and beyond all other outcomes, are seen as a disabler. That is not to suggest that some organisations place more emphasis on metrics that others, findings suggest it is more how they are communicated and signaled by the leadership team. Though findings show that middle managers perceived strategic change metrics to be important, their role in potentially disabling their collective sensemaking is closely associated with the lack of time allowed for sensemaking. Strategic change metrics are also perceived as contributing to conflicting messages and priorities, where short-term targets and deadlines are perceived as being more important than the long-term vision. This tension and misalignment among the leadership teams and their corporate organisations has already been identified (Bartunek et al. 2010), but this study identifies the enabling or disabling potential of strategic change metrics as a manifestation of this issue.

> It's all tick the box and how much money do you have and in one way that makes sense but it is also a big missed opportunity for the strategy. There has to be other ways to link the businesses that would be more meaningful.

> Because it is not very meaningful for me going up there once a month and
> them checking me and what we have done and the volume of finance
> people in the room looking at what you have done and it's all like literally
> 'did you make the money'……and they are not really interested in what
> we are doing.
>
> Org B Retail MM Diary.

As suggested in recent critiques of sensemaking literature (Sandberg
and Tsoukas 2015), this study shows that middle manager sensemaking is
not solely triggered by rare, unusual and equivocal events (Beck and
Plowman 2009, Weick 1993). Instead, it is an ongoing process in response
to the ordinary, day-to-day events, which together comprise the
organisation's overall effort to deliver on their vision. Not only do these
sustained collective sensemaking practices create a platform for effective
sensemaking as and when it is needed, it also becomes a strong symbol in
the organisation. Symbols have been shown to be powerful tools in
communicating strategic change (Gioia and Chittipeddi 1994), not only
critical to meaning construction and the communication of a shared
understanding at each stage of strategic change, but also to act as a
medium for action. This study supports these findings, such systems are
perceived as signalling that time and space for sensemaking is important in
the process of strategic change, and that collective middle manager
sensemaking is valued by the organisation.

The role of HRM in supporting the leadership team to establish
sustainable collective sensemaking practices, and participating beyond the
initiation stages of strategic change, is clearly of great importance. These
practices should be developed over time, in line with strategic change
requirements. Equally, however, they should be developed in line with
middle manager sensemaking needs. Findings highlight that by routinely
engaging in these practices middle managers and leaders will 'make sense
of sensemaking' as an organisational capability. Thereby, sensemaking
becomes self-perpetuating; the better the organisation gets at collective
sensemaking, the better they get at improving their sensemaking practices.

> We know the value of coming together in this business. The value of
> talking and it is clear that our leaders value it. They invite questions and
> challenges and give us managers the time and space to think things
> through. They know we have started progressing things even if there are no
> clear actions or outputs yet. The thinking has begun and that is actually the
> most important part.
>
> Org C, Ops I MM Diary.

Outcomes of Sustained Collective Sensemaking Practice

Middle Manager as Sensegiver

Where formal, scheduled discourse opportunities are available to them, diary findings show how leadership sensemaking during the early stages of strategic change is mirrored by middle managers as they seek to develop shared understandings down through the organisation.

> I look forward to getting stuck into things with my team as soon as we have our own heads around it. I try to do for them what the boss has done with me, support them, give them time to get their own heads around it and I know while they are doing that I need to listen because more than likely they will bring something new into the mix that might need to go back up to the weekly meeting.
>
> Org C Ops II MM Diary.

As found in earlier studies (Thomas, Clark et al. 1993, Gioia and Mehra 1996), this study highlights a pattern of middle manager envisioning (sharing information, reviewing the environment and assessing relevant issues), signaling (communicating these interpretations), re-visioning (reviewing and influencing various interpretations to reach a common understanding), and energising (engaging broader communities in their implementation).

Middle Manager Engagement

Middle manager engagement with strategic change emerges in how they express positive perceptions of specific strategic change events, their organisation's approach to strategy and strategic change, and their role. Those more involved in collective sensemaking and having interpreted their role as sensemaker perceive themselves as more engaged with strategy and strategic change. Findings show how they have more positive perceptions of the organisation's vision for strategic change, are more proactive in noticing strategic change events, and are very committed to the sensemaking process and their role as sensemaker.

> Well it's my job week to week. Keeping this diary has reinforced that for me. While I am writing this diary I am doing my job. It's how I pull different things together in my head, talk them through with the others on my team and my colleagues across different departments and then how we come together regularly at different meetings to make sure we are you know what I mean all on the same page and tease them out a bit more.
>
> Org C Ops I MM Diary.

In contrast, findings show how those middle managers less involved in collective sensemaking are less positive or negative towards the strategic change vision, can be less proactive in initiating or ignore strategic cues, and do not perceive their role as having a strategic input to the organisation, even when that would be their expressed preference. For some, perceptions of a negative organisational context include work related stress and employee burnout. Importantly, findings also show that a lack of collective sensemaking is not always associated with an inability to enact strategic change events. However, not in a way which is perceived as successful or sustainable as it might have been had they arrived at a shared sense of a strategic change event and been able to influence its formulation.

> I honestly don't know where it is all going to end. We are so busy here and there just doesn't feel like there is the time to do anything properly. I guess we have made sense of things and that is just get on with it, don't question it unless you have a better solution. Never, ever question it without a solution, the consequences of creating problems for projects has been well documented round here. But these are good jobs, we are well paid and there are loads of opportunities. Maybe it will all come crashing in on us someday, maybe not. As a site we are meeting our targets. Or maybe I will just get sick of the chaos and leave. Time will tell.
>
> Org A, Finance Team, MM Diary.

Another interesting finding is the relationship between frequency of discourse opportunities with leaders and at home. On one team, where there were very few opportunities for collective discourse with their leaders, strategic change related discourse at home was much more frequent. This was largely related to work related stress, with those involved turning to friends and family to try and make sense of issues at work. Moreover, where a formal approach to discourse had been established, it provided a stable routine for ongoing, collective sensemaking and resulted in less frequent perceptions of informal and unplanned strategic change events.

> I know my husband is weary from me at this stage…..I am weary from me but I have been so exhausted by worrying about the lack of progress on this. They say no news is good news but I am very worried and I know all my team are too.
>
> Org A Legal & Quality MM Diary.

Successful Strategic Change Outcomes

Literature to date highlights clear links between sensemaking and organisational performance (Thomas et al. 1993). There is evidence to show that more highly performing organisations place more emphasis on the management of meaning than the management of information (Sutcliffe and Weber 2003), and the development of strong sensemaking environments within an organisation can lead to competitive advantage (Beck and Plowman 2009). From a leadership team perspective, increasing their own sensemaking opportunities and encouraging the internal and external exploration of information leads to a positive and controllable interpretation of strategic change issues (Teulier and Rouleau 2013, Rouleau and Balogun 2011, Gioia and Chittipeddi 1991, Thomas and McDaniel 1990). Additionally, increasing strategic control through collective sensemaking is associated with higher levels of strategic action and increased performance for the organisation despite any risks that may also present at the time of the strategic change (Rouleau and Balogun 2011, Thomas et al. 1993).

This study supports these findings. The outcomes of such a practice-led approach to collective sensemaking include perceptions of successful and sustainable strategic change, sensegiving with their own teams, engagement with strategy and strategic change and perceptions of a positive organisational context. Findings suggest that middle managers who engage more in collective sensemaking are more likely to see the organisation's strategy, the outcomes of strategic change, and the general performance and future of the business, as positive.

> Earlier in the week there was a major announcement regarding the company being taken over. This in itself was a major talking point during the week…My personal opinion is that there is an air of excitement, as opposed to apprehension…There is virtually nothing I can do about it. However, it is most likely to be positive for people in this company. I see it as a positive announcement which will give many opportunities for us as a site and for me personally…It is not clear but one must be hopeful. This is a great plant which is held in high esteem, can only be good thing for us.
>
> Org C Ops I MM Diary.

Where middle managers perceive they engage less, they see the organisation's strategy, strategic change outcomes and business performance as more mixed. They range from very negative perceptions to an inability to fully determine what the outcomes might be in the longer term.

I have considered the impact on the business and I am not sure if it is the best thing for the business or not…Concerned for the direction it is going…feel sad that all they (Leaders) have surfaced is a new structure and a pay cut. I had legitimate expectations that they would bring considerable expertise and insights to bear on our operations and that we would have sight of many process improvement goals and projects to deliver: alas no.

<div align="right">Org B Manufacturing MM Diary.</div>

Conclusion

The study of the relationship between HR practices and organisational outcomes continues. However, a shift away from reflection on the black box of HRM towards how HRM can practically develop and sustain organisational capabilities such as those practices that underpin strategic change is required. This study contributes to our understanding of how that can be achieved. The identification of these collective sensemaking practices provides HRM with a clear pathway to the development of sensemaking as an organisational capability. For key stakeholders in the strategic change process the development of these practices is vital to ensuring the enactment of sustainable strategic change as well as other critical business activities related to strategy, learning and innovation.

The collective sensemaking practices identified in this study are:

1. Ensuring the ongoing participation of leaders in middle management sensemaking i.e. beyond the initial stages of strategic change.
2. Encouraging and formalising ongoing discourse opportunities between the leadership team and middle managers as the foundation of sustained collective sensemaking.
3. Developing prospective sensemaking activities within these discourse opportunities such as scenario planning, piloting, risk assessments, trying and testing options.
4. Creating and signalling the critical time and space allowed for collective sensemaking. The time taken by leaders, the time they allow middle managers, and the time they take together to arrive at shared understandings of ongoing strategic change activities across the organisation, week in and week out.
5. Safe-guarding the positive influence of business metrics on the process of collective sensemaking i.e. signalling that the metric is the successful outcome of the process not a reason to rush the process.
6. Developing positive perceptions of the role of the middle manager as sensemaker.

Through these enabling practices, an organisation can develop sensemaking as a critical capability, associated with a number of positive organisational outcomes. These include positive perceptions of organisational context for organisational strategy and strategic change, positive emotional responses to strategic plans and strategic change events, higher levels of engagement with organisational strategy and strategic change, higher levels of enactment of strategic plans and strategic change events, and ultimately more positive perceptions of the outcomes of strategic change.

Of particular import is that this study has shown that when enabling practices become fully established, collective sensemaking has the potential to be self-perpetuating within the organisation. The formal, planned practice of discourse becomes in itself a symbol of the value of collective sensemaking within the organisation while simultaneously acting as a vehicle for its own evolution over time. The sensemaking practice is improved and adapted in response to changes in the organisational environment and subsequent sensemaking outcomes add further value as they are continuously aligned and re-aligned with the changing organisational environment. Additionally, regardless of the pace of change, key stakeholders feel in control and positive about their environment, regularly initiating new change-related activities.

When faced with the development of organisational capabilities, the challenge for HRM and other key stakeholders is translating these abstract concepts into tangible HR strategies and practices. This study provides new insights into our understanding of sensemaking and the potential contribution of the middle manager as sensemaker. Through its isolation and identification of the real-time experiences of middle managers as they try to make sense of strategic change, this study provides HRM with a clear pathway to develop and manage the critical practices that enable the level of collective sensemaking required to realise the shared understandings which lie at the heart of successful strategic change outcomes.

References

Appelbaum, S. H., et al. (2012). "Back to the future: revisiting Kotter's 1996 change model." *Journal of Management Development* **31**(8): 764-782.

Balogun, J. (2003). "From Blaming the Middle to Harnessing its Potential: Creating Change Intermediaries." *British Journal of Management* **14**(1): 69-83.

Balogun, J. (2006). "Managing Change: Steering a Course between Intended Strategies and Unanticipated Outcomes." *Long Range Planning* **39**(1): 29-49.

Balogun, J., et al. (2015). "Senior Managers' Sensemaking and Responses to Strategic Change." *Organization Science*.

—. (2014). "Placing Strategy Discourse in Context: Sociomateriality, Sensemaking, and Power." *Journal of Management Studies* **51**(2): 175-201.

Balogun, J. and G. Johnson (2004). "Organizational Restructuring and Middle Manager Sensemaking." *The Academy of Management Journal* **47**(4): 523-549.

—. (2005). "From Intended Strategies to Unintended Outcomes: The Impact of Change Recipient Sensemaking." *Organization Studies* **26**(11): 1573-1601.

Balogun, J. and L. Rouleau (2017). "5. Strategy-as-practice research on middle managers and Sensemaking." *Handbook of Middle Management Strategy Process Research*: 109.

Bartunek, J. M., et al. (2006). "On the Receiving End." *The Journal of Applied Behavioral Science* **42**(2): 182-206.

Beck, T. E. and D. A. Plowman (2009). "Experiencing Rare and Unusual Events Richly: The Role of Middle Managers in Animating and Guiding Organizational Interpretation." *Organization Science* **20**(5): 909-924.

Braun, V. and V. Clarke (2006). "Using thematic analysis in psychology." *Qualitative Research in Psychology* **3**(2): 77-101.

Brown, A., et al. (2016). "Sensemaking processes and Weickarious learning." *Management Learning*.

Brown, A. D., et al. (2014). "Making sense of sensemaking in organization studies." *Organization Studies*: 0170840614559259.

Brown, A. D. and K. Starkey (2000). "Organizational Identity and Learning: A Psychodynamic Perspective." *The Academy of Management Review* **25**(1): 102-120.

Cornelissen, J. P. (2012). "Sensemaking under pressure: The influence of professional roles and social accountability on the creation of sense." *Organization Science* **23**(1): 118-137.

Cummings, S., et al. (2016). "Unfreezing change as three steps: Rethinking Kurt Lewin's legacy for change management." *Human Relations* **69**(1): 33-60.

DuBrin, A. J., et al. (1989). *Management and organization*. Cincinnati, South-Western.

Dunbar, R. L. and R. Garud (2009). "Distributed knowledge and indeterminate meaning: The case of the Columbia shuttle flight." *Organization Studies* **30**(4): 397-421.

Dutton, J. E., et al. (2002). "Red Light, Green Light: Making Sense of the Organizational Context for Issue Selling." *Organization Science* **13**(4): 355-369.

Dutton, J. E., et al. (1997). "READING THE WIND: HOW MIDDLE MANAGERS ASSESS THE CONTEXT FOR SELLING ISSUES TO TOP MANAGERS." *Strategic management journal* **18**(5): 407-423.

Ford, J. D., et al. (2008). "RESISTANCE TO CHANGE: THE REST OF THE STORY." *Academy of management Review* **33**(2): 362-377.

Fronda, Y. and J.-L. Moriceau (2008). "I am not your hero: change management and culture shocks in a public sector corporation." *Journal of Organizational Change Management* **21**(5): 589-609.

Gephart, R. (1997). "Hazardous Measures: An Interpretive Textual Analysis of Quantitative Sensemaking during Crises." *Journal of Organizational Behavior* **18**(ArticleType: research-article / Issue Title: Special Issue: Computers Can Read as Well as Count: Computer-Aided Text Analysis in Organizational Research / Full publication date: 1997 / Copyright © 1997 John Wiley & Sons): 583-622.

Gephart, R., et al. (2010). "Future-oriented sensemaking: Temporalities and institutional legitimation." *Process, sensemaking, and organizing*: 275-312.

Gephart, R. P., Jr. (1993). "The Textual Approach: Risk and Blame in Disaster Sensemaking." *The Academy of Management Journal* **36**(6): 1465-1514.

Gioia, D. A. and K. Chittipeddi (1991). "Sensemaking and sensegiving in strategic change initiation." *Strategic management journal* **12**(6): 433-448.

Gioia, D. A. and A. Mehra (1996). "Sensemaking in Organizations." *Academy of management Review* **21**(4): 1226-1230.

Harding, N., et al. (2014). "Who is 'the middle manager'?" *Human Relations* **67**(10): 1213-1237.

Huy, Q. N. (2010). "The Truth about Middle Managers: Who They Are, How They Work, Why They Matter." *Administrative Science Quarterly* **55**(1): 167-169.

Kotter, J. P. (1996). *Leading change*, Harvard Business Press.

Lassen, A. H., et al. (2009). "Re-orienting the Corporate Entrepreneurial Journey: Exploring the Role of Middle Management." *Creativity and Innovation Management* **18**(1): 16-23.

Lewin, K. (1947). "Frontiers in group dynamics : concept, method and reality in social science; social equilibria and social change."

Louis, M. R. (1980). "Surprise and Sense Making: What Newcomers Experience in Entering Unfamiliar Organizational Settings." *Administrative Science Quarterly* **25**(2): 226-251.

Luscher, L. S. and M. W. Lewis (2008). "ORGANIZATIONAL CHANGE AND MANAGERIAL SENSEMAKING: WORKING THROUGH PARADOX." *Academy of Management journal* **51**(2): 221-240.

Maitlis, S. and M. Christianson (2014). "Sensemaking in Organizations: Taking Stock and Moving Forward." Academy of Management Annals **8**(1): 57-125.

Maitlis, S., et al. (2013). "Sensemaking and emotion in organizations." *Organizational Psychology Review*: 2041386613489062.

McCabe, D. (2011). "Opening Pandora's box: The unintended consequences of Stephen Covey's effectiveness movement." *Management Learning* **42**(2): 183-197.

McGuire, D., et al. (2008). "The Role of Line Managers as Human Resource Agents in Fostering Organizational Change in Public Services." *Journal of Change Management* **8**(1): 73-84.

Rouleau, L. and J. Balogun (2011). "Middle Managers, Strategic Sensemaking, and Discursive Competence." *Journal of Management Studies* **48**(5): 953-983.

Sandberg, J. and H. Tsoukas (2015). "Making sense of the sensemaking perspective: Its constituents, limitations, and opportunities for further development." *Journal of Organizational Behavior* **36**(S1): S6-S32.

Starbuck, W. H. and F. J. Milliken (1988). "Executives' perceptual filters: What they notice and how they make sense."

Thomas, J. B., et al. (1993). "Strategic Sensemaking and Organizational Performance: Linkages among Scanning, Interpretation, Action, and Outcomes." *The Academy of Management Journal* **36**(2): 239-270.

Ulrich, D., et al. (2012). "HR from the outside in." *New York: McGraw*.

Vaughan, D. (1996). The Challenger launch decision: Risky culture, technology, and deviance at NASA, Chicago: The University of Chicago Press.

Weick, K. E. (1993). "The Collapse of Sensemaking in Organizations: The Mann Gulch Disaster." *Administrative Science Quarterly* **38**(4): 628-652.

—. (1995). *Sensemaking in organizations*. Thousand Oaks, Ca, Sage.

—. (2012). "Organized sensemaking: A commentary on processes of interpretive work." *Human Relations* **65**(1): 141-153.

Weick, K. E. and K. M. Sutcliffe (2006). "Mindfulness and the quality of organizational attention."*Organization Science* **17**(4): 514-524.

Weick, K. E., et al. (2005). "Organizing and the Process of Sensemaking." *Organization Science* **16**(4): 409-421.

Wetzel, R. and L. Van Gorp (2014). "Eighteen shades of grey? An explorative literature review into the theoretical flavours of organizational change research." *Journal of Organizational Change Management* **27**(1): 115-146.

Whittington, R. (2017). "Strategy as practice, process, and institution: Turning towards activity." *The SAGE handbook of process organization studies*: 387-401.

Wooldridge, B., et al. (2008). "The Middle Management Perspective on Strategy Process: Contributions, Synthesis, and Future Research." *Journal of management* **34**(6): 1190-1221.

Appendix 1

Table I: Overview of three Organisational Cases.

Title & Sector	Organisational Reach	Research Site Focus	Senior Leadership Team Participants	Middle Manager Participants	Context of Ongoing Strategic Change
Servu Medical Devices	US Multi-National with over 150 sites globally. Total 11, 000 Employees.	Shared Services: Legal, Quality, HR, IT and Finance. Total 800 Employees.	EMEA CEO. HR Director. Finance Director. Legal and Quality Director. Total 4.	Finance Services: 4 Participants. Legal and Quality: 6 Participants. Total 10.	Embedding of new global High-Performance Culture centred on vision, mission, values, talent, project management and performance against global commercial metrics.
Manu Medical Devices	US Multi-National. One US and two Irish sites. Total 4, 000 Employees.	Manufacturing. Total 1,000 Employees.	CEO. HR Director. Operations I Director. Operations II Director. Total 4.	Operations 1: 4 Participants. Operations 2: 4 Participants. Total 8.	Development of an Irish Site Strategy to add-value beyond best-practice manufacturing. Introduction of Kaizen Continuous Improvement to senior leadership team and middle manager levels. Further development of Kaizen in line with externally accredited recommendations and introduction to broader organisation.

The Middle Manager as Sensemaker

Title & Sector	Organisational Reach	Research Site Focus	Senior Leadership Team Participants	Middle Manager Participants	Context of Ongoing Strategic Change
Utilu Utilities	Indigenous to Ireland. Largely one site with small number of local operation sites. Total 2,000 Employees.	Manufacturing and Retail. Total 770 Employees.	CEO. HR Director. HR Specialist* Manufacturing Director. Retail Director. Total 5.	Manufacturing: 13 Participants. Retail: 7 Participants. Total 20.	Development of a new commercial strategy including a new vision, mission and values. Restructuring of 3 and downsizing of 1 Business Unit. Replacement of key members of the senior leadership team. Focus on more commercial and innovative culture.
Total Research Participants of 51			**12 Senior Leaders + 1***	**38 Middle Managers.**	*One HR Specialist

CHAPTER EIGHT

MANAGING THE FUTURE WORKFORCE IN A SUSTAINABLE WAY: EXPLORING PARADOXICAL TENSIONS ASSOCIATED WITH FLEXIBLE WORK PRACTICES THAT ARE INTENDED TO BE SUSTAINABLE

JOOST BÜCKER, PASCALE PETERS AND NAUFAL EL AGHDAS

Introduction

Sustainable Human Resource Management (HRM) (Kramar, 2014) can be viewed as an emerging perspective on how to manage the workforce in future (labour) markets, characterized as global, dynamic, complex and pluralist. Sustainable HRM builds on strategic HRM, but goes beyond it by stressing the increasing value and vulnerability of human resources. It reflects a "paradigm shift" (Boudreau & Ramstad, 2005, p. 129) in that it moves away from measuring organizational effectiveness in terms of short-term financial outcomes as the only significant bottom line (Boudreau & Ramstad, 2005). Unlike mainstream strategic HRM, sustainable HRM is based on the assumption that HRM should start from the individual worker and contribute to their human, social and psychological capital and to the externalities of the organization (De Prins, Van Beirendonck, De Vos, & Segers, 2015; Ehnert, Harry, & Zink, 2014; Ehnert & Harry, 2012). Up until now, many definitions have been presented to characterize the novel HRM perspective. Mariappandar (2003, p. 910), for example, views a sustainable HR strategy as the "management of human resources to meet the optimal needs of the company and community of the present without compromising the ability to meet the needs of the future." Building on Ehnert (2009), Kramar

(2014, p. 1084) defines sustainable HRM as "the pattern of planned or emerging HR strategies and practices intended to enable the achievement of financial, social and ecological goals while simultaneously reproducing the HR base over a long term." De Prins and her colleagues (2015) define sustainable HRM as a specific form of personnel management that is explicitly linked with the organizational environment, being focused on respect for individual employees and in which the short and long-term interests of the employer, employees, and society are balanced with each other. In the present study, we follow Ehnert, Parsa, Roper, Wagner, and Muller-Carmen (2016, p. 90) who define sustainable HRM as "the adoption of HRM strategies and practices that enable the achievement of financial, social and ecological goals, with an impact inside and outside the organization over a long-term, while controlling for unintended side effects and negative feedback."

Sustainable HRM implies that HRM needs to develop organizations' dynamic capability to manage the workforce in future (labour) markets in a sustainable way (Bhattacharya, Sen, & Korschu, 2008). Starting from the individual worker, this calls on HRM to provide meaningful work and to support individuals to maintain and develop their employability (i.e. the skills and general competences that individuals need to find and maintain employment), workability (i.e. the physical, psychological and social ability to participate in the labour market), and vitality (employees' work motivation and engagement) which is needed to enable them to self-manage their increasingly boundaryless careers in a sustainable way (De Prins et al., 2015; De Vos, Van der Heijden, & Akkermans, 2018; Ehnert, 2014). Amongst other things, this implies that employers need to "provide interesting jobs and opportunities to develop skills [for a] mobile career" (Pearce & Randel, 2004, p. 82).

Taking into account multiple sustainability goals also demands that organizations deal with so-called paradoxical tensions (Ehnert, 2014; Lewis, 2000; Peters & Lam, 2015; Smith & Lewis, 2011). Paradoxes can be described as "contradictory yet interrelated elements of organizations that seem logical in isolation but inconsistent and oppositional in conjunction and yet persist over time" (Smith & Lewis, 2011, p. 382). In this empirical interview study, we aim to contribute to the sustainable HRM literature by exploring paradoxical tensions associated with flexible HRM policies and practices that have been implemented in organizations to meet organizations' multiple bottom lines, such as enhancing efficiency, on the one hand, and supporting sustainability (including enhancing individuals' employability, workability, and vitality), on the other.

In this paper, we argue that flexible work practices are associated with multiple paradoxical tensions that are inherent to HRM (Ehnert, 2014). Acknowledging this, the sustainable HRM literature suggests that HRM and other actors alike should engage in an ongoing process of "equilibrating opposing forces that encourage commitment, trust and creativity while maintaining efficiency, discipline and order" (Lewis, 2000, p. 765). Tensions underlying organizational paradoxes can for example be felt when market and institutional pressures (e.g. those associated with efficiency and sustainability) are contradictory yet operating simultaneously (Jarzabkowski et al., 2013; Lewis, 2000; Smith & Lewis, 2011).

More specifically, in this study, we analyze how professional employees in two start-ups (one in the engineering sector and one facilitating the energy-related sector) that employ a relative young workforce experience positive and negative outcomes of flexible HRM policies and practices (i.e. numerical flexibility, functional flexibility, working time flexibility, time-spatial flexibility, and pay flexibility; cf. Kornelakis, 2014; Spreitzer, Cameron, & Garrett, 2017) which are intended (cf. Wright & Nishii, 2008) by their organization to enhance the organization's and the employees' sustainability, and how these can be associated with paradoxical tensions. Our paradox lens allows us to analyze the contradictions, ambiguities and tensions that are inherently associated with flexible work practices and how stimulating paradoxical poles that simultaneously, in this study, stimulate organizations' efficiency and sustainability, efficiency and legitimation, and present and future needs (Ehnert, 2014) can benefit both the organization and its employees.

Below, we first present a brief literature review on the scholarly debate on flexible HRM and our paradox lens. Second, we present our methodology, data analysis and results. In conclusion, we summarize our main findings and discuss their implications for HRM scholars and practitioners.

Theoretical Lens

The Flexible HRM Debate

In order to achieve a competitive advantage, organizations increasingly implement flexible HRM policies and practices as these allow them to adjust the organization of work to the growing uncertainty and complexity of the environment that contemporary organizations and individual employees face (Kozica & Kaiser, 2012). Both organizations and

individual employees need flexibility to meet multiple and oftentimes unpredictable needs, for example, new skill needs, or emergency jobs at work and at home. In the literature, a distinction can be made between flexibility for the employer and flexibility for the individual. In some situations, however, a win-win situation may be achieved if this flexibility meets both organizations' and employees' needs, for example, when it meets both an organization's need to expand its operating hours and employees' needs to integrate their work and non-work demands (Peters, Den Dulk, & Van der Lippe, 2009). Based on the literature, several flexible HRM practices can be distinguished (cf. Kornelakis, 2014; Spreitzer et al., 2017): numerical flexibility, functional flexibility, working time flexibility, time-spatial flexibility, and pay flexibility.

Numerical flexibility refers to organizations varying the number of workers they hire, for example, by employing workers through employment agencies and through temporary work contracts. For organizations, this may be a rational work practice as this can reduce (overhead) costs and can foster innovation. However, it can also hinder the development of social capital in the organization. For individual employees, numerical flexibility can be welcomed as a possibility to gain job experience in different organizations (Pearce & Randel, 2004; Spreitzer et al., 2017). However, it can also be experienced as a loss of job security, possibly hindering sustainable career development (Conley, 2006).

Functional flexibility refers to employees carrying out various tasks and jobs, for example, through team work, job enrichment and job rotation. This type of flexibility has the potential to meet the needs of both organizations and individual employees, as it enhances organizations' agility, while also fostering employees' professional development and employability (cf. Van der Heijden, Peters, & Kelliher, 2015). Moreover, job enrichment can lead to more meaningful work and can motivate employees during their work. Carvalho and Cabral-Cardoso (2008) even claim that functional flexibility creates a mutual dedication for the employer and the employees.

Working time flexibility refers to individual employees varying their number of working hours, for example, through various employment contracts, such as zero-hours or part-time contracts, or "reduced work time and reduced work load arrangements" (Gascoigne & Kelliher, 2018). A related practice is time-spatial flexibility, referring to individual employees working at different times and locations, which oftentimes demands more self-management. Time-spatial flexibility can be either imposed on employees, for example when employees have to

communicate with peers in different time zones, or can be voluntarily chosen (Spreitzer et al., 2017). Paradoxically, Kelliher and Anderson (2010) found that in their study, working reduced and remote hours on a voluntary basis was associated with higher levels of job satisfaction and organizational commitment, on the one hand, but with work intensification, on the other. Obviously, two seemingly contradicting outcomes (poles) can be united in the outcomes of this (oftentimes voluntarily) chosen HRM practice.

Finally, pay flexibility refers to practices in which payment depends on employees' performance, such as performance-related pay or bonuses, which may motivate employees to work longer hours in order to achieve higher performance. In this study, pay flexibility is defined as "the ability to vary the level of pay in tandem with performance, decreased commitment to fixed pay (e.g., bonuses, piece-rates, merit pay, performance-related pay, etc.)" (Kornelakis, 2014, p. 401). Pay flexibility can motivate employees to perform better and can lead to higher remuneration (Gerhart, Rynes, & Fulmer, 2009). However, Yeh, Cheng, and Chen (2009) showed that employees subject to performance-based and piece-rated pay systems experienced higher levels of personal burnout and work-related burnout in comparison to other employees and concluded that these pay systems can affect workability.

The flexible HRM debate presented in the scholarly literature discusses the underlying drivers and outcomes of flexible work practices (Jiang, Lepak, Hu, & Baer, 2012; Kelliher & Anderson, 2010; Kornelakis, 2014; Truss, 2001). Two broad perspectives can be recognized: a managerial and a non-managerial perspective. In the managerial perspective, researchers focus on the positive effects of flexible HRM, such as organizations' enhanced adaptation to the dynamic and unpredictable environment and improved competitiveness. The non-managerial perspective focuses on the impact of flexible HRM on society and mainly aims to show the negative effects of flexible HRM, such as enhanced job insecurity and increased stress levels. Moreover, with regard to the managerial perspective, a hard and a soft model can be distinguished (Kozica & Kaiser, 2012). The hard model, characterized as a rational approach focusing on strategic perspectives and organizational effectiveness, for example, relates to flexible HR staffing arrangements (e.g. temporary workers). The soft model is broader as it also takes into account human aspects, such as motivation and commitment, as potential practices that can enhance organizational effectiveness, which calls for taking the organizations' skill-based and behavioural-based flexibility into the equation (Kozica & Kaiser, 2012).

A Paradox Perspective

Contemporary organizations in dynamic, unpredictable, complex, and uncertain environments, with stakeholders having pluriform needs, have to deal with multiple challenges, ambiguities, uncertainties and contradictions (Ehnert, 2014; Lewis, 2000). It is oftentimes stated that organizations have to make decisions that can be viewed as trade-offs, for example, between targeting economic, social, or environmental outcomes. In line with this, previous studies have acknowledged that designing a flexible HR architecture (implementing the above-introduced flexible work practices) should be accompanied by paying attention to individual employees' interest in personal and professional development and willingness to develop more boundaryless careers (Paauwe, 2004). Therefore, Paauwe (2009, p. 138) states that a more flexible HR architecture "is only possible once the organization has taken proper care of employees' needs and has ensured that they are treated fairly and with due consideration for their well-being." Hence, besides 'dual economic rationality,' comprising both efficiency and sustainability (Ehnert, 2014), and stressing that HRM should take both organizations' and individual workers' needs into account when designing and implementing flexible HR practices, legitimation for organizations' flexible work practices from society should also be earned for the organization in order to be able to continue their operations in the longer term (Ehnert, 2014).

The above implies, however, that the implementation of flexible HRM should not be viewed in terms of trade-offs, but by continuously balancing between various poles the potential paradoxes associated with these practices. The word 'paradox' has been used by various researchers (Cameron & Quinn, 1988; Smith & Lewis, 2011) to define contradictory forces in organizations that are inherent to organizing and to HRM. The sustainable HRM perspective, and particularly the incorporated paradox lens, offers opportunities to understand why paradoxical tensions are felt, even though actors may not always be aware of these, let alone of their sources which may be out of the actors' sphere of influence, and how these are responded to (De Prins et al., 2015; Ehnert, 2014; Kramar, 2014; Peters & Lam, 2015; Smith & Lewis, 2011).

Ehnert (2014) distinguishes three key paradoxical tensions that HRM has to deal with in view of economical and ethical (normative) logics (Ehnert, 2009, p. 142). The three paradoxes are labelled as follows (Ehnert, 2014): the efficiency/responsibility paradox; the efficiency/ substance paradox; and the present/future paradox. In all cases, both poles of the paradox need to be taken into account simultaneously, as both are

important. Ignoring one of the poles, or prioritizing one over the other, will lead to lower performance in the longer run.

First, the efficiency/substance paradox reflects that HRM should manage paradoxical tensions that may be felt when they need to deploy people both efficiently and in a sustainable way, such that the human resources base is sustained. Second, the efficiency/responsibility paradox reflects that HRM needs to manage paradoxical tensions that may be felt when both efficiency and substance need to be achieved (simultaneously), but also that relational/ethical rationality should be taken into account. In other words, not only economic but also social rationality should be given consideration in order to gain legitimation for the organization's operations, which is needed to guarantee organizational continuity in future markets (Ehnert, 2014). Third, the present/future paradox reflects that HRM has to take into account both the short-term and longer-term outcomes of their HRM policies and practices. It should be acknowledged that current actions form the basis of future outcomes. Not taking future needs into account in present-day decision making can harm the continuity both of the organization and of individual employees. Paradoxical tensions, for example, can cause anxiety and threaten individuals (Lewis, 2000).

In practice, organizations and individuals may respond either in a defensive or an active way (Andriopoulus, 2003, p. 386). Defensive responses usually focus on the short term and can bring some relief, but do not support actors to understand the paradox and do not foster a new way of working. Active responses, in contrast, aim to deal with paradoxes over a longer time frame, perceiving paradox as an inherent part of work. As such, these active responses may consist of new types of behaviour that bypass the defensive routines of stakeholders. In this case, the tension experienced is rather used as a trigger to "rethink existing polarities and recognize more complicated interrelationships" (Lewis, 2000, p. 763) and to give way to new insights and behaviours. Escaping from "reinforcing cycles that perpetuate and exacerbate tension" is not an easy process (Lewis, 2000, p. 263) and oftentimes requires "counterintuitive reactions" (Lewis, 2000, p. 264). Active responses ask for courage and conviction on the side of the actors and a critical examination of actors' polarized perceptions.

Methodology

Data Collection

In this interview study, we explore paradoxical tensions associated with flexible HRM in two organizations that intend to be 'sustainable' when it comes to their social HRM policies and practices. That is, their flexible policies and practices are expected to enhance both the organizations' and employees' efficiency and sustainability (i.e. employability, workability, and vitality). Data were collected through fifteen semi-structured interviews. In total, ten interviews were conducted with employees and managers working in the engineering and mechatronics divisions of an organization which we refer to in this chapter as ENGIN, and five interviews in an organization which we refer to in this chapter as FACIL.

ENGIN is an engineering company that was founded in 2012 and has grown substantially since then. The workforce comprises 75 employees who are of a relatively young age (the mean age being 33). The nationality of the employees in the company is Dutch (besides the Dutch nationality, there is only one employee with another nationality, which is English). The organization has a high male percentage (89% males versus 11% females), and has physical offices at four different locations in the Netherlands. The organization operates in many different sectors, such as energy, automotive, food and packaging. ENGIN has three divisions: Engineering (53 employees), Mechatronics (17 employees), and Sustainability (5 employees). In comparison with the other two divisions, the Sustainability division is relatively small. In addition, the three divisions are involved in different types of work. The Engineering division is occupied with 'normal' engineering assignments, which they fulfil inside or outside their clients' premises. This type of work can vary from consultancy to engineering. The same holds true for the Mechatronics division. However, this division is occupied with more complicated and complex engineering issues. The Sustainability division in particular fulfils consultancy work for sustainability issues. Although the company is divided into these three different divisions, it tries to present itself as one company to the outside world (for an overview of this organization's characteristics, see Table 1).

Table 1: Overview characteristics ENGIN

Divisions (employees):	Sector	Male/Female	Mean age	Nationalities
Engineering (53) Mechatronics (17) Sustainability (5)	Automotive, Food, Energy, Packaging, Sustainability, Engineering, Consultancy	Male: 67 (89%) Female: 8 (11%)	33	Two: Dutch and English
Total employees: 75				

FACIL, being part of a larger family-owned real estate organization, is responsible for the facilitation of an industrial park, which is the base for mainly cleantech companies in the Netherlands, which work with clean sustainable technologies. FACIL's priority is to attract and maintain organizations to the industrial park, which it aims to be known in 2025 as 'the most sustainable industrial park in Western Europe.' FACIL employs nine employees (among which is one director), with an average age of respondents of 35. The gender distribution is reasonably balanced (five men and four women). All employees carry Dutch nationality. Each employee has his or her own responsibility within the organization, related to, for example, commerce, finance, events, communication and projects, park management, and technical service. Since they are only a small team, the employees regularly support each other with different tasks. In this study, five employees from FACIL voluntarily participated (see Table 2 for an overview of the characteristics of FACIL). Background information on the interviewees is presented in Table 3.

Table 2: Overview characteristics FACIL

Employees	Sector	Male/Female	Mean age	Nationalities
9	Real estate, Sustainability, Development, Events	Male: 5 (56%) Female: 4 (44%)	35	One: Dutch

Table 3: Sample Characteristics ENGIN and FACIL

Organization	Function (*division)	Sex	Age	Nationality	Tenure
ENGIN1	Mechanical engineer (E)	Male	29	Dutch	2 years
ENGIN2	Mechanical engineer (M)	Male	27	Dutch	1 year
ENGIN3	Draftsman/constructor (E)	Male	31	Dutch	11 months
ENGIN4	Mechanical engineer (E)	Male	30	Dutch	3 years
ENGIN5	Draftsman/constructor (E)	Male	28	Dutch	1.25 years
ENGIN6	Lead engineer (M)	Male	31	Dutch	2.5 years
ENGIN7	Mechanic engineer (E)	Male	24	Dutch	6 months
ENGIN8	HR Manager (E) and (M)	Female	41	Dutch	6 years
ENGIN9	Sales (E) + (M)	Male	26	Dutch	1.5 years
ENGIN10	Operational Business Manager (M)	Male	34	Dutch	6 years
FACIL1	Financial administrator	Female	24	Dutch	1.5 years
FACIL2	Facility manager	Female	39	Dutch	3 years
FACIL3	Technical service	Male	42	Dutch	6 years
FACIL4	Events	Male	27	Dutch	3 years
FACIL5	Commerce	Male	44	Dutch	4 months

* (E) = Engineering Division, (M) = Mechatronics Division

Note: Because of ethical reasons, this table was not shown in the version issued to the participating organizations.

Data analysis

In order to answer the research question, we analysed various forms of flexible HRM policies and practices, making use of the data of the semi-structured interviews with managers and individual employees at ENGIN and FACIL. We used the three key paradoxes as sensitizing concepts to discover whether flexible HRM practices can be labelled sustainable and hence part of a 'sustainable HR strategy.' In this study, workplace flexibility comprises the following policies and practices: numerical flexibility, functional flexibility, pay flexibility, working time flexibility, and location flexibility. We analyzed how the interviewees experienced the flexible HRM policies and practices in their organization and valued their outcomes, and focused on the potentially experienced paradoxical tensions between efficiency and responsibility, efficiency and substance, and presence and future.

Results

Efficiency/Substance Paradox

The substance and self-sustaining pole associated with flexible HRM revolves around the development of human resources and the organization being able to sustain itself in the long-term, which needs to be balanced with efficiency. In terms of sustainable HRM, this means that organizations should try to hold on to their employees by promoting HRM policies and practices that help to achieve the preservation and retention of their human resources and allow them to have a sustainable career. Below, we present the analysis of our interview study by discussing how the perceived flexible work practices are evaluated by the interviewees.

The interviews reveal that at FACIL and ENGIN (being a consultancy firm itself), numerical flexibility mainly applies to new employees who are given temporary contracts in the first year in order to see whether there is a fit between the organization and the individual. After that year, the contract can become permanent. Formal contractual hours can range from 32 to 40 hours per week, depending on their own preferences for a full or a reduced working time contract. At ENGIN, however, overtime is common and accepted by the employees as something that should be done in exchange for the flexible work practices provided. An average of four to five hours overtime per week was deemed acceptable. However, the employees explicitly valued their private time which should be protected, especially in view of the relatively low numbers of holidays provided by

the organization. Strikingly, the younger interviewees mainly worked full time, whereas the longer tenured employees had reduced their working time contracts, perhaps because of the need for more time outside work. Working less than 32 hours, however, was uncommon at ENGIN, and at FACIL 32 hours was also considered the minimum.

In order to keep the reduced working time contract sustainable, that is, in order to reduce the work-load in line with working hours reductions (Gascoigne & Kelliher, 2018), customers are made aware of the fact that many employees do not work full-time.

When accepting a project clients are made aware that due to reduced work-load arrangements, the project delivery date may need to be extended. (ENGIN2)

The interviewees felt that the flexible approach to working time had a positive impact on themselves and their private lives. ENGIN5, for instance, stated:

If something happens in my personal life, the children, the relationship, those kinds of things… that is handled flexibly with possible temporary working time reduction. (ENGIN5)

One of the most outstanding flexible work practices used at ENGIN and FACIL to promote sustainability and to reduce the organizations' need for numerical flexibility was functional flexibility, which refers to variation in tasks, job rotation and the possibility of acquiring new skills. In order to promote variation in tasks and learning on the job, the employees of ENGIN enjoy a high degree of job rotation, which increases their functional flexibility. This was viewed as a win-win situation for the organization and the employees, who also both wanted and needed to be efficient, and the broad skills and experience in multiple teams helped employees to take over the jobs of others, including when the latter were working on another project:

If, for example, there is a need to switch fast, and the rest of the colleagues are busy and you have some time, then you take over. (ENGIN5)

Most of the employees of ENGIN stated that they experienced sufficient variation in their daily work, which provides them with sufficient challenges:

For me, a day never looks the same. Each day is different. So there is much variation. (ENGIN10)

Although this was felt by most, this did not hold true for all interviewees.

At the moment, I do not think there is enough variation, no. (ENGIN3)

Obviously, customization and dialogue about how to sufficiently challenge employees is needed to guarantee that all employees are satisfied when it comes to job variation (cf. De Prins et al., 2015). Although all young employees had a senior employee or manager to support them and check whether they were still satisfied with their work, some of these younger employees indicated that they themselves had to have a proactive attitude to organize their work in accordance with their own liking.

The employees at ENGIN are offered possibilities to acquire new skills supporting their development and intra-organizational employability:

Yes, there are possibilities for sure. They offer you courses. (ENGIN3)

According to the employees and managers at ENGIN, ENGIN offers its employees a lot of possibilities to learn and develop themselves professionally:

I thought like, yes, maybe it is clever to follow such a course so that I know what needs to be on the blueprint and why it needs to be on the blueprint. Therefore, I followed such a course and that's how one keeps developing. (ENGIN3)

It is not only functional flexibility that contributes to the development of the employees and managers of ENGIN. Other forms of flexibility, such as working time flexibility, can also be viewed as a condition that supports professional development:

If they expect from employees that they are here each single day, from 8 a.m. to 5 p.m., employees would quit quite fast and … it does not motivate employees to develop themselves further. (ENGIN10)

At both ENGIN and FACIL, employees enjoy flexitime, which implies that they can choose the temporal location of the start of their work day between 7 a.m. and 9 a.m. In practice, however, they can deviate from this time frame if they can substantiate this with 'good' reasons.

We do not really have fixed working times. Between 9 a.m. and 3 p.m. you have to be present, but you can choose whether you start at 7 a.m. or 9 a.m. (ENGIN5)

Although time-spatial flexibility is present at ENGIN and FACIL, one of the interviewees at FACIL mentioned:

It [flexible working] makes me feel comfortable, since you know that you are given freedom and you get that freedom only when people trust you… so, if you are very busy one day and you know that you can handle the job better by working home one day, that is not a problem. I just need to inform my manager. (FACIL1)

This quote shows that FACIL empowers its employees to decide for themselves where to work. So, they offer their employees the freedom to make their own judgment concerning their work location, and this helps them cope with a situation of being (too) busy. However, in some cases, this may be easier than in others, depending on the type of (team) work and customers' wishes. At ENGIN, for example, teleworking does not appear to be that common in practice.

For me, working from home is no option, because my customer prevents me from doing it. They are very protective of their Intellectual Property. (ENGIN1)

Obviously, telework at ENGIN greatly depends on the room provided by clients.

Although time-spatial flexibility is valued by the employees, some employees at ENGIN mentioned that working time flexibility had become more limited over the past few months because of the abolishment of the 'time-for-time-arrangement' the organization used to have in place. Under this arrangement, employees could exchange overtime hours in one week for additional free time later. The abolishment of this flexible work practice led to a high degree of disappointment among the employees at ENGIN:

We used to have a wonderful time-for-time-arrangement, but sadly, they abolished it. (ENGIN1)

The respondent manager at ENGIN explained why the 'time-for-time-arrangement' was abolished. In her view, it was just not beneficial for the employees:

Well, we used to have flexibility in the form of a time-for-time-arrangement, so that if you worked more, you could have more time off. Well, we abolished it, because we found out that the boys would 'burn their fingers.' They built up way too many hours and then they were not able to take up these hours. (ENGIN8)

In other words, the management viewed the time-for-time arrangement to be an unsustainable HR practice in the longer run, as employees would work too many hours at some point in time, which the organization could not compensate them for, because the employees could not afford the extra free time later as they were needed to do their projects. This reason for abolishing the arrangement, however, was not well communicated to the employees and no dialogue took place. Therefore, losing the time-for-time arrangement gave the employees a feeling of reduced freedom. Despite this, the general idea among employees that ENGIN offers a lot of working time flexibility was not seriously affected.

Recently, ENGIN has implemented a time registration system which demands that employees register their activities per hour. The advantage perceived by the employees was that the organization could accurately measure and assess employees' billable hours for each single project. This time keeping ran parallel with the need for employees to work in a very efficient way. Although this was applauded by the employees, they also found that the time registration system left little time for informal learning as these 'unbillable hours' would come at the expense of the organization's performance in the short run. In this regard, they also acknowledged that not all employees could keep up with the pace at which the work had to be conducted. In the past, they had witnessed how the tight work schedule had not only affected the well-being of these colleagues, but had also hindered other team members. Eventually, colleagues that could not manage the pace of the work had left the organization.

In conclusion, at ENGIN, employees receive a standard salary, rather than performance-related pay. Overtime was paid at 125%, which was welcomed by the employees, but did not drive their motivation to do overtime, as this was considered more to be a token of organizational commitment. When employees develop, however, they can be rewarded with a salary increase:

We offer rewards based on the way that someone develops and if we see that someone develops fast, because of training, or whatever, there is a reward in the form of a salary or something extra. (ENGIN10)

Despite this policy, the employees indicate that their work motivation depends more on the challenges and learning opportunities that they experience in the work projects.

Efficiency/Responsibility Paradox

The efficiency/responsibility paradox (Ehnert, 2014) implies that organizations, on the one hand, have to gain social legitimacy in society by conforming to the society's norms and values incorporated in its institutions and, on the other hand, have to reach optimal efficiency within itself to meet its economic goals without depleting but rather regenerating employees' resources. Based on the interviews, we found that both ENGIN and FACIL aim to be perceived as a sustainable organization and that flexible work practices are instrumental for this goal.

Within ENGIN, most employees recognized that flexible HRM should be viewed as an increasingly important value for future HRM in order to retain personnel. One interviewee who recently joined ENGIN mentioned that flexible HRM was one of the reasons to work for ENGIN in the longer term:

Actually, the flexibility is one of the bigger advantages of working at ENGIN. If that were to be abolished, I would probably just look for something else. (ENGIN7)

Another interviewee was not really too bothered about flexibility, but also stated that it will be increasingly important for the workforce of tomorrow:

For me personally, I do not need flexibility that much. [But] I can imagine that the future generation demands flexibility. (ENGIN8)

ENGIN wants to be 'an employer of choice' where particularly young engineers like to work, since they are given more job autonomy and responsibility (empowering HRM), right from the start of their careers, than their competitors in the sector would give.

You do have a voice in which project you participate in. If you do not like working on a certain project, ENGIN tries to find a project that is more fun to do or more challenging. - (ENGIN-2)

When you prefer to work on producing a machine for the food industry over making a machine for the automotive industry, then you are free to choose that. (ENGIN2)

The professional freedom provided to the employees at ENGIN implies that they are allowed to choose between assignments and to develop themselves in the way they like, as long as this meets the interests of the organization. In this way, ENGIN wants to be known as a sustainable organization that offers work that is meaningful and that focuses on the individual employees' interests and needs. FACIL also wants to offer meaningful work and wants to be known within a number of years not only as 'the greenest industry site in the Netherlands,' but also as human.

The fact that you matter, that your opinion counts. That you are given the opportunity to decide or think, that's what I find important. (FACIL1)

I explain that we want to become the most sustainable site of the Netherlands, but that sustainability is not only in CO2 emissions, but also in the people and the capital. (FACIL5)

For both organizations, the aim to gain legitimacy by implementing sustainable HRM immediately contributes to their employer branding (cf. App, Merk, & Büttgen, 2012), which helps to attract and retain young talents who are sensitive to the idea of having autonomy, responsibility

and impact. This autonomy should be accompanied by support from their seniors, who function as coaches. The work should be meaningful to the employees, and can refer to prosocial work in that it contributes to society at large (cf. Winter & Jackson, 2014).

I am very satisfied with ENGIN as an employer. The organization oftentimes takes up very nice extra assignments, including many 'alternative projects.' Projects with pupils, for example. That is great fun. If you like that, you can just participate in these projects. (ENGIN2)

All of the interviewees at ENGIN and FACIL felt respected and valued by their organization and colleagues. Some even felt like a co-owner of the organization or considered the organization or their team members as family:

You really feel here that you are a team. (FACIL1)

I feel like an owner of the company, while on paper, I am not. And that would be the   ultimate goal. (ENGIN10)

So, I kind of see it as family, my child, my thing. That is my relationship with ENGIN. (ENGIN8)

These quotes clearly show the affective relationships across organizational members. When the interviewees were asked if they would still feel 'valued' by the organization if flexible HR practices had not been implemented in their organization, all stated that the flexible work policies and practices truly contributed to their positive feelings about their organization, colleagues and their work:

If you were to have less flexibility, the organization would become more authoritarian, I guess. There would be more interference and the relationship would be totally different... (ENGIN6)

The interviewees did not experience that the flexible policies and practices would lead to the exploitation of their resources. In fact, they stressed that it is the responsibility of the individual employee to take ownership (cf. De Prins et al., 2015) by ensuring that the flexibility used does not lead to health problems.

You are responsible for your own [work] planning. And if you think that your planning works better, you should indicate that. It [the empowerment] stimulates you to get to know yourself, what works for you. Here you get the opportunity to find out. I really like working for this company. (FACIL5)

As indicated earlier, not all employees might be a good fit for working at ENGIN. As one interviewee stated:

They throw you into the deep and if you are able to swim, that is okay. I felt a bit left alone in the beginning, but I was able to deal with it.

However, it depends a lot on you as a person. Whether you can manage that. (ENGIN3)

We do have a specific way of working here. We work very hard. And there are some people who cannot cope with that. They are used to taking more time to deal with some problems. So, these people may need to leave the organization. (ENGIN2)

So, the way of working at ENGIN might not be that inclusive (cf. De Prins et al., 2015) as the implicit 'selection mechanism' favours individuals who have a 'hands-on working style' and who can keep up with the pace of work and fit the work style of project work.

The interviewees themselves did not recognize any potential paradoxical tensions between the efficiency pole and the social legitimacy pole, which we associated with the phenomenon of flexible HRM. For example, although ENGIN limits its use of numerical flexibility, probably because it operates in an emerging and booming market where talent is scarce, in practice, new employees are first offered a temporary labour contract, which can be changed into a permanent contract after a year. Most of the interviewees regarded this flexible work practice as legitimate, which may result from previous years characterized by economic crisis and recession (Kornelakis, 2014).

In some cases, ENGIN appeared to be willing to deviate from this 'standard procedure,' which the employees did view as flexible, rather than as unfair.

ENGIN wanted to give me a temporary contract for a year. That is actually normal when you're starting with a company. ... We talked about it and then they actually offered me a permanent contract. Perhaps that too is an example of flexibility at ENGIN. The organization always offers a contract for a year, but in some cases, they think: Let's be flexible in this case and let's give him a permanent contract. (ENGIN3)

In particular, the respondent manager at ENGIN stresses that flexibility does not hinder social legitimacy and that sustainability is in fact prioritized over efficiency:

We find it important that everyone says what I am saying right now I think… so we always try to prevent our name from being presented negatively in the outside world, because of our actions, regarding employees, in what whatever way: flexibility, sustainability, everything… We definitely do keep an eye out for that. (ENGIN8)

The quote above reflects that ENGIN wants to signal that they act in a sustainable way, not only in terms of working with sustainable materials, but also with regards to employees' health. This is also implemented in other HRM policies and practices at ENGIN.

Well, what is deemed important in our organization is that our personnel [have a healthy lifestyle]… ENGIN used to have soft drinks and sweets for our people in the offices. ENGIN has decided that we are not doing that anymore, partly because of our public image. The soft drinks have been replaced by flavoured water and we have fruit baskets in the office. … That is much more sustainable and we also have goodie bags. These we give to customers. These bags are made of sustainable materials. There is water [in the bags], which is not just in a bottle, but in a bottle that can be recycled. (ENGIN3)

Present/Future Paradox

The present/future paradox implies that HRM has to take into account both the short-term and longer-term outcomes of their HRM policies and practices. Flexible work practices might meet the needs of organizations, employees or both parties in the short term, but in order to be sustainable, it needs to be assessed how this would affect the longer term. Conversely, HRM should meet needs that might not be felt in the short term, but that might be important in the longer term.

In view of this paradox, one of the interviewees acknowledges that numerical flexibility is not beneficial for all parties' long-term sustainability:

I think that these [short-term contracts] are not desirable for both parties [organization and employees], because employees develop a relationship with the organization over time. I think that both parties want to stay together for as long as possible… [Short-term contracts] could be a negative aspect of workplace flexibility. (ENGIN7)

One interviewee indicated that the long-term perspective was on the minds of the managers and employees at ENGIN and that the future growth of the organization could be a negative factor in workplace flexibility.

I think that in the longer term, things will get less flexible as the organization grows. (ENGIN7)

The growth of the firm could demand that the organizational structure and culture of ENGIN will become more formalized than it used to be, which may have a negative impact on the sustainability of the organization.

Formalization, however, may also have many positive sides. An interviewee stated it like this:

I think when the policies are clearer, that may be advantageous for the employees. Now, it is always a bit of a surprise how management will

react. … We have witnessed a lot of turnover, jobs were not always clearly described … and when there is no clear job description, the job scope always becomes larger. … So, in that respect, clearer rules and sustainability can have positive influences here. (FACIL1)

Obviously, the freedom and flexibility experienced at FACIL right now may come at the expense of job clarity and predictability. There is a risk that ad hoc decision-making leads to arbitrariness and unequal treatment, which might be perceived as unfair and affect sustainability.

At ENGIN, some form of monitoring does take place during performance appraisals, which are conducted twice a year. This, however, might not be sufficient to assess the effect of flexibility according to some of the interviewees.

I would like to substantiate [the effectiveness of the flexible HRM practices]. It is a feeling that I am having right now, but I would like to be able to substantiate … what the benefits are, what the costs [of the flexible HRM practices] are. (ENGIN10)

Currently, the impact of flexible policies and practices on sustainable outcomes at ENGIN are barely formally monitored, even though this might be needed:

No … monitoring, that is not quite done here yet. We are way too busy for it. So we just look at what happens and if something happens then bam, we will go full throttle to regain the balance in case something happens. (ENGIN8)

So they aim to continuously respond to unbalanced situations. However, whereas some interviewees at ENGIN mention that their manager or coach asks about how they experience their working and private lives and support their careers in a sustainable way by stimulating personal and professional development, others indicate that this is oftentimes left to the proactive behaviour of the individual employee.

Conclusion and Discussion

This interview study set out to analyze how professional employees in two start-ups (one in the engineering sector and one facilitating the energy-related sector) that employ a relatively young workforce experience positive and negative outcomes of flexible HRM policies and practices (i.e. numerical flexibility, functional flexibility, working time flexibility, time-spatial flexibility, and pay flexibility) which are intended by the organizations to create sustainable work, and how these outcomes can be associated with paradoxical tensions. More specifically, our paradox lens helped us to understand how the two organizations stimulated

efficiency and sustainability, efficiency and legitimation, and present and future needs (Ehnert, 2014) in order to benefit both the organization and its employees. The organizations' sustainability goal required the organizations to deal with paradoxical tensions (Ehnert, 2014; Lewis, 2000; Smith & Lewis, 2011, Peters & Lam, 2015). Below, the results of our study on how the organizations dealt with the three key paradoxical tensions distinguished by Ehnert (2014) are summarized and discussed.

The Efficiency/Substance Paradox

With regard to the paradox of efficiency/substance (Ehnert, 2014), the organizations in our study offered many flexible HRM practices that contributed to both the efficiency and substance poles simultaneously. Numerical flexibility was only used for new employees who were given a one year contract to see whether there was a fit between the way of working at the company and their own working style. At ENGIN, it showed that not all workers appeared to fit the tight work schedules characterizing the company's work style. In contrast to the indicator by De Prins et al. (2015), this work practice cannot be viewed as inclusive. In fact, only those who could cope with the empowerment and the pace of work were given a permanent contract.

In both companies, the younger workers interviewed worked full time, whereas the more senior workers had oftentimes engaged in a dialogue with the management in order to negotiate a customized working time arrangement in the form of reduced work hours (a minimum of 32 hours per week) (cf. De Prins et al., 2015). In order to keep this arrangement sustainable, in terms of adjusting the work load to formal working hours (cf. Gascoigne & Kelliher, 2018), the teams engaged in a dialogue with customers to manage their expectations with regard to the feasibility of the projects' deadlines.

Functional flexibility, including job rotation, enabled the organizations to combine sustainability and efficiency, as the way the work was designed and organized allowed employees to support and take over jobs when necessary (cf. Gascoigne & Kelliher, 2018). Moreover, job rotation was enabled by developing a broad skill set via both formal and informal learning in line with their interests (Carvalho & Cabral-Cardoso, 2008). In order to motivate workers and create meaningful work, employees were allowed to choose which projects they would participate in. This, as well as the professional autonomy and responsibility (empowerment), was much appreciated by the employees and was enabled by their teammates'

support and the trust relations that developed, which created a good working and collaboration environment in the teams.

At FACIL, time-spatial flexibility appeared to be more present than at ENGIN, probably because of the type of work that has to be conducted. At ENGIN, the influence of the client organizations was much larger, which could hinder the use of flexible work practices such as working from home and flexitime, which were both limited. Moreover, the time-for-time arrangement, which was much appreciated by the employees at ENGIN, was abolished, just because of its frequent use, which had affected the teams' efficiency. According to the organization, the time saved by working overtime could not be exchanged for extra free time when this was preferred by the employees, probably due to the organization's growing work portfolios in the booming market. The time registration system that was only recently introduced at ENGIN was accepted by the employees, as they recognized its relevance to the organization and to themselves, as it helped to estimate the time needed for projects. However, according to the employees, this system also hindered informal learning opportunities, which they regretted.

Despite this, all employees were truly satisfied with the employers' flexible HRM policies and practices. Overtime was accepted as long as it did not affect their personal life and was viewed as a token of appreciation of the organizations' flexibility and the opportunities to develop oneself professionally. Even though overtime was paid extra, this was not the motivation of employees to work at ENGIN and FACIL.

The Efficiency/Legitimation Paradox

The efficiency and legitimation poles characterizing the second paradox were shown to be rather balanced as well. All employees stated that it was due to the organizations' flexible practices that they had chosen to work for them, rather than apply for jobs at the many other organizations that were interested in their talent. Although most of the employees stated that numerical flexibility should be reduced, as it is regarded as negative in the longer run, in terms of decreased job security, employee well-being and commitment (cf. Conley, 2006; Peters & Lam, 2015), most seemed to accept temporary contracts for the first year, even in a tight labour market.

Both organizations clearly deemed it important to create an image of sustainability, both towards their employees and towards the outside world. Employer branding was improved not only by practices that were ecologically sustainable, for example by using sustainable materials, but

also by social practices, such as treating individuals as friends, family and co-owners and by stimulating a healthy lifestyle. In line with the criteria for sustainable HRM as described in the literature (De Prins et al., 2015; De Vos et al., 2018; Ehnert, 2014; Kramar, 2014), the two organizations focussed on the individual employees and wanted to support them to maintain and develop their employability (professional development), workability (health) and vitality (motivation and work engagement), which are needed to enable them to self-manage their increasingly boundaryless careers in a meaningful way. Meaningful work was provided in both organizations by offering choices of projects and by creating a positive and psychologically safe work environment. Moreover, some of the employees appreciated the prosocial activities that ENGIN engaged in, such as school projects with youngsters that employees could voluntarily participate in.

The Present/Future Paradox

The present/future paradox was shown to be recognized by employees and managers alike. The current flexible HRM practices were not systematically monitored, although this was acknowledged to be important by both employees and management. The interviews revealed that the use and success of these practices depended greatly on the proactive attitude of the employees, which had led to inequalities, for example, with regard to getting a permanent contract and having meaningful work. The informal approach to flexible HRM is perceived to be suitable for the start-up phase. However, in view of future growth, this might not be suitable anymore. Both employees and managers expect that more formalization is needed to prevent unfair situations and to treat all employees equally (De Prins et al., 2015). Some expect future formalization to be a threat to sustainability, as it may reduce autonomy, flexibility and informal learning based on trust relationships in project teams. However, in view of future growth, formalization is also viewed as a means to guarantee a balance between efficiency and sustainability for both employees and the organization. Although sustainable HRM states that employees should take ownership (cf. De Prins et al., 2015), it can be argued that formalization is needed as this would allow a better and more systematic monitoring and control of the impact of flexible HRM on the employees' and the organizations' sustainability (cf. Ehnert, 2015) and could prevent arbitrariness at the expense of less proactive employees, who might not find the support of a coach or manager who stimulates them to manage their work and careers themselves (cf. De Prins et al., 2015). Balancing

formal HRM and individuals' own responsibility is in line with the paradox found by Peters and Lam (2015).

Practical Implications

For ENGIN and FACIL, it is important to develop a future perspective for their organizations. In view of their purpose to become a sustainable organization, ENGIN developed a sustainable image by offering flexible HRM policies and practices for their employees who experienced this as positive. Employees do get responsibility to choose specific projects in their job and so create meaningful work. As the organization is only small, this informal flexibility works positively for most employees (though not for all, as a number of them left the organization after a short while) at this moment.

As the organizations are both growing, this informal flexibility may gradually fade, so there is no guarantee for ongoing job satisfaction in the future. As an organization grows, more structure and more formalization of regulations, rules and procedures are needed. At this moment, the responses of the management team have an ad hoc and sometimes impulsive character. This can be a risky strategy as it may lead to unfairness when applying rules differently for different employees.

Another important point is the leadership styles used so far. Despite the autonomy that employees in ENGIN and FACIL experience, this perceived autonomy may be a result of a laissez-faire leadership style. Laissez-faire leadership styles may create initiative-taking from the side of the employees, who receive the space to sort out planning, develop new client contacts, and take other initiatives. A risk is that employees experience too little support for self-development in the long term. They may lack a certain dialogue when their ideas are confronted with feedback from their manager (Wong & Giessner, 2018) to enable double loop learning. This is necessary for further learning.

References

Andriopoulos, C., & Lewis, M. W. (2009). Exploitation-exploration tensions and organizational ambidexterity: Managing paradoxes of innovation. Organization Science, 20(4), 696-717.

App, S., Merk, J., & Büttgen, M. (2012). Employer branding: Sustainable HRM as a competitive advantage in the market for high-quality employees. Management revue, 23(3), 262-278.

Bhattacharya, C. B., Sen, S., & Korschun, D. (2008). Using corporate social responsibility to win the war for talent. MIT Sloan Management Review, 49, 37-44.

Boudreau, J. W., & Ramstad, P. M. (2005). Talentship, talent segmentation, and sustainability: A new HR decision science paradigm for a new strategy definition. Human Resource Management, 44(2), 129-136.

Cameron, K. S. ,& Quinn, R. E. (1988). Organizational paradox and transformation. In R. E. Quinn, & K. S. Cameron (Eds.), Ballinger series on innovation and organizational change. Paradox and transformation: Toward a theory of change in organization and management (pp. 1-18). New York, NY, US: Ballinger Publishing Co/Harper & Row Publishers.

Carvalho, A., & Cabral-Cardoso, C. (2008). Flexibility through HRM in management consulting firms. Personnel Review, 37(3), 332-349.

Conley, H. (2006). Modernisation or casualisation? Numerical flexibility in public services. Capital & Class, 30(2), 31-57.

De Prins, P., Van Beirendonck, L., De Vos, A., & Segers, J. (2014). Sustainable HRM: Bridging Theory and Practice through the 'Respect Openness Continuity (ROC)'-model. Management Revue, 25(4), 263-284.

De Prins, P., De Vos, A., Van Beirendonck, L., & Segers, J. (2015). Sustainable HRM for sustainable careers: Introducing the 'Respect Openness Continuity (ROC) model'. In A. De Vos & B.I.J.M. Van der Heijden. Handbook of research on Sustainable Careers (Chapter 21, pp. 319-334). Cheltenham, UK/ Northampton, MA, USA: Edgar Elgar.

De Vos, A., Van der Heijden, B. I. J. M., & Akkermans, J. (2018). Sustainable careers: Towards a conceptual model. Journal of Vocational Behavior, 3, 1–13.

Ehnert, I. (2009). Sustainable human resource management. A Conceptual and Exploratory Analysis from a Paradox Perspective. Heidelberg: Springer.

Ehnert, I., Harry, W., Zink., K.J. (2013). Sustainability and human resource management: Developing sustainable business organizations. Heidelberg: Springer.

Ehnert, I., & Harry, W. (2012). Recent developments and future prospects on sustainable human resource management: Introduction to the special issue. Management revue, 23(3), 221-238.

Ehnert, I. (2014). Paradox as a lens for theorizing sustainable HRM. Mapping and coping with paradoxes and tensions. In I. Ehnert, W. Harry, & K. J. Zink (eds.), Sustainability and human resource

management: Developing sustainable business organizations (pp. 247-272). Heidelberg: Springer.

Ehnert, I., Parsa, S., Roper, I., Wagner, M., & Muller-Camen, M. (2016). Reporting on sustainability and HRM: A comparative study of sustainability reporting practices by the world's largest companies. The International Journal of Human Resource Management, 27(1), 88-108.

Gascoigne, C., & Kelliher, C. (2018). The transition to part-time: How professionals negotiate 'reduced time and workload' i-deals and craft their jobs. Human Relations, 71(1), 103-125.

Gerhart, B., Rynes, S. L., & Fulmer, I. S. (2009). Pay and performance: Individuals, groups, and executives. Academy of Management Annals, 3, 251-315.

Jarzabkowski, P., Lê, J. K., & Van de Ven, A. H. (2013). Responding to competing strategic demands: How organizing, belonging, and performing paradoxes coevolve. Strategic Organization, 11(3), 245-280.

Jiang, K., Lepak, D. P., Hu, J., & Baer, J. C. (2012). How does human resource management influence organizational outcomes? A meta-analytic investigation of mediating mechanisms. Academy of management Journal, 55(6), 1264-1294.

Kelliher, C., & Anderson, D. (2010). Doing more with less? Flexible working practices and the intensification of work. Human relations, 63(1), 83-106.

Kornelakis, A. (2014). Balancing flexibility with security in organizations? Exploring the links between flexicurity and human resource development. Human Resource Development Review, 13(4), 398-412.

Kozica, A., & Kaiser, S. (2012). A sustainability perspective on flexible HRM: How to cope with paradoxes of contingent work. Management Revue, 23(3), 239-261.

Kramar, R. (2014). Beyond str,tegic human resource management: is sustainable human resource management the next approach? The International Journal of Human Resource Management, 25(8), 1069-1089.

Lewis, M. W. 2000. Exploring paradox: Toward a more comprehensive guide. Academy of Management Review, 25(4), 760–776.

Mariappanadar, S. (2003). Sustainable human resource strategy: The sustainable and unsustainable dilemmas of retrenchment. International Journal of Social Economics, 30(8), 906-923.

Nishii, L.H., & Wright, P.M. (2008). Variability within organizations. Implications for

strategic human resource management. In D.B. Smith. The people make the place. Dynamic linkages between individuals and organizations (pp. 225-248). New York, Sussex: Taylor & Francis Group.

Paauwe, J. (2004). HRM and performance: Achieving long-term viability. Oxford University Press on Demand.

—. (2009). HRM and performance: achievements, methodological issues and prospects. Journal of Management Studies, 46(1), 129-142.

Pearce, J. L., & Randel, A. E. (2004). Expectations of organizational mobility, workplace social inclusion, and employee job performance. Journal of Organizational Behavior, 25(1), 81-98.

Peters, P., Den Dulk, L., & Van der Lippe, A.G. (2009). The effects of time-spatial flexibility and new working conditions on employees' work-life balance: the Dutch case. Community, Work and Family, 12(3), 279-297.

Peters, P., & Lam, W. (2015). Can employability do the trick? Revealing paradoxical tensions and responses in the process of adopting innovative employability enhancing policies and practices in organizations. German Journal of Human Resource Management, 29(3-4), 235-258.

Poole, M. S., & Van de Ven, A. H. (1989). Using paradox to build management and organization theories. Academy of Management Review, 14(4), 562-578.

Smith, W. K., & Lewis, M. W. (2011). Toward a theory of paradox: A dynamic equilibrium model of organizing. Academy of management Review, 36(2), 381-403.

Spreitzer, G. M., Cameron, L., & Garrett, L. (2017). Alternative work arrangements: Two images of the new world of work. Annual Review of Organizational Psychology and Organizational Behavior, 4, 473-499.

Symon, G., & Cassell, C. (Eds.). (2012). Qualitative organizational research: core methods and current challenges. Sage Publications, London.

Truss, C. (2001). Complexities and controversies in linking HRM with organizational outcomes. Journal of Management Studies, 38(8), 1121-1149.

Yeh, W. Y., Cheng, Y., & Chen, C. J. (2009). Social patterns of pay systems and their associations with psychosocial job characteristics and burnout among paid employees in Taiwan. Social science & medicine, 68(8), 1407-1415.

Van der Heijden, B.I.J.M., Peters, P., & Kelliher, C. (2015). New ways of working and employability. Towards an agenda for HRD. In R.F.

Poell, T.S. Rocco & G.L. Roth (Eds.), The Routledge companion to human resource development (pp. 542-551). London, UK: Routledge.