# Electronic HRM in the Smart Era

# THE CHANGING CONTEXT OF MANAGING PEOPLE

Series Editor: Emma Parry

# Electronic HRM in the Smart Era

By

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# Foreword

It is with great pleasure that I introduce this book *Electronic HRM in the Smart Era* as the next instalment in the series The Changing Context of Managing People.

I have long held an interest in the area of HR technology and e-HRM. I attended the first international workshop on e-HRM as a junior researcher and have attended most of these events since — in 2016 I was honoured to give the keynote speech and to celebrate the tenth anniversary of the conference's founding. I am therefore delighted to act as co-editor for a book that contains a selection of the best papers from this anniversary event — and to include the text in my book series.

The area of e-HRM has changed dramatically over the last 10 years and progressed from a nascent, poorly defined and largely a-theoretical field to one that is recognised as a body of literature in its own right. The literature has developed as the technology used in HRM has evolved from HR information systems to e-HRM, Web 2.0, and social media. If predictions are to be believed, over the next few years, the use of technology in practice will evolve further, with the introduction of wearable technology, virtual and augmented reality and robots becoming commonplace as means of managing and supporting employees. This presents exciting opportunities for research as technological advancement continues alongside the theoretical and empirical development of the academic field.

This book provides a useful representation of a point in time in the development of both this research area and the technologies it discusses, via the inclusion of a variety of chapters demonstrating the range of technologies, methodologies, and theoretical perspectives currently in use. I hope that you enjoy these contributions as much as I have.

Emma Parry
*Series Editor*

# Introduction, or a Long Way Towards this Volume

Since the end of the 1990s, research into the use of e-HRM in implementing human resource management (HRM) strategies, policies and practices has taken off worldwide. With some certainty we argue that this scholarly field has been championing the effort of self-reflection: during previous nine years since 2007, nine e-HRM literature reviews have been published with discussions about disciplinary, terminological, theoretical, and methodological backgrounds of the field (Bondarouk & Furtmueller, 2012; Bondarouk & Ruël, 2009; Bondarouk, Parry, & Furtmueller, 2017; Johnson, Lukaszewski, & Stone, 2016; Marler & Fisher, 2013; Ruël & Bondarouk, 2014; Ruël, Magalhães, & Chiemeke, 2011; Strohmeier, 2007; Van Geffen, Ruël, & Bondarouk, 2013).

Strohmeier (2007) reviewed the empirical work on e-HRM and brought forward his ideas for further research. In his review, the author described that the ongoing implementation and application of e-HRM in organisations have awakened the interest of academics in the concept of e-HRM. As a result of this interest, research on e-HRM appeared to have reached an 'initial body of empirical research' (Strohmeier, 2007, p. 19). On the downside, however, the author noted that most of the research about e-HRM stemmed from various scientific disciplines and was scattered throughout a number of different journals. Thus, e-HRM research appeared to lack the focus to assert itself as its own field quite yet. This was also reflected in the fact that Strohmeier (2007) criticised the lack of a proper definition of the concept of e-HRM itself. Despite that some authors (e.g. Ruël, Bondarouk, & Looise, 2004) already proposed definitions of e-HRM, Strohmeier (2007) disposed these definitions as being too general and not being able to underline that e-HRM was a

multi-level phenomenon. Strohmeier (2007) called for pluralism with regards to theoretical grounding and empirical methods employed. To structure the relevant topics of e-HRM, Strohmeier (2007) suggested a framework that divided e-HRM research into e-HRM context, configuration and consequences on a macro and micro level. The e-HRM configuration was suggested to integrate different actors that perform e-HRM, the e-HRM strategy, and e-HRM activities such as recruiting, training, compensation and the technology. The e-HRM configuration, in turn, determined the e-HRM consequences, whereas the e-HRM context played a moderating effect. Strohmeier (2007) criticised that the contextual factors of e-HRM remained mostly unclear. Also the research on e-HRM configuration was considered very patchy. The e-HRM consequences were, to a great extent, unexamined, Strohmeier (2007) concluded.

In 2009, Bondarouk and Ruël (2009) wrote an introduction for the *International Journal of Human Resource Management*, which can best be described as an e-HRM review of the years between the first and second *International e-HRM Conferences*. The authors described the continuous integration of e-HRM applications within organisations through complicated ERP systems that integrated e-HRM modules with, e.g., financial modules. However, despite all the positive developments regarding the acceptance of e-HRM within organisations, the authors also underlined the fact that there was still no clear definition of e-HRM that researchers had agreed upon. A clear definition of e-HRM was, in the view of the authors, necessary to point e-HRM research into the right direction. The authors redefined e-HRM as 'an umbrella term covering all possible integration mechanisms and contents between HRM and Information Technologies aiming at creating value within and across organizations for targeted employees and management' (Bondarouk & Ruël, 2009, p. 507). This definition was aiming to push e-HRM research into a focus on four aspects – the content of e-HRM, the implementation of e-HRM, the targeted employees and managers and the e-HRM consequences. The authors encouraged scholars to reduce studies about cost effectiveness and to focus on reducing the ambiguity of e-HRM content instead. According to them, e-HRM supported not only administrative HR practices but also transformational practices. Moreover, their definition was aiming at a greater focus on the implementation and consequences of e-HRM. Another reason for a refined e-HRM definition was to establish awareness that e-HRM focused on both

managers and employees in comparison to the older HRIS concept, which had its main focus on the managing actors.

Bondarouk and Furtmueller (2012) did a major e-HRM research review into empirical studies over four decades of e-HRM. The authors focused predominantly on e-HRM effectiveness: implementation factors of e-HRM and the consequences of e-HRM implementations. Regarding the implementation factors, they observed that the literature primarily focused on the human aspects of e-HRM implementation. Despite the fact that technology has continued to be difficult and expensive (Bondarouk & Furtmueller, 2012, p. 14) it was not considered to be the most difficult factor at the time. Instead the people factors were considered the most important for the success of an e-HRM implementation. The sudden shift in focus away from the technological factors towards people factors was explained by the lack of factors found for the effectiveness of e-HRM (e.g. Strohmeier, 2007). Also, researchers such as Bondarouk and Ruël (2009) already identified the challenge of different perceptions of various stakeholders on the e-HRM implementations, affecting e-HRM usage and effectiveness.

Regarding the consequences of e-HRM implementations, the literature focused on the transformational consequences, thus emphasising the potential of e-HRM to support the HR's role in becoming a valued business partner. Interestingly, the authors criticised the lack of empirical studies for e-HRM to become a 'mature research tradition' (Bondarouk & Furtmueller, 2012, p. 17). According to the authors, the amount of conflicting findings in the e-HRM literature concerning the goals of e-HRM implementation was high, which could only be antagonised by more theory-driven and evidence-based e-HRM studies.

Marler and Fisher (2013) conducted a review of e-HRM with a special focus on the relationship between e-HRM and strategic HRM. Other than the sources mentioned earlier, this review did not take into account e-HRM research in its broader sense, rather it identified unresolved questions regarding the strategic use of e-HRM specifically. When Marler and Fisher (2013) decided to review the e-HRM literature with the focus on the strategic part of e-HRM, maybe this was the direction in which they thought e-HRM research should be heading. In their review, the authors criticised e-HRM research as being too deterministic. Although other fields such as information technology research evolved over time and treated technology 'as a more nuanced concept that evolves over time and is context dependent'

(Marler & Fisher, 2013, p. 33), e-HRM research appeared to be stuck in its deterministic state. Moreover, the authors recognised a lack of strong theoretical foundation that could 'guide the research' (Marler & Fisher, 2013, p. 34). Also there were gaps in the literature regarding the strategic outcomes of e-HRM implementation. The authors criticised the lack of empirical studies that examined e-HRM from a resource-based view.

In the same year, Van Geffen, Ruël and Bondarouk (2013) reviewed the e-HRM literature, but instead of focusing on the strategic part of e-HRM, the authors reviewed e-HRM research with a special focus on the information systems (IS) academic studies and MNCs. The authors found that most e-HRM research was rooted in the HR instead of IS literature. However, the IS literature offered great possibilities for e-HRM research. First of all, it appeared to be a more mature field of research and offered a number of valuable theories that could easily be translated to e-HRM research. The authors found that e-HRM research focused predominantly on post-implementation issues, whereas the IS literature offered a number of topics regarding pre-implementation and implementation issues as well. Thus, there was a scarcity of e-HRM research in those categories. The need for a strong basis of e-HRM research became apparent, when the authors shed light on the e-HRM research done with respect to MNCs. In direct comparison to the IS literature, the e-HRM research undertaken in this area has been considered rather poor. No studies investigated the pre-implementation of e-HRM in an international context, and only a few investigated the implementation phase of e-HRM in an international context (Broderick & Boudreau, 1992; Hannon, Jelf & Brandes, 1996). The international e-HRM literature focused mostly on the post-implementation phase of e-HRM. According to the authors, the e-HRM research could benefit greatly from taking a glance at already existing IS literature and use it to their advantage to fill existing research gaps, especially in the international context.

The next e-HRM review was written by Ruël and Bondarouk (2014). The authors described e-HRM research as having a rich foundation, but also still a lot of potential to grow even further. The field still had not overcome its rigor versus relevance problems and its knowledge base was still limited and skewed. Interestingly, the authors proposed an addition to the e-HRM definition in order for it to be able to hold in light of emerging HRM and IT issues and developments. The review captured what had been mentioned by other reviewers before; e-HRM

research needs more structure, a basis of empirical evidence (e.g. Strohmeier, 2007). The authors identified two streams of e-HRM research, the implementation of e-HRM (IT focus) and the consequences of e-HRM (HR focus). However, as of today, there was not a single factor found that explained a successful e-HRM implementation. A lot of research focused on an 'all-inclusive' perspective, whereas research on particular e-HRM applications was highly needed. Research on e-HRM was seen as not precise enough and thus not accountable for much in practice. The authors, again, referred to the underrepresentation of the IS literature and MNCs in the e-HRM research.

In the most recent literature review, conducted by Bondarouk et al. (2017), the authors built a TOP model to classify factors affecting e-HRM adoption in three areas: technology, organisation, people. The authors also conclude that over four decades of e-HRM research, there has been a switch in the goals of e-HRM (from efficiency to the strategic reorientation of HR departments), and realised outcomes of e-HRM (from poor administrative to transformational).

Such a productivity in e-HRM literature reviews echoes the great enthusiasm of the e-HRM scholars in their attempt to introduce the field to well-established HRM, MIS, or general management research traditions. However, it also raises questions like, *Why do we need such an intensive reflection? What do we miss without the literature overviews?*

Our answer is simple. We still miss a strong theoretical foundation that would guide our empirical enquiries. To illustrate this statement, we turn to a brief overview of Calls for Papers in e-HRM conferences since 2006. All of them required a strong theoretical framing of the field (Figure 1).

In 2006, the *First European Academic Workshop of e-HRM* was hosted at the University of Twente (the Netherlands) under the topic of 'The Future of e-HRM Research'. Despite the optimistic theme of the conference, e-HRM research during this time was still considered to be in its infancy. Researchers were unclear about what e-HRM actually was and tried hard to distance the field from the two well-established academic fields of HRM and IT. Consequently, the leading scholars of e-HRM research were calling for theoretical work that could clarify the relationship between e-HRM and various actors and entities that are related to the traditional role of HRM. From the Editorials and Call for Papers of the conference, no particular direction of research could be recognised. The 2006 conference aimed at gathering
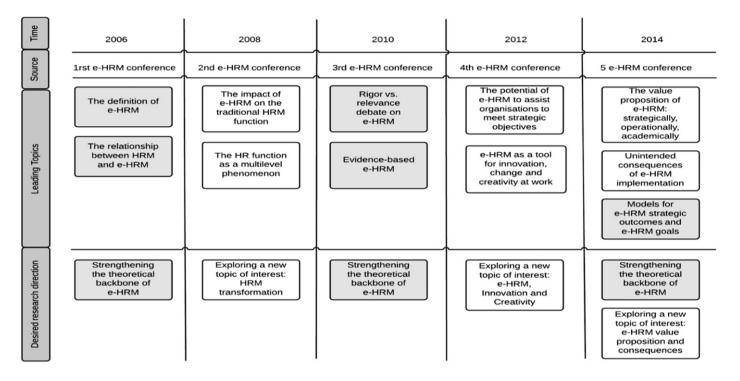
| Time | 2006 | 2008 | 2010 | 2012 | 2014 |
|---|---|---|---|---|---|
| Source | 1rst e-HRM conference | 2nd e-HRM conference | 3rd e-HRM conference | 4th e-HRM conference | 5 e-HRM conference |
| Leading Topics | The definition of e-HRM<br><br>The relationship between HRM and e-HRM | The impact of e-HRM on the traditional HRM function<br><br>The HR function as a multilevel phenomenon | Rigor vs. relevance debate on e-HRM<br><br>Evidence-based e-HRM | The potential of e-HRM to assist organisations to meet strategic objectives<br><br>e-HRM as a tool for innovation, change and creativity at work | The value proposition of e-HRM: strategically, operationally, academically<br><br>Unintended consequences of e-HRM implementation<br><br>Models for e-HRM strategic outcomes and e-HRM goals |
| Desired research direction | Strengthening the theoretical backbone of e-HRM | Exploring a new topic of interest: HRM transformation | Strengthening the theoretical backbone of e-HRM | Exploring a new topic of interest: e-HRM, Innovation and Creativity | Strengthening the theoretical backbone of e-HRM<br><br>Exploring a new topic of interest: e-HRM value proposition and consequences |

**Figure 1.**   Overview of Five e-HRM Conference (2006−2014).

empirical evidence on e-HRM in numerous directions with the intention to strengthen the theoretical backbone of e-HRM.

In 2008, as technology continued to penetrate deep into the structure of the HR function, the *Second European Academic Workshop on e-HRM* was hosted by L'université de la Méditerranée Aix-Marseille II (Aix-de-Provence, France). During that time, e-HRM researchers were no longer questioning whether there was a relationship between e-HRM and HRM. Rather, they were calling for empirical evidence on impacts of the integration of e-HRM on the conventional HRM function. Thus, the research focus firmly shifted away from the initial question of whether e-HRM had sufficient scientific depth to exist as an independent academic field to the question of how e-HRM contributed to the transformation of the traditional HRM function. e-HRM was recognised to play a role in the change of HRM from a two-level (HR departments−line managers) structure into a multi-level phenomenon dependent on various conditions and contingencies. With the 2008 conference having the clearly defined topic 'e-HRM: Barrier or Trigger for an HRM Transformation', it became apparent that academics in e-HRM research wanted to explore the HRM transformation as a particular topic of interest and clarify whether e-HRM acts as a barrier or trigger to HRM transformation instead of deepening the existing knowledge.

In 2010, the *Third European Academic Workshop on e-HRM* triggered a debate about the rigor and relevance of e-HRM research (University of Saarland, Germany). The idea was to create knowledge relevant for academics and practitioners. It was acknowledged that to achieve that goal, the research focus had to shift away from the exploration of particular topics of interest to the agglomeration of already existing knowledge. Specifically, researchers emphasised that e-HRM studies had accumulated a lot of knowledge; however, the knowledge density was not seen as high enough to be put into practice. As a result, practitioners were viewed as facing non-theoretical research consisting of mixed and unreliable results. At this point in time, e-HRM seemed to be broadly understood, just not in a scientific and reproducible way. Once again, academics called for strengthening of the theoretical backbone of e-HRM research with the theme of the conference being 'Evidence-Based e-HRM? Towards Rigorous and Relevant e-HRM Research'.

In 2012, for the *Fourth International e-HRM Conference* (Nottingham Trent University, UK), the e-HRM research seemed

to have accumulated sufficient knowledge about the operational influences of e-HRM on the traditional HRM function. e-HRM was being presented as an accepted tool to automate existing HR processes. However, scholars and practitioners criticised that the true potential of e-HRM, providing the possibility for the HR function to play a more strategic role within an organisation, was mostly neglected in the literature. In particular, the ability of e-HRM to promote innovativeness and creativity with regards to work practices within an organisation ought to get an increased amount of attention. Thus, the fourth conference on e-HRM had its very specific theme 'Innovation, Creativity and e-HRM' in order to lead the researchers into this particular research direction.

In 2014, the *Fifth International e-HRM Conference* was held by the University at Albany-SUNY (NYC, USA) without a particular theme. The conference's focus appeared to be the value proposition of e-HRM from a strategic, operational and academic point of view. Despite there being a clear new topic of interest for the researchers to discover and focus on, the conference also called for models that provide a theoretical foundation for the connection of e-HRM and positive strategic outcomes, as well as models that are able to help examine what the goal of e-HRM is. Moreover, researchers are calling for evidence on unintended consequences like 'deskilling, outsourcing, downsizing, work reduction and marginalisation of the HR function' (5th e-HRM Conference, 2014, Editorial). Hence, the direction in which e-HRM research was going in 2014 can be interpreted twofold. The focus is two fold: strengthening the theoretical core of e-HRM research and the exploring of new topics of interests.

Another observation cannot be left unnoticed. Since 2004, more than 10 special issues in different international peer-reviewed journals have been published. 'New technologies are all around us. ... This is just as true in the field of human resource management ...', did Mark Huselid sincerely notice in 2004 in his Editor's Note to the Special Issue on e-HR in the *Human Resource Management* when he also called for a deeper understanding of the consequences of e-HRM for the HR organisation (Huselid, 2004). Four years later, in yet another Editor-in-Chief's Note to one of the issues of the same journal, Theresa Welbourne advanced this topic by stressing the role of IT in social networks of HR academics and practitioners (Welbourne, 2008).

Five years later, in 2009, two special issues on e-HRM were published in the *Journal of Managerial Psychology* and the *International Journal of Human Resource Management* (*IJHRM*)

respectively. The first focused on the 'paradigm shift in HRM practices' related to 'the amount, quality, and utilization of technology in HRM service delivery' (Gueutal, 2009). The central theme of the articles in the *IJHRM* was value creation through e-HRM (Bondarouk & Ruël, 2009). Contributors to this special issue searched for an answer as to whether e-HRM is paid to be innovative and whether it builds competitive advantage or mirrors competitive necessity. In 2010 the *International Journal of Training and Development* published a special issue on e-learning in a business context aiming to understand the directions and focal points for e-learning and blended learning within different organisations in a global context, especially within emerging economies (Bondarouk & Ruël, 2010a). In the same year, the *International Journal of Technology and Human Interaction* published two special issues: one on the IT and workforce management and another on e-HRM in a cross-national context (Bondarouk & Ruël, 2010b, 2010c). After a 2-year break, several special issues on e-HRM, one after another, appeared in international journals. The *German Journal of Research in Human Resource Management* dedicated its pages to the evidence-based transformation of HRM enabled by information technologies (Strohmeier, Bondarouk & Konradt, 2012). Emerging topics in theory and research on electronic HRM formed a special issue in *Human Resource Management Review* (Stone & Dulebohn, 2013) that aimed to advance theory and offer new directions for research and practice and enhancing (understanding of) effectiveness of e-HRM in organisations. The *European Journal of International Management* inspired the set of articles on e-HRM in multinational corporations (Ruël & Bondarouk, 2013); and the special issue in the *Journal of Strategic Information Systems* explored reasons of limited exploitation of HR information systems (Grant & Newell, 2013). The special issue in *Employee Relations* about HRM in the digital era was published in 2014. Strohmeier (2014) collected a set of wonderful articles covering three focal areas: 'digital employees', 'digital work', and 'digital employee management'.

Evidently, e-HRM research has been blossoming over the past decade: topic-wise the field developed from working on its disciplinary boundaries, definitions and challenges to acknowledging the importance of its context, the multinational firm, cross-cultural issues, its strategic potential and its impact on the HR profession (Parry, 2011). However, special issues also leave us with unanswered questions, like *What is exactly the context of*

*e-HRM and its role in e-HRM success? To what extent does technology shape the e-HRM context?*

## HOW SMART IS HRM?

We observe that technologies penetrate HR practices with an unanticipated speed and intensity that suggests to consider the dual role of e-HRM technology: as the context that settles boundaries for HRM operations, but also as the tool. The convergence of the digital and the physical in the HRM world, however, is far from fully appreciated in research. It is surprising as we see new breed of companies as the fastest-growing in history: Uber, Instacart, Alibaba, Airbnb, Seamless, Twitter, WhatsApp, LinkedIn, Xing, Facebook, and Google. These companies are indescribably thin layers that sit on top of vast supply systems (where the costs are) and interface with a huge number of people (where the money is), that requests 'smart' HR professionals.

Speaking of new digital technologies in HRM, it is not astonishing to see that latest developments are undergoing the new phase, and business, HRM and people are confronted with new technological possibilities like artificial intelligence and robots, self-driving cars, 3D-printers, censored networks, digital cameras, lab-on-a-chip, or commercial drones. However, various (HRM) publications sense a fear of new technologies, and especially new robots that are reasonable. While popular publications put remarkable images of brutal and/or snobbish creatures, and raise the issues of robots' taxation; scholars in the field of technologies and work are more optimistic. Thus, Davenport and Kirby (2015) suggest to reframe the threat of automation with an opportunity for augmentation. Instead of asking a traditional question, What and how much of tasks will be taken over by new technologies?, they suggest to ask, 'What new feats might people achieve if they had better thinking machines to assist them?' (Davenport & Kirby, 2015, p. 60). While automation with its efficiency-minded HRM systems deploys computers to chip away HR routine tasks that can be codified, augmentation starts with understanding what HR professionals actually need to do to support 'smart' business, how they perform their tasks, and how these tasks and achievements can be deepened with the help of computers. With this new mind-set, HR professionals will be able to see technologies as partners to collaborate in creative problem solving, and truly integrate big data into HR analytics. Some new insights should land at the employers' side: it is time to acknowledge that the combination

and integration of humans and computers are better than either working alone (Davenport & Kirby, 2015).

We understand that the HRM scholarly community is not united yet in its vision whether robots will (partially) replace HR professionals, which consequences will smart industries have on HRM, and what smart HRM will constitute in the future. We do not expect the e-HRM scholars to reach consensus on these issues soon. But we want to open the debate, to move the field further and to follow simultaneously with technological developments.

## GOALS AND APPROACH IN THIS VOLUME

To hallmark the achievements on the academic field of e-HRM, this volume will focus on the progression from e-HRM to digital (*d*-HRM) – towards smart HRM. Since Tapscott coined the term 'digital economy' in 1995, it has been extending its scope of impact from automating work processes to monitoring and influencing consumer behaviours, from value creation in the production chain within a company to the whole value chain within and across businesses. The HRM field is entering smart businesses where the human, digital and high-tech dimensions seem to increasingly converge, and HRM needs to anticipate its own *smart* future. Technological developments and interconnectedness with and through the Internet (often called 'Internet of Things') set new challenges for the HRM function. Smartness enacted by HRM professionals, notions of 'smart industries', 'smart things' and 'smart services' all put new pressures on strategic HRM.

The volume revisits the concept of e-HRM, critically assesses academic and business achievements in this field, and highlights the latest developments. What kind of electronic, digital and strategic HRM will the new breed of companies need? What kind of smart solution can and will HRM offer to meet the expectations of the latest business developments? Can HRM become *smart* and combine digitisation, automation and a network approach? What will be an impact of new technologies on employment management? How do businesses futureproof their HRM in the smart era? What competences do employees need to ensure businesses flourish in smart industries? Moreover, how should research into HRM respond to these changes?

With rapid business and technological developments, and ever-greater automation and information available, the HRM function needs to focus on non-routine and complex,

evidence-based and science-inspired, creative and value-added professionally demanding tasks.

A set of chapters in this volume builds on the achievements of international conferences on electronic HRM. First of all, we see our research and publication mission as exploring further a new sub-topic of e-HRM, i.e. HRM for smart industries. Second, we suggest a need to continue building our theoretical contributions — the call that has lasted since the very first meeting of e-HRM researchers. At the same time, we suggest we do not need more proof that e-HRM does create value for organisations. Over the years, we have seen that great CEOs, CFOs and CDOs already believe in it. Instead, this volume moves towards fluent translation of academic findings into the practices of e-HRM, that — in their turn — will inform our theory.

We believe that the chapters reveal some of the major conceptual and methodological tensions, paradoxes, and doubts that currently shake and shape the e-HRM research field. We also see good reasons for strong optimism as they show the way towards *smart HRM*. We invite you to enjoy the volume and to judge whether HRM has become smarter in the digital era.

# References

Bondarouk, T., & Furtmueller, E. (2012). Electronic human resource management: Four decades of empirical evidence. In *Best paper proceedings of the Academy of Management Meeting 2012*, Boston, MA, August 3−7.

Bondarouk, T., Parry, E., & Furtmueller, E. (2017). Electronic HRM: Four decades of research on adoption and consequences. *International Journal of Human Resource Management*, 28, 98−131.

Bondarouk, T., & Ruël, H. J. M. (2010a). Dynamics of e-learning: Theoretical and practical perspectives. *International Journal of Training and Development*, 14(3), 149−154.

Bondarouk, T., & Ruël, H. J. M. (2010b). The intersection of IT and workforce management − a maturing research field. Guest Editorial Preface. *International Journal of Technology and Human Interaction*, 6(3), i−v.

Bondarouk, T., & Ruël, H. J. M. (2010c). Framing e-HRM in a cross-national context. *International Journal of Technology and Human Interaction*, 6(4), i−x.

Bondarouk, T. V., & Ruël, H. J. M. (2009). Electronic human resource management: Challenges in the digital era. *International Journal of Human Resource Management*, 20, 505−514.

Broderick, R., & Boudreau, J. W. (1992). The evolution of computer use in human-resource management: Interviews with 10 leaders. *Human Resource Management*, 30(4), 485−508.

Davenport, T. H., & Kirby, J. (2015). Beyond automation. *Harvard Business Review*, *93*, 59−65.

Emma, P., & Strohmeier, S. (2014). HRM in the digital age – Digital changes and challenges of the HR profession. *Employee Relations*, *36*(4).

Grant, D., & Newell, S. (2013). Realizing the strategic potential of e-HRM. *Journal of Strategic Information Systems*, *22*, 187−192.

Gueutal, H. G. (2009). A. Guest Editor's introduction: Special issue on electronic human resource management and the future of human resource management. *Journal of Managerial Psychology*, *24*, (6), 482.

Hannon, J., Jelf, G., & Brandes, D. (1996). Human resource information systems: Operational issues and strategic considerations in a global environment. *International Journal of Human Resource Management*, *7*(1), 245−269.

Huselid, M. A. (2004). Editor's note: Special issue on e-HR: The intersection of information technology and human resource management. *Human Resource Management*, *43*(2–3), 119.

Johnson, R. D., Lukaszewski, K. M., & Stone, D. L. (2016). The evolution of the field of human resource information systems: Co-evolution of technology and HR processes. *Communications of the Association for Information Systems*, *38*, Article 28.

Marler, J., & Fisher, S. (2013). An evidence-based review of e-HRM and strategic human resource management. *Human Resource Management Review*, *22*, 18−36.

Parry, E. (2011). An examination of e-HRM as a means to increase the value of the HR function. *International Journal of Human Resource Management*, *22*(05), 1146−1162.

Ruël, H., & Bondarouk, T. (2014). e-HRM research and practice: Facing the challenges ahead. In F. J. Martíines-López (Eds.), *Handbook of strategic e-business management* (pp. 633−657). Berlin: Springer-Verlag, Heidelberg.

Ruël, H., Magalhães, R., & Chiemeke, C. C. (2011). Human resource information systems: An integrated research agenda. In T. Bondarouk (Ed.), *Electronic HRM in theory and practice* (pp. 21−39). Bingley, UK: Emerald.

Ruël, H. J. M., & Bondarouk, T. (2013). Electronic talent management in MNCs: What makes it different?. *European Journal of International Management*, *7*(4), 369−373.

Ruël, H. J. M., Bondarouk, T. V., & Looise, J. C. (2004). *E-HRM: Innovation or irritation? An exploration of web-based human resource management in large companies*. Utrecht, the Netherlands: Lemma.

Stone, D., & Dulebohn, J. (2013). Emerging issues in theory and research on electronic human resource management (eHRM). *Human Resource Management Review*, *23*(1), 1−5.

Strohmeier, S. (2007). Research in e-HRM: Review and implications. *HRM Review*, *17*(1), 19−37.

Strohmeier, S., Bondarouk, T., & Konradt, U. (2012). Electronic human resource management: Transformation of HRM?. *German Journal of Research in Human Resource Management*, *26*(3), 215−218.

Van Geffen, C., Ruël, H. J. M., & Bondarouk, T. (2013). e-HRM in MNCs: What can be learned from a review of the IS literature?. *European Journal of International Management*, 7(4), 373–393.

Welbourne, T. M. (2008). Editor's-in-Chief note: Technology, HRM, and "Me". *Human Resource Management*, 47(3), 421.