



Implement e-HRM successfully?

A study into the criteria to successfully implement e-HRM

Author:	Maartje Kuipers
Student number:	s1548360
Education:	Business Administration
University:	University of Twente Faculty of Behavioural, Management and Social Sciences
Date:	20 February 2017
First assessor:	Prof. Dr. Tanya Bondarouk
Second assessor:	Dr. Huub Ruël



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PREFACE

This research project into electronic Human Resource Management (e-HRM) is executed for the master Business Administration at the University of Twente. Dionne Démeijer and I, Maartje Kuipers were happy to take part in the real live project, together with T. Bondarouk and S. van den Heuvel. Together, we performed research in collaboration with Capgemini Consulting in order to find out how different organizations implement e-HRM solutions and whether implementation and usage of e-HRM has changed compared to some years ago (Ruël, Bondarouk & Looise, 2004). Dionne and I assisted with conducting and transcribing the interviews. In exchange, we were able to perform our own research for our Master thesis with the valuable information gained from those interviews. We divided this research topic in 2 parts. Dionne focused on the consequences, and I focused on the implementation of e-HRM. On 27 and 28 of October 2016, the first preliminary results of this research were presented at the 6th International Conference on e-HRM at the University of Twente.

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Deventer, February 2017

Maartje Kuipers

MANAGEMENT SUMMARY

In the last decade, the adoption of Electronic Human Resource Management (e-HRM) increased due to the rapid development of Information Technology (IT). Every year, organizations spend a significant amount of their budget towards the investment of a digital HRM-solution. The field is developing very quickly and an increasing amount of organizations keep on investing in e-HRM continuously. The implementation of e-HRM can be divided into 3 phases: pre-implementation, implementation, and post-implementation. Further, the implementation factors can be categorized into 3 factors: technological-, operational-, and people factors. Technological refers to the requirements of the existing or new technology. Organizational factors mirror 'hard' organizational characteristics while people factors include the 'soft' or individual factors which influence an e-HRM implementation.

The aim of this study is to get insights in the e-HRM implementation criteria required to successfully implement a digital solution. Also, this is compared with the knowledge acquired 10-12 years ago. To achieve these 2 aims, the central question is: *'What are the factors to implement e-HRM successfully?'*

In this study, a qualitative research method was used in 21 large Dutch organizations. In each participating organization were 3 interviews conducted: 1 with an HR professional, 1 with a Digital HRM leader or IT professional, and 1 with a business or finance leader. This was done so not only the different experiences between numerous organizations could be analyzed and compared, as well as the opinions in 1 and the same organization. For this study, there are in total 40 interviews conducted. We collected the data in this study through semi-structured interviews. Most interviews were executed with 3 persons: 1 senior researcher and 2 peer researchers. The analysis of all 40 interviews with 47 participants was done in 2 steps. In order to be able to make a comparison, we divided the respondents into 3 groups: HR professionals, IT professionals and Business leaders. Each group of respondents is analyzed in 2 or 3 steps and after each round we discussed the steps in a research team of 3 people.

The analysis of the 32 HR professionals revealed 17 main themes and 122 factors of perceived implementation criteria. Most of the implementation requirements were positive formulated by the HR professionals, but there were also some critical voices, which should be kept in mind. The research analysis of the 5 IT professionals presented 10 main themes and 22 factors of perceived implementation criteria. In general, the IT professionals were satisfied with the e-HRM solution in their organization, but were very IT driven in their answers. The analysis of the 10 business leaders revealed 12 main themes and 46 factors of perceived implementation requirements. The business leaders were in general satisfied about the digital HRM solution. However, there were critical voices who very much focused on the level of communication from the organization towards the users. These perceived critical voices of the business leaders should be kept in mind, because the business leaders are very organizational driven.

This research was inspired by academic curiosity: what was going on 10-12 years ago, and how is the situation at this moment? From the findings we can conclude that the basic e-HRM implementation factors remain the same, but there are some nuances and new insights in some of these factors: i.e. involvement becomes selective involvement, and communication is nowadays perceived as continuous communication. Time past makes it clear that some of the e-HRM implementations factors may be refined. In the past few years, implementation factors like involvement and communication are seen and experienced differently.

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1. INTRODUCTION

In 2007, with the publication of Strohmeier (2007), electronic Human Resource Management (e-HRM) was already recognized as an innovative, lasting, and substantial development in Human Resource Management (HRM), which would result in new phenomena and severe major changes. 10 years ago, Strohmeier (2007) described that “the general application of Information Technology (IT) in Human Resources (HR) has spread but remains on an administrative level” (p.24). Mainly tasks like payroll were supported, while advanced strategic or decision support orientated applications were lacking (Kinnie & Arthurs, 1996; Lin, 1997; Ball, 2001; Teo, Soon, & Fedric, 2001). However, there were also signs that non-administrative applications of IT started (Ball, 2001; Teo et al., 2001).

In collaboration with Capgemini Consulting, the University of Twente is performing a research project. This research will focus on the changes that happened during the last 10-12 years to find out how e-HRM is used in organizations nowadays. The goal of this research is to compare what e-HRM implementation criteria are considered as important nowadays, with a focus on the significant changes during the last 10-12 years. In total, 21 organizations, all based in The Netherlands, are examined in order to find out why they have chosen for a digital solution. Thereby, a special focus is on the necessary conditions that make an e-HRM implementation successful. Therefore, the following research question: *What are the factors to implement e-HRM successfully?* is explored. Additionally, since we look at the changes in the development in perceptions of e-HRM implementation criteria during the past decade, we came up with the following sub-question: *“What are the changes in the development of perceptions of e-HRM implementation criteria in the past decade?”* Since the popularity and use of IT is growing during the past decade, and thereby its influence on the way of working in HRM, more research into the successful implementation of e-HRM is necessary. Therefore, this paper will focus on the digital HRM prerequisites needed to implement e-HRM completely and successfully. In this case, a successful implementation can be achieved when the implementation of e-HRM has a positive contribution to HRM- and business performance. Further, the statement from Bondarouk (2011) is used to define complete implementations: “I view implementation as complete only when the users are contentedly working with IT and they have acquired the necessary skills to master and fully understand it” (p.53).

In the decade 2000-2010, the first internet boom arrived, also known as web 1.0, stimulating organizations to put an ‘e’ in front of every business related topic, especially in front of the word ‘business’ (Ruël & Bondarouk, 2014). Organizations have increasingly implemented e-HRM solutions in the hope of achieving administrative and strategic benefits (Bondarouk & Furtmueller, 2012). Some businesses only implement minor e-HRM solutions, like the digitalization of personnel files into a system, while others try to digitize as many HRM processes as possible.

Already 4 decades back, the lack of top management support was the most limiting factor for successful implementations (Mayer, 1971). 20 years later, in the 90s, this remained a problem (Bondarouk & Furtmueller, 2012). Still, organizations struggle since HRM is not seen as a primary process, and therefore it is difficult to ‘sell’ the digital solution investment to top management (Ruël, Magalhães, & Chiemeké, 2011). An organization should see the implementation of a new HRM system as an investment instead of a burden (Ruël et al., 2011).

During the last couple of years, the amount of money invested in IT by organizations in The Netherlands has increased (Centraal Bureau voor de statistiek, 2014). In 2011, the investments in IT were 13% of the total investments done in The Netherlands. However, empirical findings suggest that the adoption of IT does not always realize improved HRM-services (Ruël & Van der Kaap, 2012; Stone, Deadrick, Lukaszewski, & Johnson, 2015; Tansley, Kirk, Williams, & Barton, 2014). According to Strohmeier (2007) “the formulation and implementation of a functional e-HRM strategy seems to be a central, yet largely neglected topic of e-HRM” (p. 32).

This research paper focuses on the factors that influence an e-HRM implementation and is set up as follow. First, theoretical comparisons are made and discussed with the support of articles from renowned experts in the e-HRM field. These articles are used as a foundation to compare current e-HRM implementation criteria with knowledge from the empirical field. After that, the methodology section of this qualitative research study, based on grounded theory, starts with an overview of the research design, followed by the data collection, which discusses the organizations that participated in the project. In addition, the data analysis explains the methods of how the interviews were analyzed: open-coding, second cycle coding, followed by focused coding. Subsequent, the validation of the trustworthiness of this paper is described. Lastly, the results of the transcribed interviews are presented, followed by a discussion and thereby related conclusion.

2. ELECTRONIC-HUMAN RESOURCE MANAGEMENT, A CHANGED ORGANIZATIONAL PERSPECTIVE: LITERATURE REVIEW

Definition of e-HRM

Going back 35 years, the term e-HRM was not identified yet, and authors used HRIS (e.g. Mathys & LaVan, 1982) or, for instance, Computerized Information Systems in Personnel (Tomeski & Lazarus, 1974). These descriptions all defined computerized HR support, nowadays known as e-HRM. Different attempts have been done to define e-HRM (Bondarouk, Harms, & Lepak, 2015). However, there are discussions about which definition to use. Especially since some authors argue that there is a difference between HRIS and e-HRM. Research on HRIS has focused more on the systems themselves, while research on e-HRM tends to take a more strategic focus (Johnson, Lukaszewski, & Stone, 2015). Moreover, the focus of e-HRM lies outside the HRM department (Ruël & Bondarouk, 2014). In addition, Strohmeier (2007) uses in his article an explanation from Hendrickson (2003) who states “though sometimes conceived as outmoded, human resource information systems constitute as a “backbone” category of e-HRM” (p.32). On the other hand, Strohmeier (2007) self prefers to use the term e-HRM instead of HRIS, assuming both have equal meaning (Ruël et al., 2011). The *International Journal of Human Resource Management* published a special edition on e-HRM in 2009 where a new all-inclusive definition was announced: “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). Critics argue that this definition is viewed only as an empirical phenomenon (Ruël & Bondarouk, 2014). These arguments are taking into consideration but still, the fact lies there that this umbrella term has been cited by many authors, and therefore it will also be used as a lead for this research. Further, since this research will focus mainly on the implementation process of e-HRM, implementation can be defined as “the process of putting a decision or plan into effect; execution” (Oxford Dictionary, 2010, p.878).

History of e-HRM

In the second half of the 1980s, research on HRISs started to take off, however, developed slowly (Ruël et al., 2011). Around that time, the term e-HRM was not used at all. Nevertheless, it received renewed attention with the increasing importance of internet technology, which happened in the second half of the 1990s. The first systems that were automated were payroll, employee records, compensation and benefits administration, government reporting, and skill databases (Bondarouk & Furtmueller, 2012). If computerization appeared to cost a lot of time and the output was also defined as unreliable, HRIS implementations were typically prevented, paused, or sometimes even stopped (Tomeski & Lazarus, 1974). Further, at that time, the growing consensus was that an effective implementation involves an

alignment between HRM, IT, and corporate goals, according to DeSanctis (1986). Finally, the term e-HRM was coined and the field differentiated in the academic literature from HRIS (Ruël et al., 2004).

Between 2000 and 2010, research on e-HRM grew significantly. However, at that time, there were claims that e-HRM technology was primarily used to support routine administrative HRM tasks (Haines & Lafleur, 2008; Hussain, Wallace, & Cornelius, 2007), instead of realizing improved HRM-services.

The changes in e-HRM throughout the last 4 decades were researched by Bondarouk & Furtmueller (2012). “A consistent finding about the 40 years from 1970 to 2010 is that all the implementation factors identified could be categorized into technological, organizational, and people factors” (Bondarouk & Furtmueller, 2012, p. 6). This research will therefore also divide the implementation factors into these 3, from now on also called ‘TOP’ factors. Technological refers to the requirements of the existing or new technology. Organizational factors mirror ‘hard’ organizational characteristics while people factors include the ‘soft’ or individual factors which influence an e-HRM implementation (Bondarouk & Furtmueller, 2012). An effective e-HRM implementation does not necessarily result into an organizational e-HRM effectiveness, as it includes many more factors like, amongst others, the acceptance level of employees. During recent years, the organizational factors tend to play an increasing role since larger organizations are more likely to implement e-HRM, but widespread, smaller organizations seemed more successful. Further, the rapid development of the internet boosted the level of e-HRM implementations (Strohmeier, 2007). Also, the focus on people increased during the last decade, since they were recognized as a key successful factor, and therefore the awareness for the human aspect increased (Bondarouk & Furtmueller, 2012). Next, an overview is given of the changes happened during the last 40 years, categorized according to the ‘TOP’ factors.

Technological factors

Around the 70s and 80s, organizations their top management did not perceive the technology usage of personnel departments as important. They could not see any positive financial benefits created by the use of technology, which they considered as an important measurement level. HRM managers found it difficult to justify the costs for new technologies. Involving users during the system development, positively influenced the satisfaction level in personnel departments (DeSanctis, 1986). The greater the company its investment in HRIS, the more it was appreciated by the organization.

During the 90s, several key technology factors were identified that influenced HRIS implementations. One can think of data integrity, system usefulness, and system integration. At that time, standardization of HRM processes was an important factor when implementing HRIS (Hannon, Jelf & Brandes, 1996).

During the years 2000-2010, technology was no longer seen as the most difficult obstacle (Chapman & Webster, 2003). This was also due to the fact that the rapid development of internet during the last decade, boosted the implementation of e-HRM (Strohmeier, 2007). The focus went to people factors, which was now seen as most essential to realize successful e-HRM implementations (Bondarouk & Furtmueller, 2012). Combining both, the clearer the intention of a technology is to its users, the more correctly the e-HRM systems will be used (Bondarouk et al., 2015). Furthermore, since globalization increased during the last decade, technology factors had to incorporate these requirements. Standardization of the HRM practices all around the world had to be taken into consideration as to what extent it should and could be adapted to local demands (Hustad & Munkvold, 2005). Further, organizations that depended on a high level of telecommuting were more likely to adopt e-HRM (Strohmeier & Kabst, 2009).

Organizational factors

In the 70s and 80s, organizational size was positively related to computerization, due to the fact that the administrative burden increased with the increase in personnel (Mayer, 1971). At that time, computers were seen as a prospective solution. Implementing HRIS was difficult since there was a lack of planning from corporate- to the divisional level. This impacted the coordination between personnel- and IT departments negatively. A key difficulty to achieve successful implementation was the lack of technical personnel. Furthermore, “organizations with only modest budgets (Magnus & Grossman, 1985) or relatively high internal costs (Mayer, 1971) were less likely to adopt a digitalized personnel system” (Bondarouk & Furtmueller, 2012, p. 8).

In the 90s, employees had the possibility to edit personal data in the system themselves. This was found to have a positive influence on the user acceptance level of digitalized data (Eddy, Stone, & Stone-Romero, 1999). Larger organizations were more likely to adopt HRIS, which was detected by Mathieson (1993). This did not mean that early adopters automatically positively influenced the user acceptance level. Especially in the financial service-, real estate-, and hospitality sectors, IT was mostly used. Some organizations were having budget limitations, or were a victim of the economic crisis and therefore, it took a while before personnel systems were digitalized.

During the years 2000-2010, the size of the organization played a more increasing role, since, as already mentioned, larger organizations were more likely to implement e-HRM (Ngai & Wat, 2006), and therefore were seen as the early adopters (Strohmeier & Kabst, 2009). However, successful implementations were more widespread in smaller organizations (Chapman & Webster, 2003). A close collaboration between the HRM- and IT department was considered as a critical factor to implement e-HRM successfully (Panayotopoulou, Vakola & Galanaki, 2007).

People factors

During the 70s, there was a lack of top management support and therefore, this was seen as a limiting factor for a successful implementation. At that time, there were more negative factors influencing a positive implementation like: lack of priority, no harmony between the needs of IT and personnel departments, and there were difficulties with personnel departments who had to communicate with computer technicians (Bondarouk & Furtmueller, 2012).

Moving to the 90s, organizational culture and communication between HRM and other departments were seen as important determinants of successful implementation (Kossek, Young, Gash, & Nichol, 1994). There should be an effective cooperation between departments, as well as between individuals. “The more familiar people were with work practices in their current position, the more they resisted using new systems” (Bondarouk & Furtmueller, 2012, p. 11). Furthermore, training also played an important role in achieving a more cultured use of systems. On the other hand, where in-house training was found to improve the satisfaction level, self-training reached the opposite result. HR professionals, at that time, were usually able to solve micro-level problems but lacked a more macro-level viewpoint. In addition, they did not possess much technical skills to use HRIS for analytical purposes (Hannon et al., 1996). Also, still there was not much top management support in the 90s, which affected the successful HRIS implementations and its use.

As people were acknowledged as a key successful factor during the years 2000-2010, the awareness for the human aspect improved (Bondarouk & Furtmueller, 2012). Bondarouk (2014) recalled to shift the focus from the technological factors of e-HRM towards the people factors, because, as she argues: the various stakeholder groups and their needs determine the success of e-HRM. Striking was that in general IT-friendly cultures reported greater implementation success than other departments. Psychological factors were studied and turned out to have a positive influence as well. Employees counterattacked accepting new systems if they thought it would expand their personal workload after implementation (Olivas-Luján, Ramirez, & Zapata-Cantu, 2007). In addition, stakeholder commitment towards organizations their long-term goals supported by e-HRM strategizing has become increasingly significant (Olivas-Luján et al., 2007). This leads towards the fact that communication amongst users is extremely important. Furthermore, organizations should ask for feedback from the users who are impacted in their jobs by new technologies (Alleyne, Kakabadse, & Kakabadse, 2007). Lastly, training these users in using new systems reinforces successful implementation (Panayotopoulou et al., 2007; Martin & Reddington, 2010).

Phases of e-HRM

Van Geffen, Ruël, and Bondarouk (2013) describe 3 types of implementation phases: pre-implementation, implementation, and post-implementation. The pre-implementation phase consists of 3 aspects: the process of selection, alignment, and resources. The selection process relates to the choice

of a system, while alignment issues are considered both in the pre-implementation- as well as the implementation phase. One can think of the alignment between what the organization wants the system to offer, and what the system is able to offer the organization. Also resources are categorized in the first 2 phases, and can be divided into individual- and organization resources. Further, Van Geffen et al. (2013) recognize that change management also already starts in this phase. Actually, it can be argued that all factors required before the actual implementation of e-HRM can be linked to this pre-implementation phase.

The implementation phase consists of 3 stages: preparation, adaptation, and integration. Preparation relates to the actual set-up for the implementation (Van Geffen et al., 2013). The adaptation relates to the entire organization to see how they adjust to the new system. It is recognized by Van Geffen et al. (2013) that the implementation of any new project will never go flawless. The last stage integration relates to the fact how well employees use the system in their daily work, and whether it is accepted.

Van Geffen et al. (2013) divide the post-implementation phase into 2 categories: adoption and results. While the adoption refers to whether employees really make use of the system, are the results more focusing on what the gains of an e-HRM implementation are for an organization. “It is interesting to note that relatively few papers focus on financial gains” (Van Geffen et al., 2013, p.382), while this is often expected as a very important measurement tool to determine whether an implementation can be marked as successful. Numerous papers focus more on the qualitative gains.

However, there are 2 external factors that were not taking into consideration when determining the implementation phases (Van Geffen et al., 2013). The first one relates to the motivation for implementation and the second to the contextual influences, mostly related to institutional- and cultural pressures. Since these external factors are not fixed within every organization, it seemed out of place to include them (Van Geffen et al., 2013).

Implementation criteria to successfully realize e-HRM

All 3 abovementioned ‘TOP’ factors play an important role for the successful implementation of e-HRM, however, especially the people factor has received an increased attention in the literature during the last decade. People factors include both managers and employees, also known as the internal customers (Bondarouk et al., 2015), which are those that work with the e-HRM systems. However, the importance of the interplay between technological and organizational factors should also be taken into consideration (Bondarouk et al., 2015).

Further, e-HRM technology is considered to be strong when it is received by the users as ‘easy-to-use’ and if the tools that cover the HRM data are relevant to the specific HRM practices (Bondarouk et al., 2015). Moreover, an increase in the frequent use of e-HRM systems will be encouraged if the systems are easy-to-use, therefore requires little effort, and if the data processed and stored with the

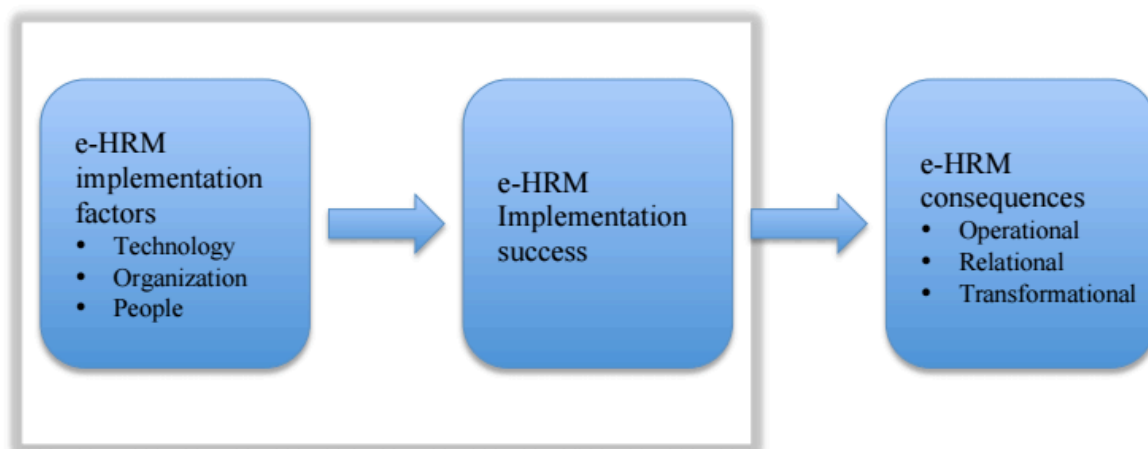
applications are of high quality (Bondarouk et al., 2015). Therefore, it is considered as an important focus point for organizations to make sure to follow a process in which clear and consistent messages pass to- and from e-HRM users. This will enable the successful implementation of the system, as it will be used correctly by the internal customers and is accepted sooner. The intention of a technology should be clear to the end users, since they will more loyally make use of the system and therefore, the more they perceive it as useful and easy-to-use (Bondarouk et al., 2015). In other words, “if people do not appropriate the premises and purposes of e-HRM, they may use it less effectively and this may lead to unanticipated outcomes” (Bondarouk et al., 2015, p. 10).

E-HRM influencing HRM services

The frequency of the e-HRM usage determines, amongst others, the impact on HRM services. Subsequently, the more often the internal customers make use of e-HRM, the greater the impact. Further, research found evidence that “e-HRM is having a positive impact on HRM services through the simplification of processes, the provision of accurate data and enhancing the perceptions of line managers and employees of HRM services” (Bondarouk & Ruël, 2013; Gardner, Lepak, & Bartol, 2003; Olivas-Lujan et al., 2007; as cited in Bondarouk et al., 2015, p.4). On the contrary, e-HRM appropriation is related positively and directly to HRM efficiency and effectiveness, but not to HRM service quality (Ruël & Van Der Kaap, 2012). In addition, if users work with e-HRM as intended, HRM is expected to have a greater value than when users just use e-HRM more often.

Research map. Digital HRM environment-in-action

Based on the above-discussed literature, the following research map is drawn for this study. Mentioned earlier this study will focus on e-HRM implementation criteria technology, organization, and people.



3. METHODOLOGY

Research design

In this study, we used a qualitative exploratory research approach with semi-structured interviews. We have chosen for an exploratory research approach in order to seek for new insights in e-HRM implementation criteria. With exploratory research, we are able to put implementation criteria in a new light. Furthermore, a big advantage is that it is a very flexible research approach (Saunders, Lewis, & Thornhill, 2008). We have chosen for qualitative research in order to create an open atmosphere during the interviews and to invite the interviewee(s) in an active conversation. In this way, we could explore specific themes like: what does digital HRM mean to a company? In addition, reasons for implementing e-HRM, fundamentals during the e-HRM implementation phase, goals that companies want to reach with the e-HRM implementation, and consequences for the organization after an implementation were discussed during the interviews. Furthermore, companies their most and least successful digital HRM solutions were discussed. In appendix B, an interview protocol is presented, which functioned as a guideline during the interviews. The factors were chosen on the basis of finding out what drives organizations to choose and implement digital HRM solutions and what has changed during the past 10-12 years. For us, it was important to pick these factors as they describe the complete process from selecting e-HRM systems to implementing them, and finding out the impact of these digital HRM solutions organization-wide. With semi-structured interviews, we give the interviewee(s) the possibility to answer the question spontaneously based on their own perceptions (Myers & Newman, 2007). Furthermore, we give the participant(s) the opportunity to think out loud about the discussed themes in the interview (Amaratunga, Baldry, Sarshar, & Newton, 2002; Myers & Newman, 2007; Saunders et al., 2008). An advantage is that with these opportunities, we are able to collect very detailed and rich information for our research (Saunders et al., 2008). Furthermore, interviews give us the opportunity to probe specific meanings of interviewee(s). This will add increasingly more depth to our obtained data (Saunders et al., 2008). Another reason that we have used interviews is that we have personal contact with the interviewee(s). Respondents of surveys feel that it is not appropriate to give sensitive and confidential information to someone who they never met. With interviews, the respondents saw us in person, and studies have shown that interviews result in a higher response rate than surveys (Saunders et al., 2008).

The goal was to find 25 organizations. In total, 21 organizations participated in this project, see appendix C. In collaboration with Capgemini Consulting, who have a great network of contacts, organizations were asked to participate. All are well-known large organizations based in The Netherlands. Whenever possible, we conducted interviews with an HR professional, a digital HRM or IT professional, and a

business- or finance leader per company. This was necessary to triangulate multiple sources of information. Furthermore, numerous people per organization were needed to understand it better.

The organizations come from different sectors: banking-, insurance-, ICT-, and educational sectors. Furthermore, there were significant differences in organizational size. Firm size is a variable that indicates scope and intensity of e-HRM as this relationship is reported for general applications of information technology in HRM (Ball, 2001; Teo et al., 2001). Out of the 21 organizations, 10 can be considered as multinationals. Categorizing all 21 into sectors results in 2 chemical-, 1 consultancy-, 3 banking-, 2 education-, 1 energy supplier-, 2 governments institutions-, 2 ICT-, 3 insurance-, 2 public services-, and 3 retail organizations.

The similarity between the 21 organizations is that all have implemented e-HRM. Some companies only recently started with new systems and therefore, digital HRM solutions, while others already implemented them some years ago.

Data collection

From March 2016 till mid-July 2016, we scheduled interviews with the organizations. Participants of the same company were mostly scheduled on 1 day. We travelled ourselves to the companies to execute the interviews. On average, an interview took around 58 minutes. First, we began with providing general information, starting with an introduction round. In addition, the research was introduced and the main question was told to the interviewee(s). Also, we mentioned that the results from the interviews are processed completely anonymous. Then when the interviewee(s) agreed, we turned on the recorder and started the interview. Every interview started with the question what digital HRM meant to the interviewee(s) and the company he or she is working for. Digital HRM is initially viewed 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). The interviewee(s) was asked to tell something about the history and developments of e-HRM within the company. Furthermore, we discussed the company its e-HRM goals.

Next to that, we wanted to discuss the most and least successful digital HRM solutions and the criteria for considering it to be successful or not. Factors or prerequisites were asked that positively or negatively contributed to the implementation of the digital HRM solution. Then we moved to the next topic, which mainly covered HRM- and business performance. What do both definitions mean to that company? Furthermore, how can a digital HRM solution contribute to HRM- and/or business performance? And to what extent can this be measured?

Also, we discussed the implementation prerequisites needed to realize a successful implementation. Implementation can be defined as “the process of putting a decision or plan into effect;

execution” (Oxford Dictionary, 2010, p.878). For this research, we consider an implementation successful when the implementation of e-HRM has a positive contribution to HRM- and business performance.

Then we moved to the next topic, which covered the experienced consequences of the e-HRM implementation. Consequences are initially viewed as “consequences of e-HRM are all phenomena that accompany and/or follow the application of IS in HRM, whether desired or undesired and whether expected or unexpected” (Strohmeier, 2009, p. 528).

To end the interviews, we informed the participant that the processed interviews would be sent to the interviewee(s) for a member check. In addition, participants were invited to the international e-HRM conference at the end of October 2016 at the University of Twente and were asked whether they had any questions. After this, we thanked the interviewee(s) for their participation.

In total, 2 chemical organizations participated, with 1 interview per organization. The first interview was with a project manager and team leader, and the second was with 2 employees: a chief human resources officer and a global director. Both organizations are multinationals. Chemical company A employs around 25,000 people in 50 countries with its headquarter in Heerlen, The Netherlands. In addition, chemical company B, with its headquarter in Amsterdam, The Netherlands, employs around 47,000 people in more than 80 countries. 1 consultancy company participated, resulting in 1 interview with the vice president of HR. This worldwide company employs over 180,000 people in 40 countries.

3 banking organizations participated. Banking company A participated with 1 interview while company B and C both participated with 2 interviews. The interview with company A was executed with an international interim HRM and project manager. This organization, based in Utrecht, The Netherlands, is a Dutch multinational with over 51,859 FTE’s, operating in 40 countries. Organization B, also a Dutch multinational, participated in 2 interviews, namely with a consultant manager and with a general manager HR, also in the function of director HRM employment conditions and operations. Headquartered in Amsterdam, company B has a workforce exceeding 52,368 FTE’s based in more than 40 countries. Organization C is the smallest participating bank, head based in Utrecht, The Netherlands. At the moment, this organization is owned by the Dutch state. It employs around 3,500 people. The interviews performed were with a director HRM policy and innovation and a manager shared services personnel and organization (P&O).

2 organizations from the education sector participated with 5 interviews in total. Both organizations are universities, located in The Netherlands. Organization A participated in 3 interviews, namely with a manager HR-innovation and administration, a director library-, ICT- and archive, and an HR-director. This university employs around 2,948 staff. Organization B contributed in 2 interviews, namely with a director corporate human resources and an HRM-advisor. This university employs 5,837 people.

1 energy network company was willing to contribute, resulting in 3 interviews with an IT-manager HR-systems, an HR-executive, and an IT-manager. This organization is head based in Arnhem, The Netherlands and employs 7,000 people.

2 governmental institutions participated in this research project, with 3 interviews in total. Organization A contributed to 1 interview with 2 employees, namely a department manager HRM and a HRM-advisor. This organization is employing around 8,666 people at the end of 2015. 2 interviews were executed in organization B, 1 with a program director and the other with a deputy head of service HRM. This company having a workforce of 63,000 employees can be considered as 1 of the biggest employers in The Netherlands. It is interesting to notify that there is a difference between governmental institutions and commercial organizations as governmental institutions mostly have to follow guidelines set up by the government. Furthermore, privacy issues are an extremely important factor when implementing e-HRM.

2 ICT-organizations contributed with 2 interviews in total. Organization A is a German multinational, head based in Walldorf, Baden-Württemberg, Germany, with regional offices in 130 countries. This company employs around 78,230 people. 1 interview was executed simultaneously with 2 employees, specifically a workforce innovation consultant and an HR-director. The interview with organization B was with an account executive. This organization is headquartered in Pleasanton, California, United States, and has 30 locations all over the world employing in total 6,200 people of which 30 are based in Amsterdam.

3 insurance organizations with 7 interviews also contributed to this project. Insurance company A contributed in interviews with a director group human resources and business development, a senior people development professional, and a team leader. Its headquarter is in Amsterdam and in total around 6,700 people are employed. In addition, 3 interviews were accomplished in organization B. 1 with a director HR, 1 with a senior project manager, and 1 with a transitions manager. This company is head based in Utrecht, employing 3,650 FTE's and is indirectly owned by the Dutch state. Lastly, organization C is headquartered in The Hague, The Netherlands and employs 31,530 people by the end of 2015. 1 interview was performed with the head of global HRM operations.

2 public service organizations participated with 4 interviews. 1 interview was executed at organization A, however, 3 employees participated at the same time, who had the function of director HR, and senior advisor HRM, and e-HRM program manager. This public service company is headquartered in Utrecht and employing 34,000 people. Organization B is head based in The Hague and employing around 49,000 people by the end of 2015.

Lastly, 3 retail business were willing to participate, which led to 8 interviews, 3 per organization. Company A is a headquarterd in Zaandam, The Netherlands, employing 225,000 employees by December 2015. A senior HRM director group HR, and a director deployment and corporate IT, and a region manager were interviewed. In organization B, 2 employees attended the interviews, 1 with a HRM business development manager and the other with a global HRM manager. Company B is a

multinational head based in Delft, The Netherlands, employing 155,000 employees by the end of 2014. Organization C is head quartered in Enschede, The Netherlands, and is a small company employing 650 people. 3 interviews were executed of which 1 was with an HR-director, a manager HR-operations, and 1 with a head of trade marketing and e-commerce.

Categorizing participant their functions leads to 3 project managers, 16 HR-managers/directors, 1 managing consultant, 1 digital HRM professional, 2 managers HR-operations, 5 managers HR-innovation, 4 IT-managers, 5 business support managers, 1 account executive, 1 region manager and 3 HRM-advisors spread over 21 organizations. In most organizations, an interview was arranged with an HR-manager or director. When this was not the case, an interview with an HR-employee that was directly linked to an e-HRM implementation was arranged.

Frequently, 3 persons performed an interview: 1 senior researcher and 2 peer researchers. On average took an interview around 58,12 minutes. Some interviews were already executed in the beginning of March 2016, but were transcribed 2 months later. On average, we transcribed an interview 38,1 days after the interview date. Interviews performed at the end of April, and May were transcribed faster than interviews performed in March. This is due to the fact that we, as peer researchers, entered the project at the end of April 2016.

Data analysis

This subsection is written in collaboration with Demeijer (2017). In total, 40 interviews were executed resulting in 739 pages of transcriptions. Some interviews were performed with more than 1 interviewee at the same time. All interviews were recorded with permission of the interviewee and transcribed word for word afterwards by the peer researchers. It is important to mention that all interviews were processed anonymously. Therefore, no results can be linked to a specific organization. After transcribing the interviews, we send the interviews back to the interviewees in order to do a member check. If the participant did not respond within 2 weeks, it was agreed beforehand that he or she approved the transcript. None of the respondents disagreed with the transcribed work.

For the analysis, we first performed initial coding, also known as open coding (Sandaña, 2009), since this method stimulates to reflect deeply on the specific contents of our data, and thereby creates ownership. The intention of initial coding is to have a starting point that provides us with analytic leads for further explorations, and to give us a direction in which to take our study. Before coding, we read, and reflected on all interview transcripts first (Clarke, 2005). During this first step, we highlighted all relevant quotes and executed process coding, which entails labelling every quote in an e-HRM implementation topic.

Next, we performed second cycle coding. All labels developed during the first step were reorganized and reconfigured and then categorized into main themes. The reason that we had to reorganize our initial coding was because more accurate words and phrases were discovered for the original developed labels.

Through means of focused coding, the coded data was categorized based on thematic similarities, leading to merged labels, since there were conceptual resemblances. We choose focused coding because it is appropriate for virtually all qualitative studies, but particularly for the development of major categories or themes from the data (Salaña, 2009). It was important that the data should not be forced or selected to fit preconceived categories, to keep an already existing theory intact (Glaser, 1978).

TABLE 1
Steps of data analysis

Analysis steps	Description	Goal
1. Initial coding	“Initial Coding is breaking down qualitative data into discrete parts, closely examining them, and comparing them for similarities and differences” (Strauss & Corbin, 1998, p. 102)	“To remain open to all possible theoretical directions indicated by your readings of the data” (Charmaz, 2006, p. 46)
2. Second cycle coding	“Second Cycle coding methods are advanced ways of reorganizing and reanalyzing data coded through First Cycle methods” (Saldaña, 2009, p.149)	“To develop a sense of categorical, thematic, conceptual, and/or theoretical organization from your array of First Cycle codes” (Saldaña, 2009, p.149)
3. Focused coding	Focused Coding searches for the most frequent or significant Initial Codes to develop “the most salient categories” in the data corpus and “requires decisions about which initial codes make the most analytic sense” (Charmaz, 2006, p.46, 57)	“To develop categories without distracted attention at this time to their properties and dimensions” (Saldaña, 2009, p.155)

The first findings related to the e-HRM solution per company can be seen from appendix D. First, we numbered all companies from 1 till 21. The second column describes the sectors the organization is settled in. Then the third column tells the number of employees. Furthermore, the table tells whether an organization is a multinational, and if so, in how many countries it is operating. Next, the type of e-HRM solution was noted. Then the date of that specific e-HRM implementation, so the implementation date can be compared with the achieved digitalization and realization so far. These results can be found in the last column: the HR-practices supported by e-HRM.

All 47 participants of the 40 interviews were given a number and were categorized into 3 functions: HR professionals, IT professionals, and business leaders. Every group of respondents was analyzed in 2 rounds and we discussed each round in the research team. During the first rounds, we developed themes as close to the text as possible. In order to simplify, we used 3 colors to mark implementation-, consequences-, or other important quotes.

First, we focused on the initial reading of interviews executed with the 32 HR professionals. After, I had a discussion with my peer researcher, and we had a 90% consensus, meaning that 10% disagreement were accountable for such examples like my peer researcher found an implementation quote I had not realized, and the other way around. We examined in total 126 implementation quotes and linked those with the thereby related respondent number to a theme, as can be seen in appendix E.

After the discussion with the research team, we performed second level reading, see appendix H. We read the quotes and linked them specifically to a factor of implementation, and 17 main factors emerged, from the 122 citations that were left from the second level reading.

Next, we did the initial reading for all interviews with the 5 IT professionals. After, I discussed the quotations again with my peer researcher. At this stage, consensus became higher, 95%. Then we developed a new table, shown in appendix F, and noted in total 24 implementation quotes into this analysis, which we considered as quite a high amount of usable quotes since there were only 5 interviews analyzed.

After, we performed second level reading, as can be seen from appendix I. For this step, we read the quotes and linked them specifically to a broad factor of implementation, resulting in 10 main factor themes, developed from the 22 citations that were left after second level reading.

Lastly, we performed initial reading of the 10 interviews with business leaders, shown in appendix G. In addition, I discussed the citations with my peer researcher, leading to a consensus of 95%. Then we developed a table and noted in total 46 implementation quotes.

After the initial reading, we performed second level reading as can be seen from appendix J. For this step, we read the quotes and linked them specifically to a broad factor of implementation, resulting in 12 main factor themes, emerged from the 46 citations that were left after second level reading

TABLE 2
Number of themes per respondent group

Resp. group	Number of main themes	Number of relevant factors
HR professionals	17	122
IT professionals	10	22
Business leaders	12	46

Trustworthiness of the study

Frequently, 3 persons performed an interview: 1 senior researcher and 2 peer researchers. On average, the duration of an interview was 58,12 minutes, and it took us approximately 5 hours and 36 minutes to transcribe each. Some interviews were already executed in the beginning of March 2016, but were transcribed 2 months later. On average, we transcribed an interview 38,1 days after the interview date. Interviews performed at the end of April, and May were transcribed faster than interviews performed in March. This is due to the fact that the we as peer researchers entered the project at the end of April 2016.

To secure the trustworthiness of this research, we took notes during the interviews. Furthermore, the verification of all transcribed interviews is checked. This means that all participants received the transcript of their interview in order to check for any inaccuracies. In total, 40 out of the 40 interviews approved the transcribed work, which means that all transcripts were accepted. The reason we send the transcribed interviews to the participants is to be sure that we understood what was said during the meetings. Furthermore, if a participant reads a comment which was mentioned during an interview, but does not want this comment to be used, he or she can highlight this so we are aware of it. Also the interpretation could be interpreted incorrectly. All interviews were recorded in order to execute data analysis. All processed interviews are saved in separate documents. This in order to have a clear overview and interviews can be found back undoubtedly.

The analysis of the transcripts was done in steps, and after every step, I send my work to my peer researcher for a member check it in order to validate my findings. After, we also discussed the findings with the research team, to find a level of consensus. Sharing the developed themes, and discussing the dilemmas generate peer support and helped us to find even better connections between factors (Saldaña, 2009). We have intentionally not used predetermined coding for analyzing, but factors and themes that sounded important and came from the HR professionals, IT professionals, and business leaders, in order to be open for yet undefined new factors. This is due to the fact that, from the start, we only knew what people did 10 years ago, and based on that, interview questions were asked.

4. FINDINGS: PERCEIVED E-HRM IMPLEMENTATION FACTORS

This chapter presents the factors for implementation, perceived as important by 3 groups: HR professionals, IT professionals, and business leaders. First, the findings from the HR professionals are discussed, followed by IT professionals and business leaders.

Perceptions perceived by HR professionals

In total, we interviewed 32 HR professional respondents. Together, they related 17 factors to implementation, as can be seen in appendix H.

1. Focus on “Warminization”

It is the opinion of an HR professional from a consulting organization who claimed that you have to involve the warmhearted side of the organization by stating *“you cannot digitize without involving the warm side”* (resp. 4). Further, the analysis shows that organizations should create dynamic talks between employees to discuss the pros and cons of an implementation, as recognized by an HR executive who works at a bank: *“Then you start talking to each other, start the discussion, you hear the pros and cons...”* (resp. 10). Next, users should be made enthusiastic by showing them the usefulness of the system, and let them think, this is it, as an HR manager from an insurance company mentioned: *“...making sure people become enthusiastic, that they see the use of it, that they want to help...”* (resp. 28). In addition, resp. 34 from a public service organization feels that in order to successfully implement a system, employees should not feel a resistance towards managers.

Some voices were critical about the fact that organizations do not always show the advantages that a system can offer. This was acknowledged by an HR professional employed by a chemical organization resp. 2: *“I have all the pain and not all the advantages, what are you actually doing?”* (resp. 2) as well as an HR manager from an educational organization: *“So they directly see the disadvantages, they do not see the advantages immediately”* (resp. 16). Both respondents declared the fact that organizations sometimes implement a new system without clearly explaining direct benefits for users.

2. Romanticize the implementation

The second factor relates to the romantization of the implementation. Here it was also perceived that only the advantages of a new system should be communicated, as recognized by an HR manager working for an insurance company (resp. 28): *“...and communication, what are the advantages for everybody?”* Furthermore, related to the communication, an organization should inform all employees at the same time, mentioned by an HR professionals employed by a bank (resp. 10), and as an HR manager from a government organization documented: *“...bring attention to the fact why the system will be implemented”* (resp. 20). This relates to the opinion of an HR manager from another bank, who

says that employees have to be prepared for the changes that are about to happen: *“Yes, prepare people of that thing that is about to change”* (resp. 11). However, this could also be in the case when there are negative consequences associated with the implementation as mentioned by an HR executive from a bank (resp. 5), who states that you have to be honest if you have the feeling that an implementation is about to fail. This means both for the organization as well as for the employees. If they do not have a good feeling about the implementation, or they know more about predicted failures than the organization, they should share their opinion and knowledge.

3. Keep continuous communication

Next, the factor of keeping a continuous level of communication was recognized by HR professionals. First of all, it is perceived as very important that users know how to work with the system, as recognized by an HR professional from an insurance company (resp. 27). Also, after the implementation of the system, the communication towards the users should continue on a regular level. Most users need additional system-related explanations, and thereby supportive communication. This relates to the opinion of an HR manager from a retail organization who states: *“...what are my journeys every day and how can my issues be resolved easily”* (resp. 40). An organization should keep on communicating with the users on a daily basis to solve any upcoming issues directly. Also from an insurance company, resp. 29 acknowledges that communication with employees is difficult but still advises organizations to keep on doing that. The prediction is that the direct communication with HR advisors should go faster after implementation, according to an HR executive from a public service organization, meaning that it could become more easy to communicate with employees (resp. 39).

Further, an HR professional working at a bank believes that users have to be convinced that a system that was implemented recently will help them to make their work easier and also position it like this in the employee their minds (resp. 7). However, to realize this, resp. 15 from an educational organization states: *“So we have to work together multi-disciplinary”*, meaning that users of different levels all throughout the organization have to be involved.

4. Standardize all HRM processes

It is the opinion of the HR respondents that all HRM processes should be standardized, starting with resp. 7 employed by a bank, who perceives that principles should be set commonly so everybody is on the same trail during the implementation. This is enforced by an HR professional from a public service organization who states: *“...we are going to change that customized package of us to a more standardized one”* (resp. 34). The analysis shows further that there is an overall agreement between resp. 23 from a government organization and resp. 30 from an insurance company, as both argue that there first has to be a standard organized, before the implementation of a system can take place. However, resp. 23 also argues more critically: *“...we first have to organize a standard before we can deliver*

customization” while resp. 30 states: *“Ideal would be to first standardize before you receive a new system.”* It can be perceived that resp. 23 is in favor of eventually customizing HRM processes, but first a standard is needed, while resp. 30 does not recognize a relation between standardization and customization.

Resp. 15, employed by an educational organization was critical about the fact that as many HRM processes should be standardized as possible because: *“...customization costs a lot of money.”* Furthermore, it is resp. 15 her opinion that customizing HRM processes is very much prone to errors. Also resp. 3, working for a chemical organization, is in favor of standardizing HRM processes and is of the opinion that it is very important to make sure all employees follow the same standard processes when operating the system. Only then, an implementation is more likely to be defined as successful.

5. Keep on validating the system continuously

The analysis shows that HR professionals find it important to validate e-HRM systems continuously. Some voices were about the fact that a system should be tested sufficient before it will be implemented. Resp. 14 employed by an educational organization argues: *“Not asking things twice, that kind of basal things”*, meaning that organizations have to make sure a system is complete before it is being implemented, to avoid any teething pains. In addition, it is the opinion of resp. 12, HR professional at the same educational organization, to first perform a pilot: *“...we first performed a very clear pilot.”* This is also observed by an HR manager from a retail organization, who thinks it is very important to test the system over and over before implementing at all (resp. 45).

However, there were also opinions that the validation of a system should continue after the implementation. It is very important that an organization makes sure users really use the newly implemented system, as recognized by an HR executive from a bank: *“The system is there, but we do not use it”* (resp. 5). This could be prevented by organizing workshops in order to gain feedback from the users, as resp. 45, employed by an educational organization argues. In this way, users can share their honest opinion about the system and the organization can use this feedback in order to improve the system, and to hopefully realize the fact that users will actually start to use the system as their supposed to. In addition, an HR professional employed by a governmental organization perceived the human factor as an important control mechanism: *“But the human factor is also a thing. Because it is digitized, but there are still control mechanisms in the form of people who check whether everything goes well”* (resp. 20). Meaning that actual humans should control whether the system is being used and whether processes are being performed the way they are supposed to.

6. Create a positive user experience

HR professionals also perceived that an organization should focus on creating a positive user experience.

The analysis shows that some respondents mentioned that the system should be made as easy to use as possible, by keeping it simple. For instance, an HR manager from a bank refers to the fact that: “...*make it as easy as possible, so people not only want it themselves, not only are able to do it themselves, but also want it*” (resp. 8). While resp. 3, working for a chemical organization only focuses on the system: “*And now the focus has to be on user experience, on keeping it simple, on easier integration,*” as well as an HR manager from an insurance company who mentioned: “*Yes, keep it simple*” (resp. 29).

Furthermore, the analysis shows that a few respondents emphasize the user friendliness of the system. An HR professional from a governmental organization describes the positive user experience as a tool in order to increase the user support (resp. 23). According to this person, it should not lead to a lot of weight for the user as that leads to a decrease of user support. Resp. 18, employed by an energy organization relates both user and system as a contribution to the positive user experience by saying: “...*is has to be a party for the user to do what you want the system to do in a fast, efficient, and goal-oriented way.*” In addition, an HR executive from a public service organization is convinced that the key to a successful implementation is the user friendliness of the system (resp. 37). Moreover, it is even perceived by an HR professional from an insurance organization that: “*And by having a system that is user friendly, you can raise productivity*” (resp. 27).

Further, some voices were about the fact that the system has to be intuitive, meaning that there only should be a few clicks for the user in order to find what they are looking for: “...*Click, click, click and I get my report*”, mentioned by an HR manager from a bank (resp. 7). An HR manager employed by a retail organization emphasizes that there even should not be more than 2 clicks: “...*the amount of clicks should not be more than 2, it is intuitive*” (resp. 40).

7. Create involvement of users

Next, HR professionals were of the opinion that you should create involvement from the users. The analysis shows that an HR professional of an insurance company believed that the users should be involved in an early stage of the development. Starting with the selection of a new system: “...*in your selection process to involve the end user, which are, in the process of selection what you are going to build or buy*” (resp. 30). The early involvement was also perceived by resp. 18, employed by an energy organization who stated: “*So what we are already doing right now is that we let the users develop the criteria, the requirements*” and by an HR manager from another insurance company who was of the opinion that the ideas and wishes of the users should be taken into consideration (resp. 29). The reason behind this is the fact that the users are the ones that will have to work with the system in the future, and therefore it is, according to most respondents, important to involve them in the implementation process. This was also recognized by resp. 40, working for a retail organization: “...*if you do something for a client, it is also helpful that the client has a say in it*” and by an HR manager from another retail

company: *“Then you have created a distance too big to go to the next step”* (resp. 46). It is also perceived by resp. 44, employed by a third retail organization that the implementation of a new system is less successful if you do not involve the users in an early stage: *“So if you do not do that properly and just come, this is the solution, even you have a perfect implementation, it is less successful.”*

Resp. 37, employed by a public service organization, is of the opinion that you should involve users all throughout the organization, from the lower to the higher positions: *“Acceptation, so look, when we started, it was very clumsy, it seemed smart but it was clumsy, we started with a pilot for the higher, or actually, yes for the higher management.”* This respondent was critical about the fact that they only performed a pilot for higher management, since the future users were positioned all throughout the organization, and therefore they should have been the ones that had to be involved in the pilot. This was also perceived by an HR manager from an insurance company, who organized a project team where the opinion of numerous future users, positioned either high or low in the organization, was appreciated (resp. 28). Moreover, resp. 39, who is an HR professional at the same public service organization as the abovementioned resp. 37, who is of the opinion that it is also very important to explain the reasoning behind implementation: *“The organization has not been involved in, this is what we are doing right now and this is why.”*

8. Create an interdisciplinary skills pallet

According to the HR professionals, it cannot be assumed that the current population is ready to work digital right away. It starts with the fact that employees have to be prepared for the fact that a system will be implemented that will change their daily work, according to an HR executive of a public service organization (resp. 37). Also, resp. 44, employed by a retail organization recognized this: *“It is a heavy change process and you better anticipate on that”* as well as an HR manager from another retail organization (resp. 45), who is also of the opinion that future users have to be prepared that their way of working will have to change. It might be even possible that some jobs will disappear, and employees should also have to be ready for the fact that this can happen, and that they should think about developing themselves, according to an HR executive of an insurance company (resp. 29). Another way of preparing employees is, according to a public service HR manager, providing training on-the-job, so employees are prepared to work with the new system (resp. 34).

However, a new system means that new competences should be developed, for instance recognized by an HR professional from an educational organization: employees have to be agile (resp. 16). Further, employees should reach a sufficient level of abilities in order to be able to change, according to resp. 27, employed by an insurance company. In addition, the bottom of the organization should be upgraded: *“And the bottom side should also grow into it, so you try to upgrade the bottom side each time”* as mentioned by an HR manager from a bank. It can be, that there are a lot of employees from different

generations working in an organization. It is the opinion of an HR executive from another bank (resp. 5) that you have to make sure that all these generations are able to work with a new system, and if this is not the case, resp. 3, employed by a chemical organization is of the opinion that you should develop competences in-house. On the contrary, an HR manager working for the third bank that participated, believes that you should only focus on the ones that are able to change: *“The employee that does not want, or cannot follow in the digital, yes that is, probably very black and white, but actually is that the employee who probably has to work somewhere else”* (resp. 7). In addition, resp. 15, employed by an educational organization, is of the opinion that you should look at the employability in your organization in order to find out who are able to change: *“Being part of the HR management team, we already know, these are the ones that follow naturally”* as well as resp. 20, working for a governmental organization and resp. 12, employed by an educational organization, who are both of the opinion that you have to look whether you have the right skilled employees in-house, who are able to develop themselves, and who are likely to leave the organization. Combined with the new competences, it is also possible that a whole new type of employee is needed in the form of tougher HR-advisor, as perceived by resp. 9, who works for a bank.

Lastly, the way of working will change for employees, and in combination, a different mindset has to be created: *“So it will be time to change our way of thinking”* according to resp. 2, employed by a chemical organization. In addition, employees should be prepared for the fact that they might receive more responsibility, as the level of tasks will increase, and the HR manager of a governmental organization (resp. 23) is of the opinion that this could take up to some years. With the implementation of a new system, organizations have to make sure employees still feel responsible for the same processes, recognized by resp. 16, employed by an educational organization, but also have to make sure that the employees should increase the quality they deliver, mentioned by an HR professional of an insurance organization (resp. 30). An energy company HR manager told us during the interview that: *“...we are going to try to let people keep their jobs, but they have to generate 10 % more”* (resp. 18).

9. Make sure to start with data cleaning

Some voices were about the fact that in order to successfully implement a new system, the organization has to make sure to start with data cleaning. Resp. 23, working for a governmental organization argues that they are still in the process of sorting their data, as well as the HR manager of an insurance organization (resp. 28), who considers that you need clean data before implementation: *“We really miss, we really have to build the basis first.”* Also resp. 44 from a retail organization is of the opinion that they first have to get all the basics in place. In addition, it is the opinion of resp. 5, employed by a bank, that: *“First make sure you have all data in there,”* meaning that before you can implement a system, all usable data should be in there. An HR manager from another bank (resp. 8) also perceived data cleaning as a must before transferring to a new system. Further, the analysis shows that in order for HR to become

a business partner, all data should be sorted and ordered, as recognized by an HR executive of an educational organization: *“That is what I have learned at company X. Have your basics ordered. HR always talked about taking the new role of HR as a business partner. Then management said: first make sure the salary slips are on time”* (resp. 15). In other words, first make sure you have your basic tasks arranged sufficiently before taking on new and more responsibilities.

10. Keep processes customized, and if possible, on paper

Not all respondents were in favor of digitizing HRM processes. It is the opinion of some respondents that particular processes should be kept on paper. For instance, according to resp. 16, employed by an educational organization who stated: *“80% will be in that standard process, and 20%, we will never get in there..., that will stay on paper.”* The reason behind this is that it will take too much effort too standardize the 20%, and it will not be worth the time. Further, an HR manager from a retail organization is also in favor of keeping processes on paper due to the fact that some processes are arranged locally and it will just not be possible to standardize them (resp. 40). This also relates to the opinion of resp. 12, working for an educational organization, who claimed that: *“Think about payroll tax, you have people where you have to hold in extra payroll tax and those kind of things. That process can never be automated 100%.”* Resp. 39, employed by a public service organization, was also critical about the fact that there are no one size fits all situations, and therefore some HRM processes should be kept customized. It is considered as important by an HR professional from a governmental organization that organizations only have to standardize processes which increase in efficiency through standardization, according to resp. 20.

11. Create top management support streamlined through hierarchical levels

A few HR professionals were critical about the fact that an organization should create top management support streamlined through all hierarchical levels. The analysis showed that resp. 3, working for a chemical organization thought that a very strong leadership style is needed to successfully implement a new system. In addition, an HR manager from a bank claimed that: *“...use a group of managers as a panel group and keep a close collaboration with HR-advisors”* (resp. 9). Both strongly in favor of the fact that a strong support from higher level management employees is needed.

12. Focus on creating support from the business, organization-wide

On the contrary, there were also respondents who thought that organizations should focus on creating support from the entire organization, instead of only focusing on top management. Starting with resp. 2, employed by a chemical organization, who claimed that you need support from the business. According to an HR manager from an educational organization (resp. 15), you can create support by first asking what the users think of, if available, the current system and what they think should be improved. Also, an organization should carry a clear vision and invest in creating support by telling

employees what is in it for them, as mentioned by resp. 45, HR executive at a retail organization. Further, resp. 39, HR manager at a public service organization, reflects to the fact that they should have focused more on creating support because they very much underestimated the amount of guidance managers and employees needed to do it right.

An HR employee working at a bank is of the opinion that: *“So it also has to do with stakeholder management”* (resp. 5). Involve the different stakeholders as much as needed in order to create a sufficient level of support. Resp. 18, who works for an energy company is taking it even broader: *“You have to gain commitment from line-management, from diverse stakeholders, from the board of directors, so you have to get the feeling that everybody is supporting the new system.”* Especially for larger organizations, it is important to create support organization-wide: *“We are of course a huge wide-spread organization, so to make sure that everybody thinks: Hey, that is good...”* (resp. 20) as mentioned by an HR manager from a governmental organization. This will take a lot of time and effort because there are so many different type of employees within the same organization.

13. Know why you want- and the reason behind implementing a new system

Numerous voices were about the fact that an organization should know why they want to implement a system and should be able to explain clearly the reason behind this. According to an employee from a chemical company (resp. 3), the organization should set clear measurable goals beforehand, also recognized by resp. 27, employed by an insurance company, who argues that organizations should set goals, know them, and then discuss with each other how to work towards realizing these goals. *“First, make clear what you want...”* (resp. 44) as mentioned by an HR executive from a retail organization. The analysis shows that a way to do this is setting targets: *“It gives you a lot of clarity towards what do we want to reach this year”* as perceived by resp. 40, working for another retail organization. In relation to this, resp. 5 employed by a bank, believes that an organizations should know from the start what they want to realize. In other words, as perceived by resp. 25 who works for an ICT organization: *“So the focus should be really on the ‘why’, especially when it comes to the implementation of these things.”* This starts with having the right vision: *“But it also starts with having the right vision, you know? The right specialists that know what they want”* (resp. 29) according to an HR manager from an insurance organization. If this vision is clearly defined, it is the opinion of resp. 45, employed by a retail organization, to show the vision to the organization here and there, of where they want to go to. Further, the genes of an organization are very difficult to change, as recognized by an HR executive from an insurance organization who argues that: *“...but to simplify in order to get to the core, that is not in our genes yet”* (resp. 27). Therefore, you have to try to change the employee their mindsets by explaining the reasoning behind the implementation in order to reach the predefined goals.

14. Keep the human side of e-HRM

Implementing digital systems does not mean that the human side of e-HRM should disappear, according to the HR professionals. A combination of ‘electronic’ and ‘human’ should be made according to an HR manager of an ICT company: “...it is not e-HR but e-Human” (resp. 25). You still need actual humans, because for instance, systems are not able to think. They are not able to perform analyses, and cannot give a meaning to processed outcomes as perceived by resp. 28, employed by an insurance organization: “That system is not able to perform analyses for us.” Actual human control is needed, so not blindly rely on systems. That is also the reason why resp. 40, who works for a retail organization, argues that not all HR practices can be digitized because some still need human control. Also, when digitizing, human contact might disappear and it is the opinion of resp. 4, employed by a consulting company, to keep the personal aspect, for instance if you, as a manager, have to perform an appraisal talk. A system does not have emotional feelings, which are often important to have during such a talk. Often, it can be tricky to digitize because employees are of the opinion that a system will do all our work, and then we do not have any problems anymore, as critically reflected by an insurance company HR manager (resp. 29). Therefore, an organization should make sure that employees do not get the feeling that their workload will decrease and that everything gets easier once the system is there.

15. Balance the business case

The analysis shows that a couple of HR professionals are of the belief that the business case should be balanced. First, an organization should make sure that the budget is clear, as this was not the case for the banking organization of resp. 5: “So there was no budget.” It is considered as important to know, when selecting a system, what you are allowed to spend, especially because, according to resp. 16, employed by an educational organization: “It cannot be too expensive.” On the other hand, it is the opinion of resp. 8, who works for another bank, that an organization should focus on costs but not to a maximum, as there are more important aspects that should be taking into consideration when selecting a system. This relates to the voice of an HR manager of an energy company (resp. 18) who states that: “...the truth is always just a bit more complex than just a simple prediction model from finance.” Resp. 18 thought that an organization should also make sure to mention qualitative gains in the business case. It is striking that the abovementioned bank manager (resp. 8), mentioned that a business case should go deep into every detail, as that was one of their mistakes, while resp. 2, working for a chemical organization, is of the opinion that: “Do not even bother for the business case, just do it.” In other words, do not take the time and effort to develop a business case, just implement a new system and find out what kind of value it brings for the organization. The HR executive of an insurance company balances these opinions by saying that an organization should keep the business case in mind, but also has to be aware of the fact to stay rational (resp. 27).

16. Keep the law in mind

When implementing a new system, organizations should always keep the law in mind, as recognized by HR professionals. Of course, it depends on the type of organization, public or private, but certain governmental demands have to be followed, as mentioned by an employee from a bank (resp. 11): *“What we notice is that we, as a bank, are imposed with strong demands.”* Resp. 23, employed by a governmental organization, recognizes that when they implement a new system, lots of rules and regulations, especially regarding safety issues have to be taking into consideration. According to resp. 29, working for an insurance company, a combination of the system its requirements should be made from both business needs and law. An HR manager from an educational organization (resp. 12) is of the opinion that not all processes can be automated due to restrictions of the complex law in The Netherlands. Especially important for multinationals to take into consideration is the fact that every country applies its own set of laws: *“They have a quite difficult labour law situation”* as mentioned by an employee from a retail organization (resp. 44). This means that you cannot implement the type system in every country. Also an organization should keep in mind that whenever there is a change in law, they have to make sure the system is able to adapt this quickly, as perceived by resp. 34, employed by a public organization.

17. Anticipate on the growing importance of data privacy

Lastly recognized by the HR professionals was the fact that organizations should anticipate on the growing importance of data privacy. Especially, this was the case for public organizations as mentioned by an employee from a governmental organization: *“...it is an important issue, the safety and the risk that someone could touch our data”* (resp. 20). In other words, organizations should be aware of the fact that a lot of data is private and should be kept confidential. Therefore, this also has to be taken into consideration when selection a system. A public organization, owned by the state for instance, it often not allowed to choose for a Cloud solution. Also, in a lot of fields, organizations are monitored strongly by an overall institution, and should keep this in mind when working digital, as mentioned by resp. 33, employed by an insurance organization: *“We are of course in an environment that is strongly monitored by organization X.”*

Overall, we observed 17 implementation factors of e-HRM perceived by the HR professionals. In general, HR professionals are satisfied about the digital HRM solutions implemented in their organizations. However, there are critical voices about the fact that amongst others, data cleaning is very important before implementing, and organizations should also keep the human side of e-HRM.

Perceptions perceived by IT professionals

Analysis of the 5 interviews showed 10 factors, perceived by IT professionals as related to implementation, see appendix I.

1. Keep in mind that digital is not always the answer

Some IT professionals believed that organizations should keep in mind that digital is not always the answer. Meaning that some processes are too complicated to digitize, as recognized by an IT professional from a bank: *"...if you would automate that you will get a menu of, a choice menu of 20 layers deep, so that is not really"* (resp. 6). It is therefore considered as a better option to not digitize all processes as it only gets more complicated by doing it, while digitizing processes should make work more easy. The analysis also shows that systems cannot perform tasks like human can, as this was the voice of resp. 19, employed by an energy company: *"So in that perspective, it could replace a part, only helping and coaching for the difficult tasks yes, that is often human."* A system cannot perform an exit interview like a human can, as often emotions are involved, which a computer does not have.

2. Make sure you have clean and qualified data

Further, some respondents perceived having clean and qualified data as a requirement in order to successfully implement e-HRM. It is the opinion of an IT professional from a bank that *"The data quality is data completeness, data correctness, data, that is just a whole list that you have. And that is really success, because if you do not have this correct, then you are not able to test the system"* (resp. 6). In other words, make sure you first perform data cleaning before you enter the data into a system, because it is perceived that only when your data is complete, correct, and of a good quality, the system can be implemented successfully. This was also recognized by resp. 41, who works for a retail organization, and was critical about the fact that: *"The implementation is the quality of the data, that is key."*

3. Involve selectively

Some voices were about the fact that an organization should perform selective involvement. The abovementioned bank IT professional perceived the active involvement of top management as a very important prerequisite for successful implementation by stating: *"And that is 1 of the parts of being agile, so that is the top, the business sponsor is in the project, he is in the project periodically and also participates in thinking about decision-making. And that is really a key success factor"* (resp. 6). More specifically, resp. 41, employed by a retail organization, is of the opinion that you should not involve everyone, but only the right people: *"...the right people uh, at the establishment of the configuration of a system and being involved."* So this IT professional is more critical about the fact the fact that you should not only involve top management, but it is important to involve the right people at the right time.

4. Differentiate user experience

There were also opinions that an organization should focus on differentiated user experiences. An IT manager from an educational organization is of the opinion that a system should not be made too complicated: *"Do not make it too complicated"* (resp. 13). This because users will more likely react

encouraging towards a system when the user experience is positive. This relates also to the opinion of the abovementioned retail organization IT manager (resp. 41) who recognized as well that the system should not be made too complex, plus the fact that people should not be allowed to make mistakes. Also acknowledged by resp. 17, employed by an energy organization, who cited: *“Well, the first thing that comes up is the user friendliness, that is number 1 of the prerequisites that it is just intuitive...”* The analysis shows that resp. 17 combines on one hand, the user friendliness of a system, and on the other hand, the fact that the system should be intuitive. Further, resp. 13, working for an educational organization, is of the opinion that a system should be made parameterized for users, meaning that after the implementation, users should be able to change the system its variables. In order for the system to create a positive user experience, the analysis shows that according to an IT professional from an energy company: *“And then you click and then it does not work, and then someone tells me like you have to do it like this and this”* (resp. 19). In other words, users should be trained, or train each other how to use the system correctly.

5. Streamline support through all hierarchical levels

One of the IT professionals told us during the interview that he was critical about the fact that top-down support streamlined through all hierarchical levels is needed in order to successfully implement e-HRM. It is the opinion of the IT professional from a retail organization that top-down support is important for a change process within an organization: *“...these kind of changes take place work, in these kind of organizations easier if it will be blown from the top, down into the organization”* (resp. 41).

6. Keep the law in mind

During the interviews, it became clear that a few respondents felt that organizations should keep the law in mind. Resp. 13, employed by an educational organization, mentioned that: *“...those Cloud providers have to, yes comply to all privacy laws.”* This person related to the fact that organizations, especially public ones, should take privacy laws into consideration, and then, a Cloud solution is not always the best option to go for. Further, an IT professional from a retail organization perceived the regular governmental controls on their administration an important factor to keep in mind, as it will be controlled whether there is a compliance with the law: *“...of the Dutch government, because with that, because we have to have our administration complete and the government comes to check this on average 50 times a year”* (resp. 41).

7. Follow the rules of change management

Several IT professionals were of the opinion that an organization should follow the rules of change management. Resp. 13 from the educational organization relates this to the willingness of people to change: *“Well, what always a critical point is, are people willing to work differently?”* In addition, the IT professional of an energy company takes a broader view by perceiving that: *“...I think it is more a*

culture change, so it is not more like you ask, we do, and not more spoiling employees like we re-build everything for you" (resp. 17). In addition, this person is of the opinion that the whole organizational culture should adapt, and is critical regarding employees, because he feels that they are being spoiled at the moment. However, when a new system is implemented, employees are sort of forced to work different. The analysis shows that employees could develop a resistance to HR as noticed by an IT manager of the same energy company: *"Then yes, why does HR decide for me that I have to do everything digital, because this always worked well"* (resp. 19). In other words, the process of performing my tasks on paper work well for me at the moment, why does HR think that they know better how I should perform my tasks? A way to positively create change management is for the organization to communicate goals clearly and the thereby related outcomes, as recognized by resp. 41 from a retail organization.

8. Balance the business case

The analysis shows that some respondents were critical about the fact that an organization should balance the business case. Resp. 13 from an educational organization perceived that a business case is not only based on quantitative measures: *"But a business case is not only money right?"* According to this person, an organization should also make a business case that is based on qualitative measures. The IT professional of an energy company relates the business case only to quantitative measures and is of the opinion that an organization should always stay within the budget, when implementing a new digital system (resp. 17).

9. Create harmony in implementation

Another IT professional is of the opinion that an organization should create harmony in an implementation. In addition, there should be harmony between the users and the system, as observed by the abovementioned energy company IT professional: *"If everybody there says yes it, yes it is there and we can work with it, and it works well and we just have good, well yes harmony"* (resp. 17). If this is the case, then a successful implementation can be realized according resp. 17.

10. Anticipate on different levels of IT skills of future HRM users

Lastly, a respondent acknowledged that you cannot expect that all employees possess the ability to work digital. Resp. 19, employed by an energy company cited: *"...there is an assumption that everybody, expected is that everybody is on the same level, and should be able to do it."* However, since this is not the case in many organizations as perceived by this resp., organizations should be able to anticipate on different levels of IT skills.

Overall, we recognized 10 implementation factors of e-HRM perceived by the IT professionals. In general, IT professionals are more satisfied about digital HRM solutions than HR professionals. In

addition, IT professionals are of the opinion that organizations should anticipate of the different levels of IT skills throughout the organization. In combination, mostly recognized was the fact that organizations should differentiate user experience.

Perceptions perceived by Business leaders

In total, we interviewed 10 business leaders. Together, they related 12 factors to implementation, as can be seen in appendix J.

1. Do not standardize all HRM processes

One of the business leaders told us during the interviews that he was of the opinion that an organization should keep in mind not to standardize all HRM processes. More specifically, only processes which are executed in the same way by employees should be standardized, as perceived by a business leader from a chemical organization: *“Recruitment is being executed in the world on the way one thinks it should be done”* (resp. 1). Meaning that, for multinationals, lots of different types of employees are located all throughout the world and they all have their own opinion about how processes should be executed, and it is the resp. his opinion that it is impossible to get the processes standardized all over the world.

2. Customize, improve, and keep continuous communication

It is the opinion of numerous business leaders that an organization should customize, improve, and keep a continuous level of communication. First, before implementation, resp. 32, employed by an insurance organization, is of the opinion to perform a pilot with team managers, in order to see whether the system is being valued and what the improvement points are. Resp. 22, working for an government organization shares this opinion but adds: *“Only implement if you have done a really good user acceptance test.”* Moreover, another way to involve employees, as perceived by a business manager from a retail organization, is the way how the system is being introduced. *“...the whole process consists of several sub-processes, this is what it entails, and this is how it will go when it is implemented”* (resp. 47). In other words, go back 2 steps and explain in detail what will change, and what the system entails exactly.

Moreover, resp. 31, employed by another insurance company, perceived the added value for users an important prerequisite, especially when it comes to the fact whether employees can develop themselves with the help of a system. During the implementation process, resp. 32, working for the same insurance company mentioned: *“That you, communication is I think an important one, but that is more related to the implementation, that you can give people clarity.”* In other words, communicate during the implementation what the upcoming changes for employees will be. Another way is, according to the abovementioned retail business manager (resp. 47), to share with all employees why the organization choose for that particular system and how it can help employees in supporting their daily tasks. Resp. 1 from the chemical organization is of the opinion that it is important that the organizations shows

employees how the system works, and what kind of changes it will bring. Instead of doing it themselves, an organization can also choose to involve the client directly: “...that we at the start let the client explain why we want to do this project, to everyone that is in that project” as opted by a public service business leader (resp. 38).

Also, after implementation, the analysis shows that communication remains important, according to a retail organizations business manager. One way to do is to create dynamic talks between users so they can ask, but also answers questions from each other: “But if you put them into a group, then you see that they are going to explain it to each other and that is the most effective way of gaining knowledge” (resp. 42).

3. Prepare all e-HRM users for new roles and interdisciplinary skills

Implementing a new system means that all users should be prepared for new roles and thereby interdisciplinary skills, as perceived by several business leaders. Resp. 1 of a chemical organization was well aware of the fact that you should have the right skilled people in-house who are able to work digital: “And maybe we do not have the right expertise in-house.” Processes and the content roles will change and managers should be prepared for this, as perceived by the business leader of an insurance organization (resp. 31). This is because, for instance, the way tasks were executed before, like appraisal talks, will change and therefore have to be done differently, or as noticed by resp. 26, employed by an ICT organization, the role of HR professionals will become more strategic. According to the business manager from a retail organization: “It requires a completely different type of discipline” (resp. 42). Further, before implementation, resp. 42 is also critical about the fact that a new type of human is probably needed. An organization should first find out who are able to work digital and who are not. Especially since it will become very likely that the level of employee self-service will increase and employees will not be spoiled anymore: “...who used the data for your best and I think you get easily spoiled at a point of time” as resp. 43, employed by another retail organization grasps it right now.

4. Streamline sense of urgency and top-down support

There were also opinions that a sense of urgency should be streamlined and that top-down support should be realized. Especially resp. 1 of the chemical organization perceived this as an important factor: “If one does not think it is important, well yes, then you can still run a good project and have such great people by your side, but then you will not get it from the ground” and “Yes, because they really have to help in creating a sense of urgency from the board.” Both focusing on the fact that a sense of urgency from top management has to be created. Resp. 24, employed by an ICT organization supports this opinion: “...is should be carried executive.” In addition, strong leadership support should be created, and an encouraging top-down communication structure should be realized according to resp. 38, business leader at a public service organization, in order for employees to successfully make use of the

system. Abovementioned resp. 1 is of the opinion that it is best to implement a new system step by step: *"Because otherwise you are 'over-eaten' and then it will not work."*

5. Prioritize the human side in e-HRM implementation

The analysis shows that a couple of business leaders were of the belief that the human side in e-HRM implementations should be prioritized. Resp. 26, employed by an ICT organization commented that a system is only a facilitator: *"Yes look, a system stays of course a system."* In addition, a system cannot deal with human emotions: *"Because that person does not want to receive the attention from a system that is supporting you. That persons wants attention from you as a person"* (resp. 22) as perceived by a business leader from a government organization. Therefore, one could conclude that the human side of e-HRM is still needed. Resp. 1, employed by a chemical organization critically reflected: *"You can have the most beautiful system, at the moment, for say, the human aspect and that the interaction between employee and manager is not there, it will not work."* Moreover, resp. 42 of the retail organization suggests a combination of both human and system: *"So it is a combination of both the good things of digitalization but also the personal touch, that should also be included."* Lastly, e-HRM implementations could increase the resistance towards HR, because they are considered as the ones that determine that a new system will be implemented and that the daily routine tasks will take more time, or at the opposite, even disappear. Therefore, according to resp. 1, a balance should be found, and this should also be taken into consideration during the implementation.

6. Involve the entire organization

Numerous voices were about the requirement that the whole organization should be involved when implementing a new system. As the chemical organizational business manager perceived: *"Do not do that in a room filled with only HR people, but involve the business as well"* (resp. 1). Further, *"What I think is most important is that the project, and widespread carried within HR, so that really inside each department, the people are involved directly..."* In other words, support throughout the whole organization should be created. This opinion is also shared by resp. 38, employed by a public service organization: *"...is that everybody should be involved in the project, also from an early stadium, or that they are at least aware of it."* Resp. 42 from a retail organization proposes to create project groups with people from every discipline in the organization, so the implementation is more likely to be accepted organization-wide.

7. Have a clear vision of what the system should offer

It is the opinion of some business leaders that organizations should have a clear vision of what the system should offer them. According to the chemical organizational business leader (resp. 1), organizations should start with the question, what do we want to reach? *"It should start there. What problem do we want to solve?"* Followed by the questions that according to the business manager from

an ICT organization is important to ask: “...*why do we want to do a new project?*” (resp. 24). First, an organization should look at their current processes, and find out how a system can support those, mentioned as important by resp. 47, working for a retail company. In relation to this, resp. 22, employed by a governmental organization is of the opinion that a system should unburden employees. When an organization has decided these factors for themselves, they should be clear towards the users about the reason for implementing, as noticed by the business manager of another retail organization: “*So you have to have it very clear: why are we doing this?*” (resp. 42).

8. Make the system simple

Some voices were about the fact that the system should be made as simple as possible. The government organization its business manager cited: “*Make sure you have at a couple of essential parts the connectivity with other applications arranged well but also not too much*” (resp. 22). Meaning that where needed, connect different applications towards each other, but do not connect all systems, because that would create chaos if you have to make changes in only 1 application. Further, resp. 47, employed by a retail organization sees a positive relation between the easiness of use from a system and the user support: “...*and then he logs on and finds out it becomes 3 times more complex, yes, then of course the level of support decreases.*” In addition, from his own experience, he also is of the opinion that it is important for an organization to fill the gap between that the organizations needs from a system and what the system can offer. So to elaborate on that, after the implementation, the system offered processes that the organization did not use, and the other way around.

9. Keep regulations in mind

One of the business leaders was of the opinion that organizations should also keep rules and regulations in mind. A specific example came from a manager from an ICT organization: “*Changes here are still difficult because in a lot of organizations they are bounded to the CAO, to earlier make agreements, to politics and different kind of rules which are very difficult to catch in the system*” (resp. 24). So when implementing, organizations should keep all these factors into consideration.

10. Brand e-HRM

Next, an organization should brand the e-HRM solution in a positive way, according to some business leaders. In order to do this, they should realize a leadership culture, as recognized by abovementioned resp. 24: “...*it is a leadership culture that is needed so people just want to process a change.*” Further, this same respondent also mentioned that it very much depends how you inform your employees that the level of self-service will increase: “*No it just great that you can do it yourself. So you just position it on a very, this is just branding*” (resp. 24). So create the situation where employees really desire that the new system will be implemented. Another way to brand e-HRM is by making sure that you keep the

implementation up-to-date in people their minds, as resp. 31, employed by an insurance organization perceives: “...one of the most important things is I think, it should stay timely.”

11. Clean the data before implementing e-HRM

Also recognized by the business leaders was the importance of data cleaning. Resp. 26, working for an ICT organization mentioned that an organization should first perform data cleaning in order to have correct data before starting the implementation. This is due to the fact that an implementation can never be successful when incorrect data is available. Furthermore, it is very important that the data should be checked first before it will be put into a system. This is due to the fact that not all organizations are allowed to transfer data into systems due to privacy laws.

12. Keep resources in mind

The last factor: keep resources in mind, was also mentioned by a respondent. According to resp. 1, working for a chemical company, an organization should always make sure it has the resources available to realize digitalization: “*That you have the resources to realize that, both qualitative as well as quantitative*”.

The analysis of interview transcripts allowed to differentiate different factors related to implementation. Table 3 shows an overview of these factors, categorized per function and sorted horizontally, based on similarity. However, there were a couple of factors that could not be grouped together, and therefore they are categorized at the bottom as “stand alone”.

Overall, we observed 12 implementation factors of e-HRM perceived by the business leaders. In general, business leaders are more critical about the digital solutions than HR professionals. Mostly recognized was the fact that organizations need to customize, improve, and keep continuous communication, according to the business leaders.

TABLE 3
Overview of perceived e-HRM implementation factors

Factors of implementation		
HR professionals	IT professionals	Business leaders
1. Keep processes customized, and if possible, on paper	1. Keep in mind that digital is not always the answer	1. Do not standardize all HRM processes
2. Keep the law in mind	2. Keep the law in mind	2. Keep regulations in mind

TABLE 3
(Continued)

HR professionals	IT professionals	Business leaders
3. Make sure to start with data cleaning	3. Make sure you have clean and qualified data	3. Clean the data before implementing e-HRM
4. Create an interdisciplinary skills pallet	4. Anticipate on different levels of IT skills of future HRM users	4. Prepare all e-HRM users for new roles and interdisciplinary skills
5. Create top management support streamlined through hierarchical levels	5. Streamline support through all hierarchical levels	5. Streamline sense of urgency and top-down support
6. Keep a continuous level of communication		6. Customize, improve, and keep continuous communication
7. Keep the human side of e-HRM		7. Prioritize the human side in e-HRM implementation
8. Romanticize the implementation		8. Brand e-HRM
9. Know why you want- and the reason behind implementing a new system		9. Have a clear vision of what the system should offer
10. Focus on creating support from the business, organization-wide		10. Involve the entire organization
11. Create involvement of users	6. Involve selectively	
12. Balance the business case	7. Balance the business case	
13. Create a positive user experience	8. Differentiate user experience	
“Stand alone” perceived implementation factors		
Standardize all HRM processes	Follow rules of change management	Make the system simple
Keep on validating the system continuously	Create harmony in implementation	Keep resources in mind
Focus on “warminization”		
Anticipate on the growing importance of data privacy		

5. DISCUSSION

As mentioned before, our goal of this research is to compare what has changed in organizations when it comes to implementing e-HRM solution. The findings of this research are compared with that of the work from other researchers during the last 10-12 years. After analyzing the interviews, and writing the results, we made a comparison between the 3 functions: HR professionals, IT professionals, and business leaders. Striking was the fact that we only interviewed 5 IT professionals, but their contribution was just as valuable as results from the other functions.

TABLE 4

Overview of perceived e-HRM implementation factors, categorized per interviewee group

Main factor	HR professionals	IT professionals	Business leaders
1. Customization	Keep processes customized	Digital is not everything	Do not standardize completely
2. Law compliance	Keep the law in mind	Keep the law in mind	Think about regulations
3. Data cleaning	First data cleaning	Clean and qualified data	First data cleaning
4. Skills and abilities	Create interdisciplinary skills	Anticipate IT skills	Prepare for new roles
5. Support	Create top management support	Streamline support through every level	Streamline sense of urgency
6. Communication	Continuous communication	-	Customize, improve, and continue
7. Human side	Keep human side	-	Prioritize human side
8. Branding	Romanticize	-	Brand e-HRM
9. Goal orientation	Know the 'why'	-	Clear vision
10. Organizational involvement	Create support organization-wide	-	Involve entire organization
11. User involvement	Involve users	Involve selectively	-
12. Business case	Balance business case	Balance business case	-
13. User experience	Positive user experience	Differentiated user experience	-
14. Standardization	Standardize all HRM processes	-	-
15. Validation	Continuous system validation	-	-
16. "Warminization"	Focus on warm side	-	-

TABLE 4
(Continued)

Main factor	HR professionals	IT professionals	Business leaders
17. Data privacy	Anticipate on privacy	-	-
18. Change management	-	Follow the rules	-
19. Harmony	-	Harmony in implementation	-
20. Simplification	-	-	Create simple systems
21. Resource based	-	-	Resource dependency

Table 4 provides an overview of the factors in a randomly picked order. Striking is to see that IT professionals only look at IT, while business leaders have to improve the organizational performance and therefore take a broader view. However, we explored the opportunity to divide the discussion below into 3 phases of an implementation: pre-implementation, implementation, and post-implementation, partially based on the research by Van Geffen et al., (2013), appendix K. Based on the table above, an overview is made discussing both similarities and contradictions.

Pre-implementation phase

According to Van Geffen et al. (2013), the pre-implementation phase consists of the selection process, alignment, and resources. Both HR- and IT professionals mentioned specifically that organizations should balance the business case, which can also be linked to the pre-implementation phase. HR professionals were on one hand cost focused, because they felt that you should have a clear budget, and you should be focused on cost savings. On the other hand, HR professionals also believe that the system should be measured based on qualitative gains. This can be explained by Van Geffen et al. (2013) who mentions that the majority of e-HRM research is based on “non-financial results, e.g. organizational legitimacy (Wang, 2010), organizational impact (Urbach, Smolnik, & Riempp, 2010), increase in social capital (Sherif, Hoffman, & Thomas, 2006)” (p.380). HR professionals also suggest that the business case should be kept in mind, but organizations have to stay rational, while other HR managers mention that companies should forget about the business case and just implement the system. IT professionals agreed upon the fact that a business case should not only be based on money, but on the other hand, recognized that organizations must stay within the budget.

After the process of developing a business case, HR professionals and business leaders agree that an organization should start with data cleaning before implementation. HR professionals and business leaders both have a main focus towards data completeness and creating a basis first. Van Geffen et al. (2013) consider in their framework this data accuracy, as well as information quality (Häkkinen & Himola, 2008; Biehl, 2007), which was only recognized by IT professionals since they were more

detailed about the fact that data should not only be complete, but the quality of data is key. This can be explained by the fact that IT professionals understand systems better, and know that only qualified data can give the system the outputs it needs to deliver.

Discussed by only business leaders was the fact that the available resources should be taken into consideration, also mentioned by Van Geffen et al. (2013), when implementing a new system. In order to be able to implement a system successfully, organizations should make sure they have the resources in-house to realize digitalization. According to Lu, Huang, & Heng (2006) “A resource that mainly falls outside the control of management is the presence of an advanced legacy information system (IS) and infrastructure” (p.378), as discussed by Van Geffen et al. (2013) since this depends on choices that were made in the past and organizations are not in the position to change those. Also, what is striking is the fact that none of the respondents discussed a form of governance model. Sannarnes (2010) states that establishing a governance model beforehand, prevents any confusion as to who is responsible for what, as discussed by Van Geffen et al., (2013).

Both HR professionals and business leaders are of the opinion that an organization should be goal oriented, also categorized by Van Geffen et al., (2013) as part of the pre-implementation selection process. Business leaders believe that companies must have a clear vision of what they want the system to offer. This is also perceived by HR professionals as important. However, the research from Van Geffen et al. (2013) found out that in many cases the organization adapts to the needs of a system by redesigning their processes (Hawking, 2007; Lu et al., 2006; Sammon & Adam, 2010), instead of the other way around. A passive attitude towards the alignment of e-HRM is then taken by from the organization (Van Geffen et al., 2013), since they do not look at what system fits their needs.

Further, business leaders feel that a system should unburden employees. Organizations have to be clear why a system is being implemented. A way to support this is setting measurable goals, as recognized by the HR professionals, know them, and then discuss with employees how to work towards them. Moreover, they stress the fact that organizations have to know why they want to implement the system, and more specifically, the reason behind the implementation. Setting targets can help to give some clarity.

Further, recognized by all 3 functions is the customization of HRM processes. All 3 think that not all processes should be standardized by an e-HRM system. HR professionals are purely focused on the fact that processes should only be standardized if they become more efficient. However, IT professionals are more critical because they believe that digital is not the answer. We can explain this with the findings from Bondarouk & Furtmueller (2012) who state that e-HRM implementations should be labelled as an HR rather than an IT project. In that respect, HR sees the implementation of e-HRM as a way to work more organized, with standardized processes, while IT recognizes that digital is not the answer. This

factor can be combined with factor 14: standardization, which was only also recognized by HR professionals. They argue that as many HRM processes should be standardized as possible, because amongst others, customization costs a lot of money. Therefore, it can be concluded that HR professionals disagree with each other.

Not discussed specifically related to the pre-implementation phase in the framework from Van Geffen et al. (2013) was something that all 3 respondent groups did identify: organizations should keep the law in mind. HR professionals focused on numerous aspects related to the law like data privacy, as well as law obedience, and labor law issues, while IT professionals related the law to privacy issues as well, but also to regular governmental controls. A business leader mentioned that the law should be kept in mind. He related this to the fact that changes are often difficult because an organizations are often committed to a collective labor agreement, to earlier made appointments, and to politics, so the law was taken even broader. All this is confirmed by Strohmeier (2007) who mentioned that organizations are affected by contextual factors like legal conditions when implementing an e-HRM solution. Interestingly enough, research into the comparison between public/private sector companies showed more similarities than differences in IT usage since both sectors use the same general software (Elliott & Tevavichulada, 1999), while respondents working for a public organization emphasized that their organization is not allowed to just implementing any system due to privacy issues.

This relates to the factor that was perceived by HR professionals, which is the fact that companies must anticipate on the growing importance of data privacy. A lot of companies have data in their possession that must be kept confidential, and therefore they are not allowed to just implement any chosen system. Especially, governmental organizations deal with this issue, and they are often strongly monitored.

Implementation phase

Van Geffen et al. (2013) distinguish 3 stages of the implementation phase: preparation, adaptation, and integration. Before and during the implementation, HR professionals are specific about the fact that organizations need to create very strong support from top management (TMS). Also advisory boards with only managers can be developed or close collaborations with HR advisors could be established. They all recognize that TMS is important but all see it from different perspectives. IT professionals are more specific than HR professionals because they feel that support should be streamlined through every level in the organization, so according to them, it has to be carried top-down into the organization. Business leaders differ in their opinion: some mention that the organization should create a sense of urgency, others mention this has to come from top management, and again others feel that you should create TMS and realize, just as the IT professionals mentioned, an encouraging top-down communication structure. In the research from Van Geffen et al. (2013), “Dong, Neufeld, and Higgins

(2009) distinguish 3 types of TMS: TMS-resource provision, which includes providing proper personnel (Sammon & Adam, 2010), the right training facilities (Sammon & Adam, 2010), financial means (Biehl, 2007; Mohdzain & Ward, 2007), time (Pop, 2009); and allowing for cross-organizational implementation teams (Lu et al., 2006); TMS-change management; and TMS-vision sharing, which is needed to stimulate a shared motivation and vision throughout the organization (Lu et al., 2006)” (p.378). It is interesting to see that non of the respondents recognized TMS as combined organizational resources like abovementioned researchers do.

Related to the above factor, creating involvement from the entire organization is perceived as important according to the HR professionals and business leaders, and recognized as shared motivation and vision by Lu et al., in the framework from Van Geffen et al., (2013). HR professionals are more reflecting on the fact that the focus should be on creating support organization-wide, and business leaders stress the importance of creating support by involving the entire organization. E-HRM is expected to be used by all employees in an organization (Bondarouk, 2014). However, it is not possible to involve the entire organization at the same time, because it all starts from the top. The enactment model from Bondarouk (2014) suggests to put the focus on the managerial interventions, so a unified platform can be build. Moreover, “Alongside the influence of the organization context, human actors are also influenced by the e-HRM technology” (Bondarouk, 2014, p.55). Human actors are all those people who (plan, implement and) perform e-HRM, e.g. line managers, HR professionals, employees, and consultants (Strohmeier, 2007).

Added specifically, there are HR professionals who believe that only involvement from the actual users should be created. IT professionals argue that organizations should involve selectively, so only involve the right people. In our opinion, this last comment is too vague, because there is no clear definition of who are considered as ‘the right people’, as this is extremely subjective. Bondarouk (2014) claims that at the level of the individual human actor, user participation has an impact on users’ attitudes toward the e-HRM implementation. In other words, involve the user because that will directly impact the attitude, and therefore the user acceptance. More broadly, Hilaricus (2010) focuses on the individual user characteristics, which cover all other individual resources, i.e. user autonomy (Mirchandani & Lederer, 2008), user IT-skills (Häkkinen & Hilmola, 2008), and IT staff capability (Biehl, 2007), and user attitude (Alaranta & Henningsson, 2007), as discussed in the research from Van Geffen et al., (2013). Most of these user characteristics were perceived by the respondents, except the focus on user autonomy. Van Geffen et al. (2013) recognized the responsibility of the autonomy already in the pre-implementation phase (Pop, 2009). We can explain this by the fact that the focus of the respondents was very much on the total user experience; “how to create a positive user experience?” as discussed in the next paragraph. However, ways to create a positive user experience were not discussed specifically.

Business leaders were of the opinion that an organization should make sure that the system that is being implemented is kept simple. When selecting a system, organizations should try to fill the gap between

what the organization needs from a system and what it can offer. Also, the system should be easy to use. We can explain this by the fact that when a process has become 3 times more complicated, employees will act more resistant and therefore less likely to accept and support, and thereby related work with a new system.

Having a simple system is directly related to the user experience, in which the first obstacle is the adoption (Van Geffen et al., 2013). One way to measure the level of adoption is the level of end-user IT satisfaction (Au, Ngai, & Cheng, 2008; Deng, Doll, Al-Gahtanim, & Larsen; Larsen, 2009), which is considered as a major influence. HR professionals believe that companies should create a positive user experience, while IT professionals feel that organizations have to differentiate user experiences. Meaning that, according to them, a system should not be made too complicated, keep it user friendly and intuitive. Further, an IT professional was of the opinion that a system should be parameterized for users so after implementation, they are able to change variables. Also, users have to be trained in order to be able to work with a new system. Training is acknowledged by Van Geffen et al. (2013) as an organizational resource for both the pre-implementation as well as the implementation phase. HR professionals were also of the opinion that a system should be easy to use, and that it has to be a party to use the system. They did focus more on the intuitive part of a system: organizations should make sure users only need to click a minimum amount of times in order to find what they need.

Communication is another factor that is considered as important perceived by HR professionals and business leaders. In the discussed framework, communication can be found in the implementation phase as part of the integration stage. HR professionals feel that an organization should keep a level of continuous communication, while business leaders argue that companies should customize, improve, and then keep a level of continuous communication, therefore also linked to the post-implementation phase. Related to that, according to Alleyne et al. (2007) organizations should actively collect feedback from users, therefore communicate, whose roles changed due to the new e-HRM systems, in both the pre-implementation, implementation, as well as the post-implementation phase. Bondarouk (2014) perceived that “human action is both facilitated and constrained through communication on the goals of the e-HRM; the extent to which it provides personal outcomes; and, whether there are intrinsic benefits to be gained from using the e-HRM” (p.55). However, HR professionals only stress the continuous communication part, without focusing on a specific time period. A reason could be that HR only sees the positive side of the implementation, and already knows what to expect from the system and therefore do not keep in mind that others in the organization do not have that knowledge.

Solely IT professionals were of the opinion that change management is an important factor to be taken into consideration when implementing a new system. Striking is that Van Geffen et al. (2013) consider change management as an important factor in all 3 phases of implementation. IT professionals believed that companies should follow the rules of change management, when they undergo a culture change.

Further, they believe for that to happen successfully, goals and the thereby related outcomes should be communicated clearly, so employees see the positive change themselves. In that way, people their willingness to change could increase, as mentioned by an IT manager.

Since 2000, people are acknowledged as a key success factor and therefore the awareness for the human aspect improved (Bondarouk & Furtmueller, 2012). HR professionals and business leaders share that opinion. HR professionals focus on the fact that an organization should keep the human side of e-HRM, while business leaders recommend to even prioritize the human side, because systems cannot show emotions and can only be seen as a facilitator. We can explain this by the fact that business leaders have to perform tasks like appraisal talks, or exit interviews more often, and they are aware of the fact that they are the ones that have to communicate with another person directly. Especially during an exit interview, a system cannot fire someone, you still need actual humans for that. In my opinion, this factor can be linked to alignment issues, both situated in the pre-implementation and implementation phase (Van Geffen et al., 2013). In addition, it can be connected to the factor recognized by HR professionals: focus on “warminization”. Employees are the warm side of the organization, and they are getting more important. Therefore, according to HR managers, employees have to be convinced to work with digital systems by for instance sharing advantages with them, focus on social interaction and common values. Employees should also see the usefulness of the system so they get the feeling of really wanting to work digital, and less resistance emerges.

According to HR professionals, organizations should create an interdisciplinary skills pallet, meaning that amongst others, employees have to be agile, and the bottom of the organization should be upgraded to reach a certain level of skills and abilities. Also, an organization should focus on the different generations and their ability to work digital. As well felt by an IT professional who mentioned that organizations should anticipate on different levels of IT skills from future users. In other words, the way of working will change, you cannot expect that all employees have the ability to work with e-HRM systems. Bondarouk (2014) is of the opinion that the skillful and task-consistent operation of the application by the employees in the main indicator of a successful e-HRM implementation. Van Geffen et al. (2013) link the level requirements from employees to the pre-implementation phase. Business leaders feel that employees have to be prepared for new roles that digitalization will bring. It means that they have never worked with IT systems before, and you cannot expect them to just do it without practice. Bondarouk (2014) mentioned that employees should feel comfortable working with it, and then they are fearless of any technological modifications and they appreciate carrying out their tasks with e-HRM. While HR professionals and business leaders are of the same opinion that employees have to be prepared and are more or less able to work digital, the IT professionals directly recognize that not everybody is able to do so. This might relate to the fact that this IT professional knows what skills are needed to work digitally and feel that not everybody it up for that.

Post-implementation phase

Related to all phases of implementation, Cronin, Morath, Curtin, and Heil (2006) state that implementation success is positively influenced by internal marketing and thereby related positive word of mouth. This is also recognized by HR professionals and business leaders as they said that an organization should brand the e-HRM implementation. In addition, HR professionals are of the opinion that a company should romanticize the implementation, by labeling the implementation as only a positive evolution for the whole organization. Business leaders add that the implementation should be kept in people their minds, so up-to-date. However, HR professionals do think that honesty is important, so when an implementation is likely to fail, this has to be mentioned as well. This factor of internal marketing is not directly recognizable in the discussed framework. They do mention IT-business alignment, in both the pre-implementation and implementation phase, but that is more focused on the organizational goals. We could link this to the individual resource: strong motivation, but then as a consequence of positive internal marketing. Referring to the framework its post-implementation phase, the stage of adoption could be measured based upon the effectiveness of internal marketing.

Van Geffen et al. (2013) describe in their framework 2 stages of the post-implementation phase: adoption and results. HR professionals considered the validation of a system as important as they feel it is critical that an organization keeps on validating continuously. The system should be tested over and over beforehand, and when complete, it can be implemented. A way to do this in the pre-implementation phase is to perform a pilot with future users. However, after the implementation, organizations must make sure users really use the system, mentioned as stage of adoption in the framework from Van Geffen et al., (2013). There are several ways to control this, summed up by Strohmeier (2007): An organization can use the Technology Acceptance Model (Huang, Yang, Jin, & Chiu, 2004), the unified theory of acceptance and use of technology (Ruta, 2005), and the theory of usability (Williamson, Lipak, & King, 2003). According to Davis (1989) these acceptance models are independent variables that affect individual attitudes and behavior. Further, digitized processes should be controlled by actual humans to see whether it goes well, since systems are only enablers. A company can also organize workshops in order to gain feedback from the users, as recognized by the HR professionals.

Additional to the discussed framework is revealed by IT professionals: creating harmony in an implementation. This manager felt that by creating harmony between users and the system, this will help to increase the level of a successful implementation. This can be linked to both the implementation, as well as the post-implementation phase.

Reflection on the TOP-framework

This project is part of a larger project where 2 researchers were involved (see D  meijer, 2017). The table below shows similarities of themes between the themes perceived by the 2 researchers. These themes are categorized into technological-, organizational-, and people factors (hereafter called components), as discussed in the article from Bondarouk & Furtmueller (2012). Under the 3 components, implementation factors are noted as 1, and consequences as 2. For example, data quality was perceived as important for the implementation of e-HRM as well as for the consequences of e-HRM. However, in the case of implementation factors the respondents talk about data cleaning and in the case of the consequences the respondents talk about improvement of the data. These 2 themes are linked to each other, because they both refer to data quality. We have done this for every theme in the table. Even though, Bondarouk & Furtmueller (2012) claim that every theme can be categorized under 1 component, it is interesting to see that not all themes perceived from the interviews, can be categorized under 1 specific component.

TABLE 5
Overlap between e-HRM implementation criteria and consequences

	Technology	Organizational	People
Implementation (1)	Similarities between themes		Consequences (2)
Simplification	1 & 2		Efficiency
Standardization	1 & 2		Alignment HRM processes
Change management			1 & 2 Change management
Skills & Abilities			1 & 2 Skills and competences
User experience	1		1 & 2 Service improvements & engagement
Goal orientation		1 & 2	Look to the future & Connection with the strategy
Data cleaning		1 & 2	Improved data
Business case		1 & 2	Cost- & FTE reduction
Human side			1 & 2 Impersonalization
“Warminization”	2		1 & 2 Interaction between managers and employees

The implementation factors are marked as 1, and the consequences as 2.

The first implementation factor *simplification* and consequence *efficiency* are combined. These are related because the simplification of processes due to the implementation of a system leads to efficiency in the HRM processes. Both are categorized under the technological component as they refer to the e-HRM-system.

Next, *standardization* and *the alignment of HRM processes* are linked, because they are both considered as important implementation criteria and consequences. Respondents mention that there first should be an alignment between HRM processes before a system can be implemented, therefore considered as an implementation factor. While other respondents see the alignment of HRM processes as a consequence due to standardization made possible by the implementation. Again, both can be categorized under the technological component as they are linked to the e-HRM-system.

Both considered as an implementation- and consequence theme is *change management*. This refers to the willingness of employees to change their way of work, therefore categorized under the people component. Examples are, that people have to be prepared for the upcoming changes. This can help the people with changing their mindset.

The same accounts for *skills and abilities* (implementation) and *skills and competences* (consequences). Working digitally requires new skills and employees have to be prepared for this before implementation. However, after the implementation, organizations recognized that a new type of employee is needed, possessing new competences. Both are recognized under the people component.

The implementation factor *user experience* is considered as important because the respondents perceived that it is crucial for organizations to implement a system that focuses on- and creates a positive user experience. When there is a positive user experience, the *engagement* will increase, as recognized by the respondents. This leads to a higher level of satisfaction, and employees even experienced *a higher level of HRM-service*. The user experience can be categorized both under the technological as well as the people component, while the consequences are only categorized under the people component. The reason that the user experience is also considered as a technical component is because the systems allows for the user experience to increase.

Next, *goal orientation* (implementation) and *look to the future* together with *the connection with the strategy of the organization* (consequences) are linked. Respondents mention that a clear vision and the reason behind the implementation should be shared by the organization. Other respondents add that also after the implementation a clear vision to the future should be made visible for the employees and should be linked to the strategy of the organization. This can create more support from the employees in the organization. Therefore, these factors are both categorized under the organizational component.

Data cleaning is considered as an implementation factor because respondents believed that all data should be sorted and ordered first before an implementation can take place. Further, *improved data* was recognized as a consequence because due to the e-HRM-system, organizations gain better insights into the data, can see relations and make connections more easily, and have more data available. All together, both are linked to the organization component.

The respondents of this study mention that it is important that the *business case* is balanced for the implementation of an e-HRM-system. It is important to focus not only on the costs but also on the qualitative aspects. As consequences, a lot of respondents argue *cost- and FTE reduction* as an important aspect to take into consideration. Also as a consequence factor it became clear that even though cost reduction is important, but the service-driven side should be kept in mind. Both factors are categorized under the organizational component.

The *human side* of e-HRM should be taking into consideration when implementing a new system. Systems are seen as only a facilitator and respondents believed that humans were still important. A consequence of e-HRM related to the human side is *impersonalization*. Due to the automation of processes, conversations between managers and employees become impersonal, because of the use of a computer. This creates a barrier for an open conversation, and that is what employees still need, according to the respondents. Therefore, both are related to the people component.

The focus on social interaction, also considered as “*warminization*” (implementation) is important according to the respondent in order to gain involvement and to create dynamic talks between managers and employees. Also, this is recognized as a consequence of e-HRM: *interaction between managers and employees*. It is argued that the level of interaction increases because both managers and employees have insights in, for example, appraisal talks, and this creates space for an open conversation. Both are registered under the people component. However, the consequence factor can be also considered under the technology component because due to the system, this interactive level of communication is possible.

Our findings confirm that people are acknowledged as a key successful factor, and the awareness for the human aspect improved during the last couple of years (Bondarouk & Furtmueller, 2012). However, it does not solely depend on the people component, as the respondents recognize the technological component as an important one as well. The combination of both is considered as inevitable.

Extra findings

First, we discussed the similarities between factors. Not all implementation- and consequences could be linked to each other. This is because of the fact that some implementation- and consequences have different meanings and cannot be related to the same overall factor. These “stand alone” implementation- and consequences can be seen in table 4, at the beginning of this chapter.

Limitations

We recognize that our research comes with a couple of limitations. The first one relates to type of research performed. Information that is received from explorative research is judgmental, therefore

subject to bias. To overcome this issue, we discussed every step and our findings together, in order to be on the same line. After each discussion, a feedback session with the senior researcher was planned, so the research was evaluated on a frequent basis. The next limitation relates to type of respondents that participated. Only HR professionals, IT professionals, and business leaders were invited to take part in the interviews. Since the interviews were arranged before we entered the project, we were not able to say something about the type of employee who was invited. Unfortunately, we could not change anything about this during our research, but it is recommended to take this into account for future research. Last, we did not thoroughly specify our results based on the type of organization, but rather established based on the type of employment compared cross-organizations. Therefore, no results have been drawn related to the sector an organization belongs to.

Future research

Based on the limitations of this study, we have some recommendations for future research. In the first place, future research could conduct interviews with employees from lower levels in the organization. With this, researchers gain more different perspectives about the implementation criteria of e-HRM. Further, a comparison about the experience of the e-HRM systems can be made between the higher- and lower levels in the organization. In addition, our research indicates that there is some difference between industries. Future research should examine the similarities and differences in implementation criteria, based on industry or type of organizations (public/private). So, the next step in this research is to go back to the quotes of the respondents and to see whether there is some clustering emerge between industries. With this we can see which implementation criteria are typical for a specific industry or type of organization (public/private). Additionally, future research can rank the implementation criteria based on level of importance. With this step, researchers gain insights in the criteria that have priority based on the perceptions of the respondents and which criteria can wait. Also, future research can dive again into the data of this research, in order to compare the way how people talk. What is their language, their image of e-HRM and their expression about e-HRM implementation criteria? People create their reality based on the way how they talk and their beliefs about implementation criteria.

We also spoke with Patrick Willer, employee of SAP. We discussed our findings and he added some interesting recommendations. The expectation is that many operational HRM processes disappear due to continuous digitization. 1 of Patrick his recommendations for future research is to look at what the obstacles are that impeded the further digitalization of these operational processes. Furthermore, at today's organizations there is less insight in the behavior of the different groups present organizations and their success. Patrick states that at the moment the focus is primarily on the flows of the groups in the organization. For the future, it is important to get insights in, and to manage this behavior of groups and their success. However, at the moment there are no systems or HR analytics that record or examine these data. Patrick recommended to look at how the future will deal with these changes.

6. CONCLUSIONS

We started this research with the idea to find out what is going on in the e-HRM-field, compared to 10-12 years ago. We started to read different overview papers that were available discussing the developments of the implementation- and consequences of e-HRM. This research was inspired by academic curiosity: what was going on 10-12 years ago, and how is the situation at this moment? This research was commissioned by Capgemini Consulting. This collaboration with Capgemini was not a commercial commission, but only developed based on research interest. Capgemini Consulting has arranged the contacts between the University of Twente and the 21 organizations, so that we could conduct the different interviews.

We can conclude that the basic factors for implementation stayed the same, but there are some new answers to these factors. Communication is no longer seen as solely a factor, but business leaders nowadays talk about customized, improved, and a continuous level of communication. Also it is not just involvement anymore, but selective involvement is considered as important. Related to that, researchers talked about the fact that top management support is important, though difficult to achieve. Today, employees talk about streamlined support through all hierarchical levels and that a sense of urgency has to be streamlined. Besides the fact that all 3 functions mentioned that the law should be kept in mind when implementing a new system, data privacy is becoming extremely important nowadays. Organizations are not allowed anymore to just implement any system they want, which holds especially for public companies.

Today, it is also recognized that computers should be seen as facilitators, and cannot think. In other words, organizations should make sure to keep the human side of e-HRM. Implementing a system requires new skills and organizations should anticipate on that. Nowadays, employees feel that organizations should focus on creating an interdisciplinary skills pallet. Not everybody is able to work digital and you cannot just assume that. Further, companies should romanticize the implementation as a good thing, therefore brand the e-HRM implementation towards its users. A way to do this is by focusing on “warminization”, meaning that companies should focus on the warm side of the organization. That might also help to create harmony between users and the system. Lastly, organizations should not just focus on the user experience, but differentiated user experience is nowadays considered as important.

With time passing, it became clear that several factors need to be refined, because the way organizations apply e-HRM changes a lot during the last 10-12 years.

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APPENDIX

Appendix A. Invitation to collaborate



Every year, organizations spend large amounts of money on the implementation of Digital HR. Within some organizations such an implementation simply concerns the digitization of personnel files, while at others it concerns the introduction of an e-learning module, the expansion of direct access opportunities for managers, or the cloud-based integration of social media in the recruitment process. Whatever the Digital HR solution is, the goal is always the same: contribute to HRM and business performance.

But can we take that contribution for granted? No... on the contrary. On a regular basis we read headlines about IT projects that were delivered too late or which exceeded budgets. And even when the implementation was successful, that does not automatically mean that the Digital HR solution actually contributes to HRM and business performance. Consequently, the project is sometimes even terminated after several months.

It remains largely unclear why some organizations do manage to successfully implement Digital HR

and let it contribute to HR and business performance, while others don't. Of course, a blueprint for success does not exist, if only because of the major differences between organizations in terms of the specific HR practices that have been digitized or outsourced, or the maturity of the HRM function in general. From a scientific perspective, also little is known yet about how organizations can actually make Digital HR contribute to HRM and business performance.

In collaboration with Capgemini Consulting, the University of Twente therefore explores the research question:

'What are the prerequisites for Digital HR to contribute to HRM and business performance?'

 Capgemini Consulting

From Digital to Smart Human Resource Management

In October 2016 the results of the study will be presented during the sixth International e-HRM Conference which has the central theme '*From To Digital Smart Human Resource Management*'. After editions in Marseille, Bamberg, Nottingham and New York City, the conference returns to the where it started 10 years ago: the University of Twente. The conference brings together international scientists, business leaders and consultants to exchange the latest ideas and insights in the field of Digital HR.

About the research

The University of Twente and Capgemini Consulting are looking for 25 large Dutch organizations willing to participate in the study. Within each participating organization, three interviews will be conducted: one with an HR leader, one with a Digital HR leader and one with a Business / Finance / IT leader. The interviews will be conducted from January to March 2016. Each interview lasts 1,5 hours max, and will be audio recorded for the purpose of analysis. The interviews will be processed anonymously. Names of participating individuals or organizations will not be mentioned in the publications, and results cannot be traced to specific individuals or organizations, unless explicit permission has been granted.

Why participate?

The insights of the research will help organizations to help develop effective Digital HR strategies and to select effective interventions before, during and after the implementation of Digital HR. Participating organizations receive a detailed research report and (if desired) a personal explanation of results by the researchers

How to participate?

When you agree to participate in the study, the University of Twente will contact you and your colleagues to schedule the interviews. We strive to schedule all the interviews within one organization on the same day and the same location.

Contact

hrm. TECHNOLOGY
& INNOVATION

Prof dr. Tanya Bondarouk
Full Professor HRM
+31 (0)53 489 3666
t.bondarouk@utwente.nl

Dr. Sjoerd van den Heuvel
Assistant Professor HRM
+31 (0)53 489 3494
s.r.h.vandenheuvel@utwente.nl

 **Capgemini Consulting**

Jan Brouwer
Senior Vice President HR Transformation
+31 (0)6 1503 0008
jan.brouwer@capgemini.com

Anita van Oss
Principal Consultant HR Transformation
+31 (0)6 1503 0138
anita.van.oss@capgemini.com



From Digital HR to Performance

Research



General introduction

- Introduction round (mostly – to introduce the research, less – personal)
- Main question: What are the prerequisites for Digital HRM to contribute to HRM- and business performance? (Digital HRM = e-HRM). Presentation on e-HRM-conference, October, UTwente.
- Confidentiality: The interviews will be processed completely anonymous. Names of participants or organisations will not be mentioned in the publications, and results cannot lead back to specific persons or companies. However, when we want to use the name of an organization in publications / reports, permission will be asked.
- Recording: To stimulate analysing, we would like to record this interview: agree? Turn on recorder.

Content introduction

- What is digital HRM for you and what are you doing in this area? History / development? / how far are you, in your estimation, etc.
- What are your goals with digital HR?

Discuss most and least successful digital HR-solutions

- What are the most and least successful digital HR-solutions?
- What are the criteria for making it most or least successful?

Implementation (sketch implementation – digital HRM solution – performance)

- How successful was the implementation itself, most and least successful digital HR-solution?
- What are the specific indicators that made an implementation successful or not?
- Which factors (**prerequisites**) have positively or negatively contributed to the implementation of the Digital HR-solution? In what way? Why? What was unique? How did you resolve negative issues?

HRM-performance

- How does this digital HR-solution contribute to HRM-performance?
- With this view, what is according to you HRM-performance? How do you measure this? How do you know for sure this HRM-performance is due to the digital HR-solution?

- To what extend is the contribution of the digital HR-solution to HRM-performance explicitly measured?
- Which factors (**prerequisites**) play in a role in this contribution? What role? How?

Business performance

- How does the digital HR-solution contribute to Business performance?
- With this view, what is according to you Business performance? How do you measure this? How do you know for sure this HRM-performance is due to the digital HR-solution?
- To what extend is the contribution of the digital HR-solution to business performance explicitly measured?
- Which factors (**prerequisites**) play in a role in this contribution? What role? How?

Wrap up

- Send processed interviews (member check) (after 2 weeks no response, then accepted)
- If a quote or photo will be used in the report, permission is asked
- Invitation 27-28 October – e-HRM conference, send report in the fall
- Business cards & presents
- Who do we speak? 1) HR-leader, 2) Digital HR-leader, 3) Business, IT, finance, relevant for research? In total: 3 persons per organisation)
- Thank the interviewee.

Appendix C. Participating organizations

TABLE 6
An overview of the different interviews

Sector	Function interviewee(s)	Date of interview	Date of transcribing	Time between date of interview and transcribing date (In days)	Duration of interview (In hours:min:sec)	Duration of transcribing (In hours)
Chemical company A	Project Manager & team Leader	11 March 2016	3 May 2016	53	1:12:24	7
Chemical company B	Chief Human Resources Officer & Global Director GBS People Services	6 April 2016	23 May 2016	47	0:43:25	4,5
Consultancy company A	Vice President HR	11 April 2016	20 May 2016	39	0:12:58	1
Consultancy company A	Vice President HR	11 April 2016	20 May 2016	39	0:44:24	4
Bank company A	International Interim HR & Project Manager	3 March 2016	28 April 2016	56	1:30:44	10
Bank company B	Managing Consultant	16 March 2016	31 May 2016	76	1:03:01	6
Bank company B	General Manager HR & Director HR Employment Conditions & Operations	16 March 2016	1 June 2016	77	1:04:29	6
Bank company C	Director HR Policy & Innovation	24 March 2016	26 April 2016	33	1:04:29	6
Bank company C	Manager Shared Services P&O	24 March 2016	1 May 2016	38	1:09:24	6,5
Education company A	Manager HR Innovation & Administration	25 April 2016	7 June 2016	43	0:56:37	5
Education company A	Director Library, ICT Services & Archive	25 April 2016	7 June 2016	43	1:10:35	6
Education company A	Director HR	25 April 2016	6 June 2016	42	1:04:57	5,5
Education company B	Director Corporate Human Resources	15 July 2016	22 July 2016	7	0:59:28	5
Education company B	Manager shared service center HR	15 July 2016	22 July 2016	7	1:07:26	5,5
Energy supplier company A	IT-Manager HR-systems	7 March 2016	26 May 2016	80	1:05:20	6,5
Energy supplier company A	HR-Executive	17 May 2016	3 June 2016	17	0:48:24	5
Energy supplier company A	IT-Manager	17 May 2016	6 June 2016	20	0:56:02	6

TABLE 6
(Continued)

Sector	Function interviewee(s)	Date of interview	Date of transcribing	Time between date of interview and transcribing date (In days)	Duration of interview (In hours:min:sec)	Duration of transcribing (In hours)
Government company A	Department Manager HR & HRM-Advisor	29 April 2016	1 June 2016	33	1:20:33	8
Government company B	Program Director	3 May 2016	27 May 2016	24	1:03:52	6
Government company B	Deputy Head of Service HRM	26 May 2016	30 May 2016	4	0:58:09	5
ICT Company A	Workforce Innovation Consultant & Director HR	10 June 2016	14 June 2016	4	0:58:42	5
ICT Company B	Account Executive	13 June 2016	20 June 2016	7	0:56:25	5
Insurance company A	Director Group Human Resources & Business Development	10 March 2016	27 May 2016	78	1:00:21	6
Insurance company A	Senior People Development Professional	8 April 2016	30 May 2016	52	0:59:33	6
Insurance company A	Team Leader	8 April 2016	3 June 2016	56	1:09:19	7
Insurance company B	Director HR	7 April 2016	10 May 2016	33	0:38:48	4
Insurance company B	Senior Project-manager	7 April 2016	8 May 2016	31	0:26:09	2,5
Insurance company B	Manager Transitions	23 May 2016	29 May 2016	6	0:56:29	6
Insurance company C	Head of Global HR Operations	21 April 2016	2 June 2016	42	1:02:47	7
Public services company A	Director HR, Senior Advisor HRM & E-HRM Program Manager	3 March 2016	24 May 2016	82	0:56:02	6
Public services company B	HR Analytics and Innovation	5 April 2016	3 May 2016	28	1:03:43	6
Public services company B	Program Manager Business Support (HR & Finance)	5 April 2016	8 May 2016	33	0:54:34	5
Public services company B	Director HR Commerce	26 April 2016	26 May 2016	30	0:53:39	5,5
Retail company A	Senior HR Director Group HR	24 March 2016	22 May 2016	59	1:01:15	6
Retail company A	Director Deployment, Corporate IT	24 March 2016	13 May 2016	50	1:16:17	7
Retail company A	Region Manager	25 May 2016	8 June 2016	14	1:04:18	6

TABLE 6
(Continued)

Sector	Function interviewee(s)	Date of interview	Date of transcribing	Time between date of interview and transcribing date (In days)	Duration of interview (In hours:min:sec)	Duration of transcribing (In hours)
Retail company B	HR Business Development Manager	13 April 2016	24 May 2016	41	0:10:51	1
Retail company B	HR Business Development Manager	13 April 2016	24 May 2016	41	0:45:41	4,5
Retail company B	Global Human Resources Manager	13 April 2016	23 May 2016	40	0:41:56	4
Retail company C	Director HR	24 May 2016	31 May 2016	7	0:21:04	1,5
Retail company C	Manager HR-Operations	24 May 2016	31 May 2016	7	0:19:56	1,5
Retail company C	Head of Trade Marketing & E-commerce	25 May 2016	31 May 2016	6	0:49:39	5,5
Total time				1525	38:44:56	222,5
Average time				38	0:58:12	5,6

Appendix D. Methodology

TABLE 7
Participating organizations and their E-HRM tools

	Sector	Number of employees	Local/ Multinational	Operating countries	E-HRM tool	E-HRM experience	HR practices supported by E-HRM
1	Chemical (A)	25,000	Multinational	± 50	SAP Succesfactors	1 April 2014	Leave application, absenteeism, payroll, performance management
2	Chemical (B)	47,000	Multinational	± 80	Oracle platform; Oracle Taleo		Recruitment, performance management, succession management, learning management
3	Consultancy (A)	180,000	Multinational	± 40	Own Apps, MyPath, Successfactors is coming end of 2016	Successfactors is coming end 2016	Performance management, trainings
4	Bank (A)	51,859	Multinational	± 40	Peoplesoft for International and SAP for The Netherlands		Payroll, performance management
5	Bank (B)	52,368	Multinational	± 40	At the moment Peoplesoft and Workday from July 2016		Recruitment, performance management, learning/training, talent management, absenteeism, payroll, assessment process.
6	Bank (C)	3,500	Local	-	Profit from AFAS	1999, 2004, 2008	All processes and practices except
7	Education (A)	2,948	Local	-	Oracle	2006/2007	Performance modules, recruitment, promotion
8	Education (B)	5,837	Local	-	ADP		
9	Energy supplier (A)	7,000	Local	-	Peoplesoft (but are negotiating with Oracle, Succesfactors, Workday and Raet)	1996	Talent management, payroll, absenteeism, reviews, recruitment, learning management, performance management
10	Government (A)	8,666	Local	-	P-Direkt Purple HRM	2009 2015	Salary, strategic personnel planning
11	Government (B)	63,000	Local	-	Own Cloud and Youforce from Raet	1 January 2015	Own details check, study applications, recovery after illness
12	ICT (A)	78,230	Multinational	± 130	SAP		All processes and practices
13	ICT (B)	6,200	Multinational	± 30	Workday	Established in 2005	All processes and practices

TABLE 7
(Continued)

	Sector	Number of employees	Local/ Multinational	Operating countries	E-HRM Solution	E-HRM experience	HR practices supported by E-HRM
14	Insurance (A)	6,700	Local	-	Raet	1 January 2013	Payroll, reviews, performance management, absenteeism, development,
15	Insurance (B)	3,650	Local	-	Oracle	4 April 2016	Talent management, succession-planning, assessment, sick leave, salary administration
16	Insurance (C)	31,530	Multinational	± 20	Used to have Peoplesoft. Now Workday - Implementation phase in The Netherlands	November 2015	All processes localized first, then digitalized core processes
17	Public Services (A)	34,000	Local	-	SAP Successfactors		Recruitment
18	Public Services (B)	49,000	Local	-	SAP Successfactors	2015	Performance management, recruitment, On-boarding
19	Retail (A)	225,000	Multinational	± 6	SAP Successfactors	2012	Performance management, payroll, training, succession planning
20	Retail (B)	155,000	Multinational	± 43	ADP provider on a SAP basis	July, 2006	Payroll, training
21	Retail (C)	650	Local	-	Global Template SABMiller	October, 2015	Performance management, recruitment

Appendix E. Table first level analysis of perceptions of HR professionals

TABLE 8**First level analysis of perceptions of HR professionals about e-HRM implementation factors**

Analysis step	Goals of implementation	Frequency	Examples-Quotes	Results
1. Initial reading	Clear communication	11	<p>Resp 4: "Je kan niet digitaliseren zonder de warme kant daarin te betrekken."</p> <p>Resp 5: "Ja, we hebben altijd al gezegd dat het niet kon."</p> <p>Resp 7: "Daar hebben we een aantal principes met elkaar afgesproken, daar gaan we ons aan vasthouden bij die configuratie, dat helpt iedereen erbij om in diezelfde modus te houden."</p> <p>Resp 10: "Iedereen moet gelijktijdig over iets geïnformeerd worden."</p> <p>Resp 16: "Goed testen en goed communiceren naar de klanten toe, dat er iets gaat veranderen en wat er dan gaat veranderen."</p> <p>Resp 20: "...en het goed onder de aandacht brengen van, waarom doen we dit met elkaar?"</p> <p>Resp 27: "Maar daar leer je ook wel van dat je dus heel veel moet doen in de begeleidende communicatie en toelichting."</p> <p>Resp 28: "...en communicatie, wat zijn de voordelen voor iedereen hè."</p>	<p>Not all digital communication, face-to-face also</p> <p>No open, clear, and honest communication</p> <p>Clear, open communication about what to expect and also appointments were made in order to make sure that everyone was on the same page, regardless of everyone his own principles.</p> <p>Otherwise people feel left out and are less willing to accept new systems</p> <p>If you communicate with the customers about the changes that are about to happen, they are better prepared for the changes that are coming</p> <p>Communicate and be open and honest about what the expectations and goals are</p> <p>Even when the technical part works very well, it is still important that you keep on communicating with the users because there were still many questions after</p> <p>Communicate advantages to users so they can visualize and work towards goals</p>

Continuing: First level analysis of perceptions of HR professionals about e-HRM implementation factors

		Resp 29: "Toch zie je dat communiceren toch heel erg moeilijk is."	If there are more offices, difficult to communicate how the system should be used and therefore not all offices use the system as it is supposed to be used
		Resp 39: "...we gaan nu starten maar hè hier hebben we een chat functie, als je ergens tegenaan loopt, laat het ons weten dan gaan wij kijken hoe we het kunnen oplossen of krijg je op zijn minst een antwoord en net zo als je bij een klantenservice belt met ja..."	When the system is being implemented and used, it is very important to monitor the implementation phase the thereby related usage problems because when you open communicate if usage problems occur, it can be fixed directly, preventing that those problems occur again in the future
		Resp 40: "...dus je moet met hun in gesprek gaan over hoe ziet men, wat zijn mijn journeys elke dag en hoe zie ik dat het meest makkelijk opgelost wordt."	Learn from the mistakes that happen with the new system in order to improve them which will have a positive effect on the users satisfaction level
		Resp 5: "Dat systeem is er wel, maar we gebruiken het niet." Resp 8: "...naar dat je het zo gemakkelijk moet maken, dat mensen het niet alleen zelf willen, niet alleen zelf kunnen maar ook zelf willen hè." Resp 10: "Dan ga je met elkaar het gesprek aan, met elkaar in discussie, je hoort de voors- en de tegens en de argumenten die daarbij zitten. En het is ontzettend dynamisch." Resp 12: "...der zijn voorbeelden rondom die digitalisering is echt gebruiksoverleg ingepland..." Resp 14: "In hoe stel je de vragen. Geen dubbel dingen vragen, dat soort basale dingen."	Waste of money when system is implemented but not used Simplify the processes, thereby make it easy to use, and the users will accept it sooner and better If you talk and discuss with people face-to-face about the changes that are occurring, it will be very dynamique, and therefore people feel involved Involve employees in meetings to explain new processes to increase acceptance Smooth process, no double work, easy to work with for employees

User involvement +
Acceptability

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Resp 18: "Dus wat we nu al doen is dat we die gebruikers de criteria, de requirements ook laten opstellen."	System users can give their input about requirements of the system, and therefore they feel involved, which will increase the acceptance level of the new system
Resp 23: "En dat betekent dat je nu zelf verantwoordelijkheid moet gaan nemen. En zelf ook voor dingen moet gaan zorgen, dat is ingewikkeld en dat gewoon een aantal jaren duren."	Large organization, people first have to see the advantages of taken responsibility before they are able to accept the system and work with it
Resp 27: "En al die andere innovaties zijn overbodig, als we niet medewerkers op dat niveau krijgen."	If you don't get the acceptance of the users, it does not make any sense to innovate even more, because it will not be used, therefore costs a lot of money
Resp 28: "...noem het maar zieltjes winnen, dus zorgen dat mensen enthousiast worden, dat ze het nut ervan inzien, dat ze willen meehelpen, dat ze ook het gevoel hebben dit is het."	User acceptability will user when user is involved in the implementation process. It is very important that there is a high level of acceptance of the end users
Resp 30: "Dus eigenlijk hun al in een vroeg stadium meenemen in de ontwikkeling..."	Gather all ideas from users because they are the ones that will work with the system
Resp 34: "Dat wel centraal altijd voorbereid maar dat was ook vooral training on the job."	Especially in the implementation phase, training on the job is crucial to find mistakes
Resp 37: "Acceptatie, dus kijk, toen wij begonnen, dat was heel onhandig, het leek slim maar het was onhandig, we zijn toen begonnen met een pilot voor het hogere, of eigenlijk, ja voor het hogere management."	If you only involve top management during a pilot, the rest of the organization does not get the feeling that their opinion is valued and therefore this could lead to resistance during the implementation period

Continuing: First level analysis of perceptions of HR professionals about e-HRM implementation factors

		<p>Resp 39: "De organisatie is onvoldoende meegenomen in hier zijn we nou mee bezig en dat doen we daarom."</p> <p>Resp 40: "...na als je iets doet voor de klant is het handig dat de klant ook een zeggenschap heeft."</p> <p>Resp 44: "So if you do not do that properly and just come, this is the solution, even you have a perfect implementation team, it is less successful."</p> <p>Resp 46: "Dan heb je toch een te grote afstand gecreëerd om naar het nieuwe, om naar een nieuwe fase te gaan."</p>	<p>Users throughout the organization were not involved in the implementation process and therefore they were not aware of the advantages and how to handle the system</p> <p>The client is the end user and therefore they should be able to share ideas/thoughts</p> <p>People are not involved in the process before the implementation, and therefore the organization has to listen in a way, in advance to the needs of the users.</p> <p>Users were only involved for 20% but were in the business for 80%, that is why they were less committed to the system because they did not felt appreciated</p>
Process standardization	8	<p>Resp 3: "Om mensen op de het standaard proces te krijgen."</p> <p>Resp 8: "Namelijk eerst vereenvoudigen, eerst opschonen en dan pas naar het nieuwe systeem overgaan."</p> <p>Resp 16: "80% zal in dat standaard proces kunnen, en 20% krijgen we er nooit in of daar moeten we teveel toets en bellen gaan toevoegen, wat we niet willen. En dat zal op papier blijven gaan."</p> <p>Resp 15: "Jongens, maatwerk kost heel veel geld. En maatwerk is natuurlijk ook heel foutgevoelig ook."</p> <p>Resp 20: "One size fits all en dat past gewoon niet altijd."</p>	<p>Since the systems have to be used, processes will be standardized</p> <p>In order to standardize processes more succesfully and thereby leading to a smooth transformation to a new system</p> <p>It will not be possible to standardize all processes. Some processes still have to be executed on paper. If you want to standardize the other 20%, this will have to be customized and that will cost a lot of money</p> <p>If processes are not standardized it will cost a lot of money, and one of the main reasons that organizations want to implement e-HRM is cos reduction</p> <p>Too many people, too many opinions, standardization of processes not possible</p>

Continuing: First level analysis of perceptions of HR professionals about e-HRM implementation factors

Support from the users	15	Resp 23: "...we moeten eerst standaard organiseren voordat we maatwerk kunnen leveren."	Lot of different functions, standardization is first needed but then must be tailored
		Resp 30: "Idealiter zou zijn dat je standaardiseert voordat je een nieuw systeem krijgt."	If most processes are standardized the implementation process is more fluently
		Resp 34: "...we gaan dat maatwerk pakket van X meer naar de standaard markt brengen."	Standardization is much cheaper and less complex
		Resp 39: "Dus in die zin geen one size fits all."	There are different ways to get to Rome
		Resp 3: "...zeer sterke support van senior leadership."	Support from senior leaders needed to successfully implement
		Resp 2: "Dus de business draagvlak is er ook."	Business should accept systems in order to successfully implement
		Resp 10: "En de onderkant moet daar ook in meegroeien, dus de onderkant die probeer je iedere keer te upgraden."	All employees throughout the organization should be involved and grow with the rest of the organization in order to have a succesful e-HRM implementation.
		Resp 5: "Dus het heeft ook te maken met stakeholder management."	Involving stakeholders from the start will help to avoid unnecessary mistakes
		Resp 9: "...in je keuzeproces al de uiteindelijke gebruikers, dat zijn dus, in het keuzeproces wat je gaat bouwen of kopen."	When the users are involved from the start, the level of support will like increase
		Resp 15: "Heel erg draagvlak organiseren, meenemen, dus groot project." en "Ga eerst maar eens spuien. Wat vinden jullie van het huidige systeem? Wat zou daar anders beter kunnen?"	Support is created by making stakeholder groups. In that way, different stakeholders can say their thoughts and ideas regarding the e-HRM implementation. In that way, it will increase the support and thereby the acceptance.
		Resp 16: "Dus ze zien wel direct de nadelen, ze zien de voordelen niet direct. Die hobbels, dat is het moeilijkste."	Difficult to get support from the start, customers of the system should be convinced that the system will be a positive tool to make work more easy

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		<p>Resp 18: "Uh, je moet commitment hebben vanuit lijnmanagement, vanuit diverse stakeholders, vanuit RVB, he dus je moet wel het gevoel hebben dat iedereen staat er ook achter."</p> <p>Resp 20: "Dat draagvlak ook gewoon beter te krijgen. We zijn natuurlijk een enorme organisatie breed verspreid dus om te zorgen dat iedereen ook echt denkt: hey, dat is goed..."</p>	<p>You need to create support from all users in the organization, whatever their hierarchical position is, because they all have to work with it</p> <p>Support from the users will lead to a better understanding why systems are being implemented, and therefore the users will support the implementation better</p>
		<p>Resp 23: "...als het tot veel belasting, beleving van belasting leidt, dan is het draagvlak ervoor daalt tegelijkertijd hé."</p>	<p>It should be user friendly, and then the user support will automatically rise</p>
		<p>Resp 28: "Dus wat we doen zorgen dat we van hoog tot laag de bank dus een onderdeel van X, uh deelgenoot maken van dit project."</p>	<p>Involve all users in the implementation project, so from low to high in the organization because when users feel involved they are more willing to accept</p>
		<p>Resp 29: "Wat zijn jullie ideeën, wat zijn jullie wensen, daar zijn we mee begonnen."</p>	<p>Involvement of the users will sooner lead to acceptance of new systems</p>
		<p>Resp 35: "Maar de workshop gaven de mensen invloed, een idee van invloed, en uiteindelijk was het ook hun proces geworden. En zo hebben we een stuk draagvlak gecreërd."</p>	<p>If the users feel that their ideas are being heard, then they feel more special, therefore their support for the implementation will be high</p>
		<p>Resp 39: "Dus we hebben wel onderschat hoeveel begeleiding managers en medewerkers toch nodig hadden om dit goed te doen. Dus we hebben te weinig draagvlak creatie gedaan."</p>	<p>Users did not receive any support during the first weeks and therefore there was no support from the users towards the implementation</p>
		<p>Resp 45: "...de duidelijke visie en investeren in draagvlak creëren, dus what is in it for me?"</p>	<p>When you share the vision, users know which way to go, and what their benefits are</p>
Predefined targets/goals	12	<p>Resp 3: "Dat je gewoon hele duidelijke meetbare doelstellingen ook hebt."</p>	<p>Clear measurement goals makes it easy to measure successful implementations</p>

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Resp 2: "Ik heb wel alle pijn en niet alle voordelen wat zijn jullie eigenlijk aan het doen?"	When users experience the benefits, the more likely they will accept it
Resp 12: "...daar hebben we eerst heel duidelijk een pilot meegedaan."	A pilot shows you where problems occur, so you have the opportunity to adapt
Resp 5: "Je moet vanaf het begin af aan kijken wat sluit aan bij hoe het in het."	What do we really need? Saves time and money
Resp 9: "...een groep van managers als klankbord panel gebruiken en een nauwe samenwerking met HR-adviseurs."	Involve end-user to find out whether the implementation is feasible and enforceable
Resp 18: "...wij proberen gewoon de mensen hun werk te behouden, maar we gaan wel gewoon tien procent meer genereren."	From the start, there is a goal of generating ten percent, this will lead to the fact that people don't have to be fired but receive ten percent more work
Resp 25: "Dus de focus moet op de why liggen, vooral bij implementatie van dit soort zaken."	If the users know the goal, they feel more motivated to reach it
Resp 27: "Weten waar de vlag is geplant, en hoe gaan we daar met zijn allen naartoe werken"?	If the users know the goal, they feel more motivated to reach it
Resp 29: "Maar het begint ook wel bij de juiste visie weet je wel? De juiste specialisten die weten wat ze willen."	If you don't know what you want you cannot possible work towards a goal, let alone let the whole organization work towards the same goal
Resp 40: "Het geeft heel veel helderheid over wat willen we dit jaar bereiken en daarmee kan je sturen."	Predefine your target and goals and share them with the users, this will also make it easier for them to understand what is expected of them
Resp 44: "First make clear what you want..."	First, describe the goal and then look deeper into the process
Resp 45: "We moeten ook her en der de visie waar we naartoe willen laten zien."	Important for the satisfaction of users to know the advantages of the system

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Change management	10	Resp 11: "Ja, mensen voorbereiden op datgene wat er anders gaat en ze daarop wijzen wat de voordelen daarvan zijn."	Prepare people beforehand that they have to change and make sure that they see the advantages instead of the disadvantages.
		Resp 2: "Dus het wordt toch eens tijd voor misschien anders denken."	New mindsets, open for change
		Resp 4: "Dus ik moet zorgen dat ik mensen heb die agile zijn, die willen veranderen."	Agile people deal with change positively
		Resp 5: "We hebben een heleboel generaties over de vloer."	Not one size fits all, you need to keep different age groups in mind
		Resp 15: "Dus we stimuleren ze om erin mee te gaan en wij zijn natuurlijk ook al aan het vlootschouwen. Als managementteam van HR weten we al donders goed, dit zijn degene die al vanzelf meegaan."	Find out beforehand who are able to handle change. Then it will be easier to keep the right people. Further, the quantity of employees will decrease but the quality will increase
		Resp 27: "...maar dus de mindset van kan iets digitaal of iets makkelijker en daarmee beter dus niet versimpelen om te versimpelen, maar versimpelen om komen we dan meer tot de kern, dat zit hier nog niet in onze genen."	Difficult to change the mindset of employees in order for them to see the positive goals of the e-HRM implementation and not only the way towards it
		Resp 34: "En hoe goed je het dan ook implementeert, blijft het toch altijd iets van ik krijg iets als manager in mijn mik geschoven waar ik niet om gevraagd heb."	Difficult to change the attitude of managers because they were not asked to change their daily tasks and now they have to perform extra, like HR tasks
		Resp 37: "Maar voor het overgrote gedeelte, die denken daar begint langzaam het besef van oh ja wacht eens even: dit gaat een impact hebben."	When people realize that changes are about to come that will have an influence on their job, they become aware that they have to change in order to keep their job
		Resp 44: "It is a heavy change process and you better anticipate on that."	Prepare users, this is what will come, and this is why etc. in order to create support

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It's not all digital	9	Resp 45: "Want het is ook een verandering van een manier van werken op sommige vlakken."	Job descriptions change, people have more responsibilities
		Resp 4: "Je gebruikt de digitale oplossing, maar het persoonlijke is heel erg belangrijk."	E-HRM is not stand alone, you need human contact
		Resp 12: "Denk bijvoorbeeld aan loonheffingskorting, je hebt mensen waar extra loonheffing ingehouden dat soort zaken. Dat proces is nooit 100% te automatiseren."	There are too many different type of contracts, situations, people in order to automate each process and make it digital.
		Resp 15: "Dus dat moet multidisciplinair samengewerkt worden."	If there is no cooperation, e-HRM is doomed to fail
		Resp 16: "Maar automatiseren betekent niet dat je nergens meer verantwoordelijk voor bent."	There is still a human factor needed in order to perform the job
		Resp 20: "Maar de menselijke factor is ook nog wel een ding. Want het is gedigitaliseerd maar der zitten inderdaad nog controlemechanismen aan die zijn van P-Direct in de vorm van mensen die kijken of het goed gaat."	Even when all processes are digital, you still need actual human beings in order to check whether everything goes and flows as it is meant to
		Resp 25: "Maar eigenlijk te zeggen van, het is niet e-HR meer, maar e-Human."	Combination of digital and human aspects leads to successful implementation
		Resp 28: "Kijk dat performance managementsysteem gaat niet voor ons die analyse doen. Sorry dat learning platform. Die gaat niet voor ons die analyses doen."	Combination of the right data and human knowledge creates a good data analysis in order to find relationships between variables
		Resp 29: "Veel mensen bij onze organisatie die denken joh we kopen een nieuw systeem, en dat systeem gaat voor ons dat hele, ja talent management doen, en dan zijn wij van alle problemen af, weet je."	A system is only a helpful tool in order to make processes more easier to perform, but you still need human in order to fill in the data and act upon results that the system is able to give you
Cost aspect	3	Resp 40: "Het is te ingewikkeld. Dus randvoorwaarde voor mij is laat payroll buiten scope."	Very complex, does not make it less complex by digitalizing into new system
		Resp 5: "Dus was er geen budget."	No budget calculation, therefore implementation failed

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		Resp 8: "Dus kostenbewust zijn is belangrijk, kostenbesparing is belangrijk, maar niet tot aan ieder maximale."	Cost aspect is very important but it should not be the only measurement for determining whether implementing a particular e-HRM system.
		Resp 16: "Oja en het moet niet te duur zijn."	A balance should be made between costs and quality of the system
		Resp 18: "Dat ik denk van ja leuk bedacht, maar de praktijk is weerbarstiger, de werkelijkheid is toch altijd net wat complexer dan een simpel scenario modelletje van finance."	You cannot measure everything based on costs. In real life, it is way more complex. Not always quantitative but often also qualitative gains
Skills and abilities	10	<p>Resp 3: "We gaan nieuwe competenties ontwikkelen."</p> <p>Resp 9: "...hebben we meer senior HR-adviseurs nodig, zwaardere HR-adviseurs."</p> <p>Resp 7: "Die medewerker die niet wil of kan mee in die digitale, ja dat is, misschien erg zwart/wit, maar eigenlijk is dat de medewerker die misschien ook ergens anders moet gaan werken."</p> <p>Resp 15: "Nee, sommige wel niet allemaal dezelfde mensen. Nee, dat kan niet. Dus die moeten zich of ontwikkelen of daar gaan we iets anders mee doen."</p> <p>Resp 20: "...juist dit punt van hebben de mensen dan wel voldoende opvlieghoogte om die nieuwe rol te vervullen."</p> <p>Resp 27: "Uh kennis en kunde van HRM zelf. He dus het kunnen omgaan met die digital tools."</p>	<p>The right competences for e-HRM are not inhouse You need the right people for the job to get the best result</p> <p>If the employees are not able to work with digital systems, or are not willing to, then the level of resistance will increase, and thereby the level of acceptance will decrease, costing the organization a lot of money.</p> <p>Not all employees are able to work with e-HRM and therefore other functions have to be found in order to make sure a better suited position is found</p> <p>When you don't have the right people in house, the system cannot be used as it supposed to be used, and then the costs are higher than the benefits</p> <p>Not all employees have the right skills, and therefore you have to find skilled people</p>

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		Resp 29: "Je wil ze aankondigen, over 2 jaar heb je geen baan meer joh we kunnen je helpen om je te ontwikkelen naar een ander niveau."	With the implementation of systems new skills and abilities are needed, and the organization can help to retrain employees for new positions
		Resp 30: "Dat betekent dat mijn service mensen een kwaliteitsslag omhoog moeten maken."	You need the right skilled people who are able to get the most out of the system
		Resp 33: "Er wordt te makkelijk vanuit gegaan dat je met je huidige populatie ook dat ambitieniveau kan realiseren en dat is natuurlijk niet perse zo."	Not everyone is able to work with digital systems, it could be possible that the organization needs to hire a different type of HR professional
		Resp 37: "Een deel van de mensen heeft de stap wel kunnen maken en een deel is vertrokken."	End up with a selection of motivated skilled people, thereby increased satisfaction
User-friendliness	12	Resp 7: "...om makkelijker te ontsluiten voor eindgebruikers. Klik, klik, klik en ik krijg mijn rapportje."	Easy to use for the end-users, less resistance
		Resp 3; "En nu moet heel erg de focus worden op user experience, op vereenvouding, op makkelijker integratie."	Keep it simple, user will accept the system because it is more easy to use
		Resp 12: "Je heb een bepaald pla waar jij over vijf jaar wilt staan met jouw groep en je ziet dat met bepaalde mensen volgens mij ga je dat niet waarschijnlijk niet redden en je ziet instroom van andere komen, je ziet bepaalde mensen doorgroeien, bepaalde mensen wil je verder ontwikkelen."	Not all employees have the right skills and abilities in order to work with the new system. Therefore, manager should filter employees who are able to work with it, and make sure that other people find another place in the organization. If you don't have the right skills and abilities inhouse, the implementation is difficult.
		Resp 15: "Ons, niet te veel ballast erbij. Gewoon eenvoudig, makkelijk, zodat het gesprek waarover het moet gaan dat het dat faciliteert."	If the system is up-to-date and easy to use, thereby user friendly, this will not be a burden during a conversation, and therefore the focus can really be on the core

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		Resp 18: "...het moet een feest voor de gebruiker zijn om snel, efficiënt en doeltreffend datgene te doen wat je wilt dat het systeem moet doen."	If it is easy, efficient and effective, the amount of user problems will decrease. Eventually leading to a positive implementation process, with lower costs
		Resp 23: "...maar ook gebruikersvriendelijk is hé."	If not user friendly, people will more likely refuse to work correctly with the system
		Resp 27: "En bij de gebruikersvriendelijkheid kan je ook gewoon de productiviteit verhogen."	The productivity of the employees will increase when the system is user friendly
		Resp 29: "Ja houd het eenvoudig."	Keep it simple, complex systems will not be used correctly, not user friendly
		Resp 37: "Ik denk dat de sleutel daar toch elke keer wel zit in nou die gebruiker, gebruikersvriendelijkheid."	If the system is not user friendly, the users are less willing to work with the system and therefore the level of resistance and dissatisfaction will increase
		Resp 39: "Successfactors de startpagina moest je vier, vijf keer doorklikken voordat je eigenlijk in het formuliertje was waar je eigenlijk moest zijn."	If the user has to click too many times in order to find what he or she is looking for then it is considered as inefficient and then the system will not be used
		Resp 40: "Dus voor mij is de, wat je eigenlijk probeert te doen met de seamless interfaces is dat je het aantal klikken is gewoon niet meer dan 2, het is intuïtief."	Users only have to click one or two times in order to find the page they are looking for, which makes the system more easy and quick to use
		Resp 45: "Je komt toch meer op het systeem, maar dat er gewoon echt goed moeten doortesten."	Test the system before actual implementation, too make sure that all bugs are out
Business case	4	Resp 8: "Er is op abstract niveau onderzoek gedaan, we zijn in de voorfase niet diep genoeg gegaan in het onderzoeken en de devil is in details."	No solid throughtout business case, therefore to many failures during implementation process
		Resp 2: "Don't even bother for the business case, doe het gewoon."	Just implement a system based on gut feeling is a huge risk, and failure is possible

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		<p>Resp 7: "En dat vervolgens zo positioneren het gaat jou helpen in plaats van je krijgt iets door je strot geduwd. Pas daar je missie in. Uh, dus die overtuiging moet je hebben. En daarin ook wel vasthouden."</p> <p>Resp 27: "He dat was ook aan de business case, we investeren in een systeem, want dan zou HR ook afnemen in omvang."</p>	<p>If you stick to the business case you made, and belief in it, this will automatically transfer to the users minds. As long as you believe in the worth of the system, the users also will follow</p> <p>If you stick to the business case, it will be difficult to think rational, since it is possible that the implementation of e-HRM give different results than anticipated</p>
Rules & regulations	9	<p>Resp 11: "Wat wij ook wel merken is dat we als bank steeds zwaardere eisen opgelegd..."</p> <p>Resp 12: "Nou gezien onze complete wet- en regelgeving in Nederland."</p> <p>Resp 20: "...wat een belangrijk issue is, is de veiligheid en het risico dat iemand bij onze spullen kan komen."</p> <p>Resp 23: "Wij niet als HR, maar dat zijn de collega's van andere diensten zoals ICT en dat moet natuurlijk allemaal met de grootste veiligheidszorg worden omgeven."</p> <p>Resp 29: "...en wat is noodzakelijk vanuit wet- en regelgeving?"</p> <p>Resp 33: "Wij zijn in de omgeving waar natuurlijk strak gemonitord wordt door DNB."</p> <p>Resp 34: "Komt weer een wettelijke aanpassing..."</p>	<p>Bank should follow specific rules & regulation, the law, and therefore this does affects the implementation flow</p> <p>Difficult to automate all processes due to the law in The Netherlands</p> <p>The law can have a great influence on the type of system an organization can implement because their are strict rules regarding privacy</p> <p>Large government organization, lot of rules and procedures, takes a lot of time in order to implement a new e-HRM system organizationwide</p> <p>Combination of requirements of a good sytem from both business and law</p> <p>Not all that the organization wants to achieve is possible because it is restricted</p> <p>When there are changes in the law for a specific position, the system should also be able to make these changes fast so it will not costs a lot of time and money</p>

Continuing: First level analysis of perceptions of HR professionals about e-HRM implementation factors

Resp 40: "En payroll is iets wat, is zo transsectioneel is dermate complex maar ook nog eens heel lokaal."

Every country has its own rules and regulations when it comes to payroll and therefore for this company it was better not to standardize it into a system

Resp 44: "They have a quite difficult labour law situation."

For multinationals it is difficult to implement the same e-HRMsystem in all the countries where they are located in because every country applies a different law

Data-management	5	Resp 15: "Dat heb ik heel erg bij ING geleerd. Basis op orde. Zeiden ze, HR had natuurlijk altijd de mond vol van HR als business partner. Dan riep de directie van ING, zorg eerst maar dat die salarisstrook op orde is."	Before being able to take a seat at the table, it is important that you all have all the data you need and make sure its sorted and ordered
		Resp 5: "Zorg nou eerst dat alle data en al erin zit."	Set first things first, if the data is not correct/complete, e-HRM is not feasible
		Resp 23: "Kijk wij zijn eigenlijk nog volop bezig om onze basis op orde te krijgen."	Set first things first, if the data is not correct/complete, e-HRM is not feasible
		Resp 28: "Wij missen echt wel. wij moeten echt die basis gaan opbouwen."	Set first things first, if the data is not correct/complete, e-HRM is not feasible
		Resp 44: "We have to get to set all the basics in place now..."	Set first things first, if the data is not correct/complete, e-HRM is not feasible

Appendix F. Table first level analysis of perceptions of IT professionals

TABLE 9
First level analysis of perceptions of IT professionals about e-HRM implementation factors

Factors of implementation	Examples-Quotes	Remarks
1. Too complicated to digitalize	Resp 6: "In plaats van ellenlang als je dat zou automatiseren krijg een menu van, een keuzemenu van 20 lagen diep, dus dat is niet zo."	It is not possible to digitalize every HRM process because then it is possible to lose human contact, which is very important in an organization
2. Systems cannot perform the difficult tasks, like exit interview	Resp 19: "Dus in dat opzicht zou het wel een deel kunnen vervangen, alleen het helpen en het coachen bij toch de moeilijke gesprekken ja, dat is toch vaak mens."	You cannot digitalize every process, because for instance assessment talks still need to be done by human being since actual contact is needed for especially difficult talks
3. Data cleaning	Resp 6: "De datakwaliteit is data completeness, data correctness, data, dat is gewoon een heel lijstje die je hebt. En dat is echt succes, want als je het niet op orde hebt, dan kun je het proces ook niet testen."	It is extremely important to first have all the correct data, because otherwise if you implement a new system, the outcomes are not reliable since the data is not, and therefore you cannot have a truly successful implementation
4. Quality of the data	Resp 41: "De implementatie is de kwaliteit van de data is heel key."	If you do not have data of a good quality your implementation will not succeed
5. Active involvement of business sponsor	Resp 6: "En dat is 1 van de onderdelen van agile, dat je dus de top, de business sponsor is in het project, die zit gewoon periodiek in het project en denkt mee over de besluitvorming. En dat is echt een key succesfactor."	Top management support is crucial in order to successfully implement an e-HRM system, because they make the decisions and therefore the process of deciding can go fast and with big steps at the same time
6. Don't make it too complicated	Resp 13: "Ga het niet te ingewikkeld maken."	Keep it simple, in that way the support of users will increase
7. Top-down support important for change	Resp 41: "...dit soort veranderingen plaatsvinden werken toch in dit soort organisaties makkelijkste als het van bovenaf naar beneden geblazen wordt."	If top management supports the system and carries this throughout the organization, it is more likely that other users will also support the system."
8. Privacy laws should be taken into consideration	Resp 13: "...die Cloud providers moeten wel, ja voldoen aan alle privacywetgeving..."	Most researchers do not want their data in the Cloud, because it does not feel safe
9. Regular government control on administration	Resp 41: "...van de Nederlandse overheid, omdat wij daarmee, omdat we de administratie goed op orde hebben en de overheid komt gemiddeld 50 keer per jaar controleren."	Government has a lot of rules and regulations that the organization should keep in mind and therefore, this is an important matter to be taken into account during implementation
10. Make it parameterised for the user	Resp 13: "Dat was ook wel nieuw omdat zo, zeg maar parametrizeerbaar voor de gebruiker te maken."	Lot of different people, organization tried to make is as flexible as possible for each individual, therefore it makes the process very easy for the user

Continuing: First level analysis of perceptions of IT professionals about e-HRM implementation factors

11. User friendly and intuitive	Resp 17: "Naja het eerste wat in me opkomt is het gebruikersvriendelijkheid dat is wel 1 van de randvoorwaarden dat het gewoon intuïtief..."	If the system is user friendly and intuitive, people are more willing to use the system, but for this to happen, the system must be easy to use
12. HR does not decide for me that I have to work digital	Resp 19: "Dan ja hoezo bepaald HR dat ik het opeens digitaal moet doen, want dit werkte hartstikke goed."	The users have to change their way of working and want to know: what is in it for me? If doing the same job now with the use of a system takes more time than before than at least the process should go smoother in order for them to accept the system
13. No mistakes should be made, don't make it complicated	Resp 41: "...maak het niet te complex. Mensen moeten geen fouten kunnen maken."	Keep it simple, people should not be able to make mistakes because the system is easy
14. Business case should not only be focused on money	Resp 13: "Maar een business case is niet alleen geld hè?"	A business case should focus on the strategic contribution, in order to realize the strategy
15. Stay within the budget	Resp 17: "Van hoe hebben begroot en pas het binnen de kosten."	If the implementation process stays within budget, it can be considered as successful
16. Are people willing to change?	Resp 13: "Nou ja, wat altijd wel een punt is, is mensen bereidt om anders te werken."	People have to be prepared that changes are about to come, resulting in different jobs
17. Culture change - don't spoil employees anymore	Resp 17: "...ik denk cultuuromslag dat het niet meer u vraagt maar draaien is en niet meer het pampieren en van we bouwen alles voor je na."	Users are not spoiled by HR anymore and have to perform more tasks themselves which requires a changed mindset
18. Sell the change to employees	Resp 41: "Waar mijn belangrijkste aspect zit is dat wij, is het verandermanagement want voorheen deden we het ook al, iedereen op zijn wijze. Wij verkopen veranderingen niet goed of kunnen beter laat ik het zo zeggen."	Not every employee reacts good to changes, and it is the task of an organization to try to prepare employees that changes are about to come and what will change
19. Create hamony between the users and the system	Resp 17: "Als daar iedereen zegt van ja het, ja het staat en we kunnen ermee werken en het loopt goed en we hebben het gewoon in goede, naja harmonie..."	Implementation is considered as successful when all users have accepted the system, see the advantages and are more then willing to work with it on a regular basis
20. Training how to use the system	Resp 19: "En dan klik je en dan werkt het niet, en dan zegt iemand tegen mij van ja je moet het even zo doen, zo en zo."	Without proper training during an implementation period, it will be very difficult for users to work with the new system, and it can be a dissatisfier to actually work with it
21. Don't involve everyone, but only the right people	Resp 41: "Is dat uh de juiste mensen uh bij de inrichting van het configureren van een systeem en betrokken zijn."	It is important to involve users all throughout the organization because they are the ones that will be working with the system and likely have good thoughts

Continuing: First level analysis of perceptions of IT professionals about e-HRM implementation factors

22. Don't say the advantages after the implementation	Resp 19: "Terwijl, als je van tevoren zegt van nou we hebben het digitaal en dan kan je terugkijken en dan draagt het wat makkelijker over..."	The organization should state clear in advance what the advantages for the users will be so they now where to work for
23. Clear communication of goals and thereby related outcomes	Resp 41: "Na klaar dat spreken we met elkaar af. Dat moet gewoon heel helder zijn wat daar, wat, ook gevolg is van de uitkomst en dat moet doen..."	Organization should be clear about the goals and targets they want to achieve in order to make sure all users are on the same line and understand what they are doing
24. You cannot expect that all employees have the ability to work with e-HRM systems	Resp 19: "...er zit een aanname dat iedereen, geacht wordt dat iedereen op een bepaald niveau zitten, en dat zou moeten kunnen."	Not all employees are able to change their way of working. Also, not everybody has the ability to work with digital systems and you cannot expect this of everyone

Appendix G. Table first level analysis of perceptions of business leaders

TABLE 10
First level analysis of perceptions of business leaders about e-HRM implementation factors

Factors of implementation	Examples-Quotes	Remarks
1. Only standardize processes which are executed in the same way by employees	Resp 1: "Recruitment doet men in de wereld op de manier waarop men denk dat hij dat moet doen."	Processes too complicated to digitize, because everybody follows his own idea of how it should be executed
2. It is important to show how the system works, and what kind of changes it will bring	Resp 1: "Want je kan wel zeggen vanaf dit moment hebben we een ander proces, hebben we een anders tooltje of andere rol, maar dat is wat we ook zeggen de verschil tussen geloof verkondigen of het geloof belijden."	Only communicating that there is a new system is not enough. You really have to show how the system works and explain the thereby related consequences
3. You should have the right skilled people in-house	Resp 1: "En misschien hebben we ook wel niet de juiste expertise daarvoor In huis."	Not every employee has the skills & abilities to work digital
4. Make sure you have the resources to realize digitalization	Resp 1: "Dat je de resources hebt omdat te kunnen realiseren, zowel kwalitatief als kwantitatief."	If you don't have the resources, like funding, the implementation process will most likely fail
5. Create a sense of urgency	Resp 1: "Als men het niet belangrijk vind ja dan kun je nog zo goed project draaien en nog zulke goede mensen aan boord hebben maar dan krijg je het niet van de grond."	If there is no sense of urgency, people are less willing to pay any interest for digitalization, and therefore the implementation will fail
6. Create top-management support	Resp 1: "Ja omdat die heel erg moet kunnen helpen in de sense of urgency van de raads van de organisatie te bepalen."	If there is no top-management support, creating organization-wide support is even more difficult
7. Keep the human aspect in mind	Resp 1: "Je kan het mooiste system hebben, op het moment zeg maar het menselijke aspect en de interactie tussen medewerker en manager er niet is, gaat het niet werken."	A system cannot perform tasks like appraisal talks, so interaction remains very important
8. Implement a new system step by step	Resp 1: "Want anders ben je je aan het overeten en dan lukt het niet. Dus doe dat stapje voor stapje."	Take it step by step in order to, amongst others, increase the acceptance level of employees
9. Make sure the resistance to HR does not influence the implementation	Resp 1: "Dus het is wel leuk dat jullie dat willen vanuit HR maar de tijd die ik daaraan besteed of moet besteden om verlofaanvraag goed te keuren of whatever."	Not all employees accept job enlargement just because HR tells them to
10. Involve the business	Resp 1: "Doe dat nou niet in een hok met allemaal HR mensen, maar betrek daar ook de business bij."	Important to involve the business during the implementation, because they are the ones that have to work with the new system
11. Start with the question: what we want to reach	Resp 1: "Dat het daar begint. Welk probleem willen we oplossen?"	Always keep the goal of the implementation in mind

Continuing: First level analysis of perceptions of business leaders about e-HRM implementation factors

12. A system should unburden employees	Resp 22: "Dus definieer van tevoren ook maar eens even van als het niet voldoet aan die en die eisen, ja dan gaan we het verder ook niet doen."	The system should unburden the employee, and if this does not happen, do not implement
13. Keep the system simple	Resp 22: "Beperk je bij het vastleggen van de gegevens dat die gegevens die nodig zijn voor de uitvoering van de dienst, die ik nodig heb om wettelijke taken te verrichten, houdt het simpel."	Only digitize processes which are used often and keep it simple for the users
14. Perform a user-acceptance test	Resp 22: "En voer het alleen in als je een hele goede gebruikersacceptatie test hebt gedaan."	Test the user acceptance level, and implement the system is the results are very positive
15. Connect applications to a certain extent	Resp 22: "Zorg dat je op een aantal essentiële onderdelen de connectiviteit met andere applicaties goed hebt geregeld maar ook weer niet teveel."	In this governmental organization, a lot of changes happen, and therefore the system should adapt quick and easy
16. Keep in mind that a system cannot deal with employees emotions	Resp 22: "Want die wil niet de aandacht hebben van een system dat jou ondersteunt. Die wil aandacht hebben van jouw als persoon."	Especially for this organization, they have to deal with human emotions, and a system is not able to do this
17. When implementation, keep the collective labour agreement, and all other law related rules and regulations in mind	Resp 24: "Veranderingen zijn hier altijd nog steeds lastig omdat ze altijd in heel veel organisaties aan CAO gebonden zijn, aan afspraken, aan politiek en allerlei regeltjes die vrij moeilijk in het systeem te vatten zijn."	The law should be followed, and therefore organizations are not always free to do what they feel is best for them
18. Create top-management support	Resp 24: "...het moet executive gedragen worden."	You need to create top management support in order to let the crowd accept the new system
19. Realize a corporate culture culture	Resp 24: "...het is een leiderschapscultuur die nodig is dat mensen gewoon een verandering doorgaan."	In order for people to be willing to change, the culture of the whole organization has to change
20. It is a just a matter of branding	Resp 24: "Nee het is juist fantastisch dat je zelf erbij kan doen. Dus je positioneert het op een hele, dit is gewoon branding."	Convince employees that it is a great thing that they will be allowed to do more tasks on their own
21. Know beforehand why you want to digitize	Resp 24: "...waarom willen wij een nieuw project doen."	Keep the goal in mind, because this will give you a guidance to keep everyone on the same track
22. A system is only a facilitator	Resp 26: "Ja kijk, een systeem blijft natuurlijk een systeem."	A system only facilitates, humans are needed
23. Prepare HR professionals what their role will become more strategic	Resp 26: "Wat je ook moet hebben is dat een HR professional zich in zeg maar in de strategie op eenzelfde niveau gaat zetten als bijvoorbeeld de CFO."	HR professionals have to be prepared that their roles will change, and thereby become more strategic
24. Data cleaning before you can implement	Resp 26: "...dus dan moet de organisatie zelf het projectteam of wie daar dan bij betrokken zijn, die moeten dus zelf aan de slag om ontbrekende data of niet correcte data toch op te leveren."	If the data is not complete or correct, you cannot implement an e-HRM system successfully

Continuing: First level analysis of perceptions of business leaders about e-HRM implementation factors

25. Select a system based on the type of organization you work for: public or private	Resp 26: "...ministeries vinden het lastig dat dat, om hun personeel, van ambtenaren personeel gegevens in de Cloud te doen."	Governmental organizations have to comply with a lot of privacy issues driven by the law
26. Prepare managers that their role will change	Resp 31: "...want die moeten toch op een andere manier hun beoordelingen gaan doen dan dat ze dat nu gewend waren."	The role of managers will change because they will receive more tasks and they should be prepared for this
27. Create support all throughout the organization	Resp 31: "Wat denk ik wel het belangrijkste is dat het project en breed gedragen wordt binnen HR, dus dat echt binnen elke afdeling zijn mensen direct betrokken en de lijntjes zijn ook heel kort hè?"	Make sure the whole organization is prepared to work with the new system, by involving employees from every department should in the implementation process
28. Find out who is able to work digital and who is not	Resp 31: "we zien dat we minder mensen nodig hebben, maar ook een ander type mens hè?"	Not every employee can make the change towards digitalization fluently
29. Keep the implementation up-to-date in peoples minds	Resp 31: "...één van de belangrijkste dingen is denk ik, het moet actueel blijven."	In order to not forget the goal of the implementation, you should keep it up-to-date
30. Make sure the systems adds value for employees to develop	Resp 31: "...het moet er wel echt iets toevoegen."	The system should deliver added values for employees to develop new competencies
31. Communicate during the implementation to clarify the upcoming changes for users	Resp 32: "Dat je, communicatie vind ik een belangrijke, maar dat is meer in de implementatie, dat je mensen goed kan meegeven, duidelijkheid hebt."	Provide clarity for employees by communicating before and during the implementation
32. First, do a pilot with team managers before implementation	Resp 32: "...dus ik zou heel erg snel kiezen voor een pilot."	First, do a test run with team managers, then they get more confident, and you can test the system
33. Involve the whole organization in the project, or at least communicate what will happen	Resp 38: "...is dat iedereen betrokken is bij het project, vanaf een vroeg stadium ook, of in ieder geval op de hoogte is."	Involve, or least communicate towards everyone the proceedings of the new project
34. Let the client explain to everyone that is involved, why the system will be implemented	Resp 38: "...dat we aan het begin de opdrachtgever laten uitleggen waarom we dit project gaan doen, aan iedereen die bij dat project zit."	The client can explain future users the advantages of the system and this could increase the acceptance level of those users
35. Create strong leadership support, and realize an encouraging top-down communication structure	Resp 38: "Ik vind leiderschap ook wel een randvoorwaarde, dus dat ook wel van bovenaf toch wel wordt gecommuniceerd van hè, dit is de kant die we op willen."	If there is top-down support, employees know what is expected of them and feel supported and encouraged to use the system
36. A system cannot think, so keep in mind that you still need humans	Resp 42: "Dus het is dus de combinatie van het fijne van digitaliseren, maar ook de persoonlijke noot, die hoort er wel in."	A system can give you results but the interpretation of those results must be done by actual humans

Continuing: First level analysis of perceptions of business leaders about e-HRM implementation factors

37. Form a project group with people from every discipline	Resp 42: "Ja, daar moet de vertegenwoordigers van alle disciplines in zitten."	To know what you are going to implement, people from disciplines all throughout the organization have to be in the project group
38. Be clear towards the users why you implement a new system	Resp 42: "Dus je moet heel helder hebben van waarom we iets doen."	Intrinsic motivation determines whether people will accept
39. Create a different type of discipline amongst users	Resp 42: "Dat eist een complete ander soort discipline."	Employees need to gain a different type of discipline
40. Create dynamic talks between users so they can ask, but also answers, questions to/from each other	Resp 42: "Maar als je ze in een groep zet, dan zie je dat ze het aan elkaar gaan uitleggen en dat het de meeste effectieve vorm is om kennis op te doen."	If you put people in a same room, dynamic talks will happen and they can ask questions related to their own experiences and in that way, a lot of knowledge is gained instead of just reading a manual
41. Increase the employee self-service (ESS)	Rep 43: "...who used the data for your best and I think you get easily spoiled at a point of time."	Employees are used to the fact that HR does a lot for them and they are sort of spoiled, increase ESS
42. Fill the gap between what the organization needs from a system and what that system can offer	Resp 47: "Dus na de implementatie zag je toch dat er wel een aantal gaps zaten tussen hoe wij eigenlijk werken en hoe, datgene wat het systeem ondersteunde."	Check carefully what a system offers and how that contributes to the organizational processes in a positive way
43. First, look at the processes in the organization at this moment, and how a system can support those	Resp 47: "...voordat je überhaupt begint met bouwen of uitrollen dat je een heel goede analyse maakt dus hoe processen momenteel gaan..."	If a system offers different tools that do not enable an organization to work more efficient, then a system should not be implemented at all
44. Share with all employees why you have chosen for a particular system and how it can help them to support their tasks	Resp 47: "...als je dat van tevoren duidelijk in kaart brengt en deelt en communiceert en zegt dat het ondanks dat het toch belangrijk is of het gebruikt wordt, dan is de kans denk ik groot dat dat ook gebeurt."	If you explain beforehand what the system can do for employees, and the positive changes it can bring, employees are more likely to accept the system and are more open to work fit it
45. Make the system as easy to use as possible in order to create support from the users	Resp 47: "...en hij logt dan in dat het drie keer ingewikkelder is geworden, ja dan krijg je natuurlijk minder draagvlak."	If the system is very complicated to use, users will less likely adopt it, and keep on working the same they always have done
46. Go back two steps and explain in detail what will change, and what the systems entails exactly	Resp 47: "...gewoon aangeven van nou ja, het hele proces bestaat uit een aantal sub-processen, zo zitten die nu in elkaar, zo gaat dat straks..."	If you share with the users what the sub-processes are and what at the end, the benefits will be, they will become aware of the positive changes, and feel more satisfied

Appendix H. Table second level reading of perceptions of HR professionals

TABLE 11
Second level analysis of perceptions of HR professionals about e-HRM implementation factors

	Final factors	Factors of implementation	Examples-Quotes
1	Focus on “warminization”	1. Involve the warm side of the organization: social interaction and common values 2. Create dynamic talks with each other and discuss the pros and cons 3. Make users enthusiastic, let them see its usefulness so they want to help, and get the feeling: this is it 4. Try to let employees see more advantages than disadvantages when implementing 5. Share the advantages of the system before implementing 6. Make sure there is no resistance towards managers	Resp 4: "Je kan niet digitaliseren zonder de warme kant daarin te betrekken." Resp 10: "Dan ga je met elkaar het gesprek aan, met elkaar in discussie, je hoort de voors- en de tegens en de argumenten die daarbij zitten. En het is ontzettend dynamisch." Resp 28: "...noem het maar zieltjes winnen, dus zorgen dat mensen enthousiast worden, dat ze het nut ervan inzien, dat ze willen meehelpen, dat ze ook het gevoel hebben dit is het." Resp 16: "Dus ze zien wel direct de nadelen, ze zien de voordelen niet direct. Die hobbels, dat is het moeilijkste."
2	Romanticize the implementation	7. Be honest when you think the implementation will fail 8. Inform all employees at the same time 9. Bring attention to the fact why the system will be implemented 10. Communicate the system its advantages to the users 11. Prepare employees about the changes that are about to happen and what the advantages will be	Resp 5: "Ja, we hebben altijd al gezegd dat het niet kon." Resp 10: "Iedereen moet gelijktijdig over iets geïnformeerd worden." Resp 20: "...en het goed onder de aandacht brengen van, waarom doen we dit met elkaar?" Resp 28: "...en communicatie, wat zijn de voordelen voor iedereen hè." Resp 11: "Ja, mensen voorbereiden op datgene wat er anders gaat en ze daarop wijzen wat de voordelen daarvan zijn."

Continuing: Second level analysis of perceptions of HR professionals about e-HRM implementation factors

3	Keep continuous communication	<p>12. After installing the technology part, communicate with users how to work with it</p> <p>13. Even though, communication with the employees is difficult, keep on doing it</p> <p>14. Direct communication with HR-advisors will go faster</p> <p>15. Keep on communicating on a daily basis to solve any occurring issues directly</p> <p>16. Convince the users that the system will help them with their work and combine this with mission</p> <p>17. Collaborate multidisciplinary by involving different levels of users</p>	<p>Resp 27: "Maar daar leer je ook wel van dat je dus heel veel moet doen in de begeleidende communicatie en toelichting."</p> <p>Resp 29: "Toch zie je dat communiceren toch heel erg moeilijk is."</p> <p>Resp 39: "...we gaan nu starten maar hè hier hebben we een chat functie, als je ergens tegenaan loopt, laat het ons weten dan gaan wij kijken hoe we het kunnen oplossen of krijg je op zijn minst een antwoord en net zo als je bij een klantenservice belt met ja..."</p> <p>Resp 40: "...dus je moet met hun in gesprek gaan over hoe ziet men, wat zijn mijn journeys elke dag en hoe zie ik dat het meest makkelijk opgelost wordt."</p> <p>Resp 7: "En dat vervolgens zo positioneren het gaat jou helpen in plaats van je krijgt iets door je strot geduwd. Pas daar je missie in. Uh, dus die overtuiging moet je hebben. En daarin ook wel vasthouden."</p> <p>Resp 15: "Dus dat moet multidisciplinair samengewerkt worden."</p>
4	Standardize all HRM-processes	<p>18. Set principles commonly, so everybody is on the same trail during implementation</p> <p>19. Make sure users follow standard processes when using the system</p> <p>20. Try to standardize as many processes as possible</p> <p>21. First organize a standard before applying customized processes</p> <p>22. First standardize before you implement a system</p> <p>23. Transfer all the customized processes into a more standardized system</p>	<p>Resp 7: "Daar hebben we een aantal principes met elkaar afgesproken, daar gaan we ons aan vasthouden bij die configuratie, dat helpt iedereen erbij om in diezelfde modus te houden."</p> <p>Resp 3: "Om mensen op de het standaard proces te krijgen."</p> <p>Resp 15: "Jongens, maatwerk kost heel veel geld. En maatwerk is natuurlijk ook heel foutgevoelig ook."</p> <p>Resp 23: "...we moeten eerst standaard organiseren voordat we maatwerk kunnen leveren."</p> <p>Resp 30: "Idealiter zou zijn dat je standaardiseert voordat je een nieuw systeem krijgt."</p> <p>Resp 34: "...we gaan dat maatwerk pakket van X meer naar de standaard markt brengen."</p>

Continuing: Second level analysis of perceptions of HR professionals about e-HRM implementation factors

5	Keep on validating the system continuously	24. Test the system beforehand and communicate to customers what will change	Resp 16: "Goed testen en goed communiceren naar de klanten toe, dat er iets gaat veranderen en wat er dan gaat veranderen."
		25. Make sure the users really use the system	Resp 5: "Dat systeem is er wel, maar we gebruiken het niet."
		26. Make sure the system is complete before implementation	Resp 14: "In hoe stel je de vragen. Geen dubbel dingen vragen, dat soort basale dingen."
		27. Before implementing, do a pilot with the users	Resp 12: "...daar hebben we eerst heel duidelijk een pilot meegedaan."
		28. After implementation, keep the human factor, by controlling the digitized processes and look whether it goes well	Resp 20: "Maar de menselijke factor is ook nog wel een ding. Want het is gedigitaliseerd maar der zitten inderdaad nog controlemechanismen aan die zijn van P-Direct in de vorm van mensen die kijken of het goed gaat."
		29. Organize workshops in order to gain feedback from the users to improve the system	Resp 35: "Maar de workshop gaven de mensen invloed, een idee van invloed, en uiteindelijk was het ook hun proces geworden. En zo hebben we een stuk draagvlak gecreeërd."
6	Create a positive user experience	30. Make sure you test the system over and over	Resp 45: "Je komt toch meer op het systeem, maar dat er gewoon echt goed moeten doortesten."
		31. Make the system easy to use so the users really want to use the system	Resp 8: "...naar dat je het zo gemakkelijk moet maken, dat mensen het niet alleen zelf willen, niet alleen zelf kunnen maar ook zelf willen hè."
		32. Focus on a positive user-experience, make the system easy to use	Resp 3; "En nu moet heel erg de focus worden op user experience, op vereenvouding, op makkelijker integratie."
		33. Create a positive user experience in order to increase the support	Resp 23: "...als het tot veel belasting, beleving van belasting leidt, dan is het draagvlak ervoor daalt tegelijkertijd hé."
		34. Make sure the system can let the employee perform his task fast, efficient, and goal-oriented	Resp 18: "...het moet een feest voor de gebruiker zijn om snel, efficiënt en doeltreffend datgene te doen wat je wilt dat het systeem moet doen."

Continuing: Second level analysis of perceptions of HR professionals about e-HRM implementation factors

	35. Keep the system simple, easy to use, and up-to-date	Resp 15: "Ons, niet te veel ballast erbij. Gewoon eenvoudig, makkelijk, zodat het gesprek waarover het moet gaan dat het dat faciliteert."
	36. Make sure to have a user-friendly system	Resp 27: "En bij de gebruikersvriendelijkheid kan je ook gewoon de productiviteit verhogen."
	37. Keep the system simple to use	Resp 29: "Ja houd het eenvoudig."
	38. Make sure the system is user-friendly	Resp 37: "Ik denk dat de sleutel daar toch elke keer wel zit in nou die gebruiker, gebruikersvriendelijkheid."
	39. There should only be a few clicks to find what you are looking for	Resp 39: "Successfactors de startpagina moest je vier, vijf keer doorklikken voordat je eigenlijk in het formuliertje was waar je eigenlijk moest zijn."
	40. Make sure there are not more than two clicks in order to find what you need	Resp 40: "Dus voor mij is de, wat je eigenlijk probeert te doen met de seamless interfaces is dat je het aantal klikken is gewoon niet meer dan 2, het is intuïtief."
	41. Make sure users only need a few clicks to find what they are looking for	Resp 7: "...om makkelijker te ontsluiten voor eindgebruikers. Klik, klik, klik en ik krijg mijn rapportje."
7	Create involvement of users	
	42. Involve all future users in the implementation process	Resp 12: "...der zijn voorbeelden rondom die digitalisering is echt gebruiksoverleg ingepland..."
	43. Let the users develop the system its requirements in order to fully support their work	Resp 18: "Dus wat we nu al doen is dat we die gebruikers de criteria, de requirements ook laten opstellen."
	44. Involve the users in an early stage of the development	Resp 30: "Dus eigenlijk hun al in een vroeg stadium meenemen in de ontwikkeling..."
	45. Involve users all throughout the organization, from low to high positions	Resp 37: "Acceptatie, dus kijk, toen wij begonnen, dat was heel onhandig, het leek slim maar het was onhandig, we zijn toen begonnen met een pilot voor het hogere, of eigenlijk, ja voor het hogere management."
	46. The system is for the users, so naturally the users should have a say in it	Resp 40: "...na als je iets doet voor de klant is het handig dat de klant ook een zeggenschap heeft."

Continuing: Second level analysis of perceptions of HR professionals about e-HRM implementation factors

	47. Involve the users in every step of the implementation process	Resp 44: "So if you do not do that properly and just come, this is the solution, even you have a perfect implementation team, it is less successful."
	48. Involve all users who have to work with the system in the implementation process	Resp 46: "Dan heb je toch een te grote afstand gecreëerd om naar het nieuwe, om naar een nieuwe fase te gaan."
	49. Take the organization with you in the process of this is what we are doing and this is the reason why	Resp 39: "De organisatie is onvoldoende meegenomen in hier zijn we nou mee bezig en dat doen we daarom."
	50. Involve the end user in the process of choosing a system	Resp 9: "...in je keuzeproces al de uiteindelijke gebruikers, dat zijn dus, in het keuzeproces wat je gaat bouwen of kopen."
	51. Before implementing, ask users about their ideas and wishes	Resp 29: "Wat zijn jullie ideeën, wat zijn jullie wensen, daar zijn we mee begonnen."
	52. Involve all users in the organization and make them part of the implementation project	Resp 28: "Dus wat we doen zorgen dat we van hoog tot laag de bank dus een onderdeel van X, uh deelgenoot maken van dit project."
8	Create an interdisciplinary skills pallet	<p>53. Employees will receive more responsibilities and should be prepared for this</p> <p>54. You should make sure employees reach a certain level of abilities in order to be able to innovate</p> <p>55. Perform training on the job in order to learn the system</p> <p>56. Upgrade the bottom so they grow with the organization</p> <p>57. Convince the users that they can keep their job but they have to generate 10% more</p> <p>58. Make sure employees are prepared to think differently</p> <p>59. Make sure employees are agile</p> <p>Resp 23: "En dat betekent dat je nu zelf verantwoordelijkheid moet gaan nemen. En zelf ook voor dingen moet gaan zorgen, dat is ingewikkeld en dat gewoon een aantal jaren duren."</p> <p>Resp 27: "En al die andere innovaties zijn overbodig, als we niet medewerkers op dat niveau krijgen."</p> <p>Resp 34: "Dat wel centraal altijd voorbereid maar dat was ook vooral training on the job."</p> <p>Resp 10: "En de onderkant moet daar ook in meegroeien, dus de onderkant die probeer je iedere keer te upgraden."</p> <p>Resp 18: "...wij proberen gewoon de mensen hun werk te behouden, maar we gaan wel gewoon tien procent meer genereren."</p> <p>Resp 2: "Dus het wordt toch eens tijd voor misschien anders denken."</p> <p>Resp 4: "Dus ik moet zorgen dat ik mensen heb die agile zijn, die willen veranderen."</p>

Continuing: Second level analysis of perceptions of HR professionals about e-HRM implementation factors

60. Make sure all generations are able to work with the system	Resp 5: "We hebben een heleboel generaties over de vloer."
61. Make sure you have the right competences in-house	Resp 3: "We gaan nieuwe competenties ontwikkelen."
62. Look at the employability in the organization, who are able to change?	Resp 15: "Dus we stimuleren ze om erin mee te gaan en wij zijn natuurlijk ook al aan het vlootschouwen. Als managementteam van HR weten we al donders goed, dit zijn degene die al vanzelf meegaan."
63. Before implementing, look which employees you think are able and willing to change and focus on them	Resp 7: "Die medewerker die niet wil of kan mee in die digitale, ja dat is, misschien erg zwart/wit, maar eigenlijk is dat de medewerker die misschien ook ergens anders moet gaan werken."
64. Prepare users that the change will have a direct impact on their daily work	Resp 37: "Maar voor het overgrote gedeelte, die denken daar begint langzaam het besef van oh ja wacht eens even: dit gaat een impact hebben."
65. Prepare users that a huge change in their work is about to come	Resp 44: "It is a heavy change process and you better anticipate on that."
66. New type of HR-advisors are needed	Resp 9: "...hebben we meer senior HR-adviseurs nodig, zwaardere HR-adviseurs."
67. Prepare future users that their way of working will change	Resp 45: "Want het is ook een verandering van een manier van werken op sommige vlakken."
68. Look whether you have the right skilled employees in-house who are able to work digital	Resp 20: "...juist dit punt van hebben de mensen dan wel voldoende opvlieghoogte om die nieuwe rol te vervullen."
69. Prepare employees that there jobs will disappear and that they have to develop themselves	Resp 29: "Je wil ze aankondigen, over 2 jaar heb je geen baan meer joh we kunnen je helpen om je te ontwikkelen naar een ander niveau."
70. Make sure that users still feel responsible for the same processes after digitizing	Resp 16: "Maar automatiseren betekent niet dat je nergens meer verantwoordelijk voor bent."
71. You should keep in mind that not all employees are able or willing to work with digital tools	Resp 33: "Er wordt te makkelijk vanuit gegaan dat je met je huidige populatie ook dat ambitieniveau kan realiseren en dat is natuurlijk niet perse zo."

Continuing: Second level analysis of perceptions of HR professionals about e-HRM implementation factors

		72. Which employees are likely to stay and can develop and who will leave the organization?	Resp 12: "Je heb een bepaald plan waar jij over vijf jaar wilt staan met jouw groep en je ziet dat met bepaalde mensen volgens mij ga je dat niet waarschijnlijk niet redden en je ziet instroom van andere komen, je ziet bepaalde mensen doorgroeien, bepaalde mensen wil je verder ontwikkelen."
		73. Make sure that the service employees increase the level quality they deliver	Resp 30: "Dat betekent dat mijn service mensen een kwaliteitsslag omhoog moeten maken."
9	Make sure to start with data cleaning	74. Simplify processes, by data cleaning	Resp 8: "Namelijk eerst vereenvoudigen, eerst opschonen en dan pas naar het nieuwe systeem overgaan."
		75. First make sure all useable data is in the system	Resp 5: "Zorg nou eerst dat alle data en al erin zit."
		76. Create a basis for your data	Resp 23: "Kijk wij zijn eigenlijk nog volop bezig om onze basis op orde te krijgen."
		77. First, have a basis of data before implementing	Resp 28: "Wij missen echt wel. wij moeten echt die basis gaan opbouwen."
		78. Clean the data first and have the basics in place	Resp 44: "We have to get to set all the basics in place now..."
		79. Have your data all sorted and ordered	Resp 15: "Dat heb ik heel erg bij ING geleerd. Basis op orde. Zeiden ze, HR had natuurlijk altijd de mond vol van HR als business partner. Dan riep de directie van ING, zorg eerst maar dat die salarisstrook op orde is."
10	Keep processes customized and if possible, on paper	80. Digitize only processes that become more efficient for users then it was on paper	Resp 16: "80% zal in dat standaard proces kunnen, en 20% krijgen we er nooit in of daar moeten we veel te veel toeters en bellen gaan toevoegen, wat we niet willen. En dat zal op papier blijven gaan."
		81. Try to only standardize the processes that make the work more efficient	Resp 20: "One size fits all en dat past gewoon niet altijd."
		82. There are different ways to get to Rome – keep customized processes	Resp 39: "Dus in die zin geen one size fits all."

Continuing: Second level analysis of perceptions of HR professionals about e-HRM implementation factors

		83. Make sure to not digitize all processes, as some processes cannot be automated 100%	Resp 12: "Denk bijvoorbeeld aan loonheffingskorting, je hebt mensen waar extra loonheffing ingehouden dat soort zaken. Dat proces is nooit 100% te automatiseren."
		84. Keep processes on paper which you cannot digitize	Resp 40: "En payroll is iets wat, is zo transsectioneel is dermate complex maar ook nog eens heel lokaal."
11	Create top-management support streamlined through hierarchical levels	85. Make sure you have a very strong support from senior leadership	Resp 3: "...zeer sterke support van senior leadership."
		86. Use a group of managers as an advisory board and have a close collaboration with HR-advisors	Resp 9: "...een groep van managers als klankbord panel gebruiken en een nauwe samenwerking met HR-adviseurs."
12	Focus on creating support from the business, organization-wide	87. You need support from the business	Resp 2: "Dus de business draagvlak is er ook."
		88. Involve the different stakeholders as much as needed	Resp 5: "Dus het heeft ook te maken met stakeholder management."
		89. Create support by first asking users what they think of the current system and what could be improved?	Resp 15: "Heel erg draagvlak organiseren, meenemen, dus groot project." en "Ga eerst maar eens spuien. Wat vinden jullie van het huidige systeem? Wat zou daar anders beter kunnen?"
		90. Gain commitment from line-management, from different stakeholders, from RVB, from everybody	Resp 18: "Uh, je moet commitment hebben vanuit lijnmanagement, vanuit diverse stakeholders, vanuit RVB, he dus je moet wel het gevoel hebben dat iedereen staat er ook achter."
		91. Especially for large organizations, create support organization-wide	Resp 20: "Dat draagvlak ook gewoon beter te krijgen. We zijn natuurlijk een enorme organisatie breed verspreid dus om te zorgen dat iedereen ook echt denkt: hey, dat is goed..."
		92. Guide users, both employees and managers in the use of the system to create more support	Resp 39: "Dus we hebben wel onderschat hoeveel begeleiding managers en medewerkers toch nodig hadden om dit goed te doen. Dus we hebben te weinig draagvlak creatie gedaan."
		93. Have a clear vision and answer the users question: what's in it for me?	Resp 45: "...de duidelijke visie en investeren in draagvlak creëren, dus what is in it for me?"
13	Know why you want- and the reason behind implementing a new system	94. Set clear measurable goals beforehand	Resp 3: "Dat je gewoon hele duidelijke meetbare doelstellingen ook hebt."

Continuing: Second level analysis of perceptions of HR professionals about e-HRM implementation factors

	95. From the start, what do we really want to realize?	Resp 5: "Je moet vanaf het begin af aan kijken wat sluit aan bij hoe het in het."
	96. Focus on the 'why' of the implementation	Resp 25: "Dus de focus moet op de why liggen, vooral bij implementatie van dit soort zaken."
	97. Set goals, know them, and then discuss how to work towards them	Resp 27: "Weten waar de vlag is geplant, en hoe gaan we daar met zijn allen naartoe werken?"
	98. Have the right vision and the right specialists who know what they want	Resp 29: "Maar het begint ook wel bij de juiste visie weet je wel? De juiste specialisten die weten wat ze willen."
	99. Set targets as this creates clarity what the organization wants to reach, and this can guide users	Resp 40: "Het geeft heel veel helderheid over wat willen we dit jaar bereiken en daarmee kan je sturen."
	100. First, make clear what you want by defining and communicating desired targets/goals	Resp 44: "First make clear what you want..."
	101. Here and there, show the vision where you want to go to	Resp 45: "We moeten ook her en der de visie waar we naartoe willen laten zien."
	102. Change the mindset: Don't simplify to simplify, towards we simplify in order to reach the goals	Resp 27: "...maar dus de mind set van kan iets digitaal of iets makkelijker en daarmee beter dus niet versimpelen om te versimpelen, maar versimpelen om komen we dan meer tot de de kern, dat zit hier nog niet in onze genen."
14	Keep the human side of e-HRM	Resp 25: "Maar eigenlijk te zeggen van, het is niet e-HR meer, maar e-Human."
	103. Combine electronic with humans	
	104. Make sure to still keep personal contact, as this is important	Resp 4: "Je gebruikt de digitale oplossing, maar het persoonlijke is heel erg belangrijk."
	105. You still need actual humans to do the analyses as systems are not able to	Resp 28: "Kijk dat performance managementsysteem gaat niet voor ons die analyse doen. Sorry dat learning platform. Die gaat niet voor ons die analyses doen."
	106. Make sure employees do not think that systems are able to do HR-practices by themselves without needing human control	Resp 29: "Veel mensen bij onze organisatie die denken joh we kopen een nieuw systeem, en dat systeem gaat voor ons dat hele, ja talent management doen, en dan zijn wij van alle problemen af, weet je."

Continuing: Second level analysis of perceptions of HR professionals about e-HRM implementation factors

		107. Make sure not to just digitize all HR-practices because some still need human control	Resp 40: "Het is te ingewikkeld. Dus randvoorwaarde voor mij is laat payroll buiten scope."
15	Balance the business case	<p>108. Make sure you have a clear set budget</p> <p>109. Be focuses on cost saving, but not too the max, as there are more important aspects</p> <p>110. When selecting a system, now what you are allowed to spend</p> <p>111. Make sure that you also measure the system based on qualitative gains</p> <p>112. The business case should go deep into every detail</p> <p>113. Just implement the system, do not bother to make a business case</p> <p>114. Keep the business case in mind, but stay rational</p>	<p>Resp 5: "Dus was er geen budget."</p> <p>Resp 8: "Dus kosten bewust zijn is belangrijk, kostenbesparing is belangrijk, maar niet tot aan ieder maximale."</p> <p>Resp 16: "Oja en het moet niet te duur zijn."</p> <p>Resp 18: "Dat ik denk van ja leuk bedacht, maar de praktijk is weerbarstiger, de werkelijkheid is toch altijd net wat complexer dan een simpel scenario modelletje van finance."</p> <p>Resp 8: "Er is op abstract niveau onderzoek gedaan, we zijn in de voorfase niet diep genoeg gegaan in het onderzoeken en de devil is in details."</p> <p>Resp 2: "Don't even bother for the business case, doe het gewoon."</p> <p>Resp 27: "He dat was ook aan de business case, we investeren in een systeem, want dan zou HR ook afnemen in omvang."</p>
16	Keep the law in mind	<p>115. Depending on the type of company, certain governmental demands have to be followed</p> <p>116. When implementing, lots of rules and regulations should be kept into consideration regarding data</p> <p>117. Make a combination of the systems requirements from both business needs and law</p> <p>118. Be prepared that when law changes, the system should be able to adapt quickly</p>	<p>Resp 11: "Wat wij ook wel merken is dat we als bank steeds zwaardere eisen opgelegd..."</p> <p>Resp 23: "Wij niet als HR, maar dat zijn de collega's van andere diensten zoals ICT en dat moet natuurlijk allemaal met de grootste veiligheidszorg worden omgeven."</p> <p>Resp 29: "...en wat is noodzakelijk vanuit wet- en regelgeving?"</p> <p>Resp 34: "Komt weer een wettelijke aanpassing..."</p>

Continuing: Second level analysis of perceptions of HR professionals about e-HRM implementation factors

		119. For multinational, adapt the system in each country to their specific labour law	Resp 44: "They have a quite difficult labour law situation."
		120. Keep the law in mind because not all processes may be automated	Resp 12: "Nou gezien onze complete wet- en regelgeving in Nederland."
17	Anticipate on the growing importance of data privacy	121. Be aware of the fact that a lot of data is private and should be kept confidential	Resp 20: "...wat een belangrijk issue is, is de veiligheid en het risico dat iemand bij onze spullen kan komen."
		122. In case this happens, keep in mind that the organization is monitored tightly	Resp 33: "Wij zijn in de omgeving waar natuurlijk strak gemonitord wordt door DNB."

Appendix I. Table second level reading of perceptions of IT professionals

TABLE 12
Second level analysis of perceptions of IT professionals about e-HRM implementation factors

Final factors	Factors of implementation	Examples-Quotes
1. Keep in mind that digital is not always the answer	1. Processes are too complicated to digitize	Resp 6: "In plaats van ellenlang als je dat zou automatiseren krijg een menu van, een keuzemenu van 20 lagen diep, dus dat is niet zo."
	2. Systems cannot perform tasks like humans can	Resp 19: "Dus in dat opzicht zou het wel een deel kunnen vervangen, alleen het helpen en het coachen bij toch de moeilijk gesprekken ja, dat is toch vaak mens."
2. Make sure you have clean and qualified data	3. Data cleaning	Resp 6: "De datakwaliteit is data completeness, data correctness, data, dat is gewoon een heel lijstje die je hebt. En dat is echt succes, want als je het niet op orde hebt, dan kun je het proces ook niet testen."
	4. Quality of the data	Resp 41: "De implementatie is de kwaliteit van de data is heel key."
3. Involve selectively	5. Active involvement of top management	Resp 6: "En dat is 1 van de onderdelen van agile, dat je dus de top, de business sponsor is in het project, die zit gewoon periodiek in het project en denkt mee over de besluitvorming. En dat is echt een key succesfactor."
	6. Don't involve everyone, but only the right people	Resp 41: "Is dat uh de juiste mensen uh bij de inrichting van het configureren van een systeem en betrokken zijn."
4. Differentiate user experience	7. Don't make the system too complicated	Resp 13: "Ga het niet te ingewikkeld maken."
	8. User friendly and intuitive	Resp 17: "Naja het eerste wat in me opkomt is het gebruikersvriendelijkheid dat is wel 1 van de randvoorwaarden dat het gewoon intuïtief..."
	9. Make it parameterised for the user: able to change the system after the implementation by changes variables	Resp 13: "Dat was ook wel nieuw omdat zo, zeg maar parametriseerbaar voor de gebruiker te maken."
	10. No mistakes should be made, don't make the system too complicated	Resp 41: "...maak het niet te complex. Mensen moeten geen fouten kunnen maken."
	11. Train users how to use the system	Resp 19: "En dan klik je en dan werkt het niet, en dan zegt iemand tegen mij van ja je moet het even zo doen, zo en zo."
5. Streamline support through all hierarchical levels	12. Top-down support important for change	Resp 41: "...dit soort veranderingen plaatsvinden werken toch in dit soort organisaties makkelijkste als het van bovenaf naar beneden geblazen wordt."
6. Keep the law in mind	13. Privacy laws should be taken into consideration	Resp 13: "...die Cloud providers moeten wel, ja voldoen aan alle privacywetgeving..."

Second level analysis of perceptions of IT professionals about e-HRM implementation factors

	14. Regular government control on retails administration in order to check whether there is compliance with the law	Resp 41: "...van de Nederlandse overheid, omdat wij daarmee, omdat we de administratie goed op orde hebben en de overheid komt gemiddeld 50 keer per jaar controleren."
7. Follow rules of change management	15. Resistance to HR 16. People their willingness to change 17. Culture change - don't spoil employees anymore 18. Communicate goals and thereby related outcomes clearly	Resp 19: "Dan ja hoezo bepaald HR dat ik het opeens digitaal moet doen, want dit werkte hartstikke goed." Resp 13: "Nou ja, wat altijd wel een punt is, is mensen bereidt om anders te werken." Resp 17: "...ik denk cultuuromslag dat het niet meer u vraagt maar draaien is en niet meer het pampieren en van we bouwen alles voor je na." Resp 41: "Na klaar dat spreken we met elkaar af. Dat moet gewoon heel helder zijn wat daar, wat, ook gevolg is van de uitkomst en dat moet doen..."
8. Balance the business case	19. Also make a qualitative business case 20. Stay within the budget	Resp 13: "Maar een business case is niet alleen geld hè?" Resp 17: "Van hoe hebben begroot en pas het binnen de kosten."
9. Create harmony in implementation	21. Create harmony between the users and the system	Resp 17: "Als daar iedereen zegt van ja het, ja het staat en we kunnen ermee werken en het loopt goed en we hebben het gewoon in goede, naja harmonie..."
10. Anticipate on different levels of IT skills of future HRM users	22. You cannot expect that all employees have the ability to work with e-HRM systems	Resp 19: "...er zit een aanname dat iedereen, geacht wordt dat iedereen op een bepaald niveau zitten, en dat zou moeten kunnen."

Appendix J. Table second level reading of perceptions of business leaders

TABLE 13
Second level analysis of perceptions of business leaders about e-HRM implementation factors

Final factors	Factors of implementation	Examples-Quotes
1. Do not standardize all HRM processes	1. Standardize only processes which are executed in the same way by employees	Resp 1: "Recruitment doet men in de wereld op de manier waarop men denk dat hij dat moet doen."
2. Customize, improve, and keep continuous communication	2. It is important to show how the system works, and what kind of changes it will bring 3. Perform a user-acceptance test 4. Make sure the systems add value for employees to develop 5. Communicate during the implementation to clarify the upcoming changes for users 6. First, do a pilot with team managers before implementation 7. Create dynamic talks between users so they can ask, but also answers, questions to/from each other 8. Share with all employees why you have chosen for a particular system and how it can help them to support their tasks 9. Go back two steps and explain in detail what will change, and what the system entails exactly 10. Let the client explain to everyone that is involved, why the system will be implemented	Resp 1: "Want je kan wel zeggen vanaf dit moment hebben we een ander proces, hebben we een anders tooltje of andere rol, maar dat is wat we ook zeggen de verschil tussen geloof verkondigen of het geloof belijden." Resp 22: "En voer het alleen in als je een hele goede gebruikersacceptatie test hebt gedaan." Resp 31: "...het moet er wel echt iets toevoegen." Resp 32: "Dat je, communicatie vind ik een belangrijke, maar dat is meer in de implementatie, dat je mensen goed kan meegeven, duidelijkheid hebt." Resp 32: "...dus ik zou heel erg snel kiezen voor een pilot." Resp 42: "Maar als je ze in een groep zet, dan zie je dat ze het aan elkaar gaan uitleggen en dat het de meeste effectieve vorm is om kennis op te doen." Resp 47: "...als je dat van tevoren duidelijk in kaart brengt en deelt en communiceert en zegt dat het ondanks dat het toch belangrijk is of het gebruikt wordt, dan is de kans denk ik groot dat dat ook gebeurt." Resp 47: "...gewoon aangeven van nou ja, het hele proces bestaat uit een aantal sub-processen, zo zitten die nu in elkaar, zo gaat dat straks..." Resp 38: "...dat we aan het begin de opdrachtgever laten uitleggen waarom we dit project gaan doen, aan iedereen die bij dat project zit."

Continuing: Second level analysis of perceptions of business leaders about e-HRM implementation factors

3. Prepare all e-HRM users for new roles and interdisciplinary skills	11. You should have the right skilled people in-house	Resp 1: "En misschien hebben we ook wel niet de juiste expertise daarvoor In huis."
	12. Prepare HR professionals that their role will become more strategic	Resp 26: "Wat je ook moet hebben is dat een HR professional zich in zeg maar in de strategie op eenzelfde niveau gaat zetten als bijvoorbeeld de CFO."
	13. Prepare managers that their role will change	Resp 31: "...want die moeten toch op een andere manier hun beoordelingen gaan doen dan dat ze dat nu gewend waren."
	14. Find out who is able to work digital and who is not	Resp 31: "we zien dat we minder mensen nodig hebben, maar ook een ander type mens hè?"
	15. Create a different type of discipline amongst users	Resp 42: "Dat eist een complete ander soort discipline."
	16. Increase the employee self-service (ESS)	Rep 43: "...who used the data for your best and I think you get easily spoiled at a point of time."
4. Streamline sense of urgency and top-down support	17. Create a sense of urgency	Resp 1: "Als men het niet belangrijk vind ja dan kun je nog zo goed project draaien en nog zulke goede mensen aan boord hebben maar dan krijg je het niet van de grond."
	18. Create sense of urgency from top-management	Resp 1: "Ja omdat die heel erg moet kunnen helpen in de sense of urgency van de raads van de organisatie te bepalen."
	19. Create top-management support	Resp 24: "...het moet executive gedragen worden."
	20. Create strong leadership support, and realize an encouraging top-down communication structure	Resp 38: "Ik vind leiderschap ook wel een randvoorwaarde, dus dat ook wel van bovenaf toch wel wordt gecommuniceerd van hè, dit is de kant die we op willen."
	21. Implement a new system step by step	Resp 1: "Want anders ben je je aan het overeaten en dan lukt het niet. Dus doe dat stapje voor stapje."
	22. Keep the human side of e-HRM implementation	Resp 1: "Je kan het mooiste system hebben, op het moment zeg maar het menselijke aspect en de interactie tussen medewerker en manager er niet is, gaat het niet werken."
	23. Keep in mind that a system cannot deal with employee emotions	Resp 22: "Want die wil niet de aandacht hebben van een system dat jouw ondersteunt. Die wil aandacht hebben van jouw als persoon."
	24. A system is only a facilitator	Resp 26: "Ja kijk, een systeem blijft natuurlijk een systeem."
	25. A system cannot think, so keep in mind that you still need humans	Resp 42: "Dus het is dus de combinatie van het fijne van digitaliseren, maar ook de persoonlijke noot, die hoort er wel in."

Continuing: Second level analysis of perceptions of business leaders about e-HRM implementation factors

	26. Make sure the resistance to HR does not influence the implementation	Resp 1: “Dus het is wel leuk dat jullie dat willen vanuit HR maar de tijd die ik daaraan besteed of moet besteden om verlofaanvraag goed te keuren of whatever.”
6. Involve the entire organization	27. Involve the entire business	Resp 1: “Doe dat nou niet in een hok met allemaal HR mensen, maar betrek daar ook de business bij.”
	28. Create support all throughout the organization	Resp 31: “Wat denk ik wel het belangrijkste is dat het project en breed gedragen wordt binnen HR, dus dat echt binnen elke afdeling zijn mensen direct betrokken en de lijntjes zijn ook heel kort hè?”
	29. Involve the whole organization in the project, or at least communicate what will happen	Resp 38: “...is dat iedereen betrokken is bij het project, vanaf een vroeg stadium ook, of in ieder geval op de hoogte is.”
	30. Form a project group with people from every discipline	Resp 42: “Ja, daar moet de vertegenwoordigers van alle disciplines in zitten.”
7. Have a clear vision of what the system should offer	31. Start with the question: what we want to reach	Resp 1: “Dat het daar begint. Welk probleem willen we oplossen?”
	32. A system should unburden employees	Resp 22: “Dus definieer van tevoren ook maar eens even van als het niet voldoet aan die en die eisen, ja dan gaan we het verder ook niet doen.”
	33. Know beforehand why you want to digitize	Resp 24: “...waarom willen wij een nieuw project doen.”
	34. Be clear towards the users why you implement a new system	Resp 42: “Dus je moet heel helder hebben van waarom we iets doen.”
8. Make the system simple	35. First, look at the processes in the organization at this moment, and how a system can support those	Resp 47: “...voordat je überhaupt begint met bouwen of uitrollen dat je een heel goede analyse maakt dus hoe processen momenteel gaan...”
	36. Keep the system simple	Resp 22: “Beperk je bij het vastleggen van de gegevens dat die gegevens die nodig zijn voor de uitvoering van de dienst, die ik nodig heb om wettelijke taken te verrichten, houdt het simpel.”
	37. Connect applications to a certain extent	Resp 22: “Zorg dat je op een aantal essentiële onderdelen de connectiviteit met andere applicaties goed hebt geregeld maar ook weer niet teveel.”

Continuing: Second level analysis of perceptions of business leaders about e-HRM implementation factors

	38. Fill the gap between what the organization needs from a system and what that system can offer	Resp 47: “Dus na de implementatie zag je toch dat er wel een aantal gaps zaten tussen hoe wij eigenlijk werken en hoe, datgene wat het systeem ondersteunde.”
	39. Make the system as easy to use as possible in order to create support from the users	Resp 47: “...en hij logt dan in dat het drie keer ingewikkelder is geworden, ja dan krijg je natuurlijk minder draagvlak.”
9. Keep regulations in mind	40. When implementing, keep the collective labor agreement, and all other law related rules and regulations in mind	Resp 24: “Veranderingen zijn hier altijd nog steeds lastig omdat ze altijd in heel veel organisaties aan CAO gebonden zijn, aan afspraken, aan politiek en allerlei regeltjes die vrij moeilijk in het systeem te vatten zijn.”
10. Brand e-HRM	41. Realize a leadership culture	Resp 24: “...het is een leiderschapscultuur die nodig is dat mensen gewoon een verandering doorgaan.”
	42. It is a just a matter of branding	Resp 24: “Nee het is juist fantastisch dat je zelf erbij kan doen. Dus je positioneert het op een hele, dit is gewoon branding.”
	43. Keep the implementation up-to-date in peoples minds	Resp 31: “...één van de belangrijkste dingen is denk ik, het moet actueel blijven.”
11. Clean the data before implementing e-HRM	44. Data cleaning before you can implement	Resp 26: “...dus dan moet de organisatie zelf het projectteam of wie daar dan bij betrokken zijn, die moeten dus zelf aan de slag om ontbrekende data of niet correcte data toch op te leveren.”
	45. Select a system based on the type of organization you work for: public of private	Resp 26: “...ministeries vinden het lastig dat dat, om hun personeel, van ambtenaren personeel gegevens in de Cloud te doen.”
12. Keep resources in mind	46. Make sure you have the resources to realize digitalization	Resp 1: “Dat je de resources hebt omdat te kunnen realiseren, zowel kwalitatief als kwantitatief.”

Appendix K. IS Framework by Van Geffen, Ruël, & Bondarouk (2013)

Figure 1: IS Framework

