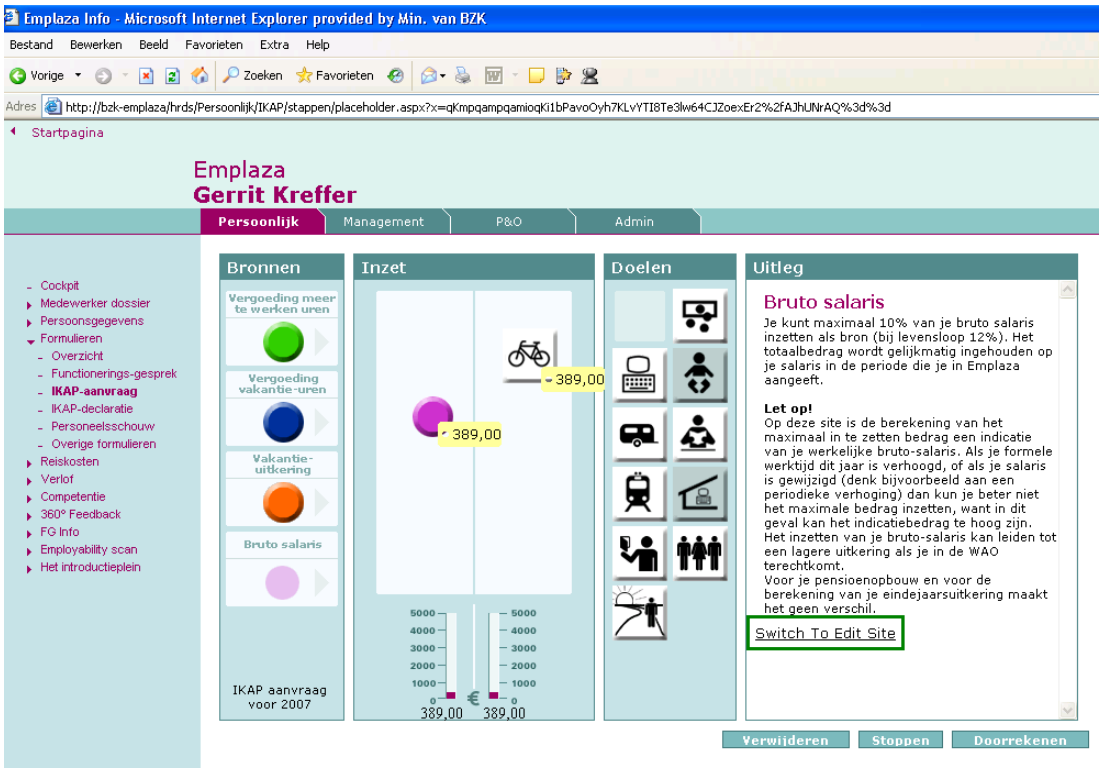
Measuring the effectiveness of e-HRM

The development of an analytical framework for the measurement of e-HRM and its application within a Dutch Ministry



Marco Maatman

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By

Marco Maatman

Student number: 0000272

E-mail: m_maatman@hotmail.com

Organisation: The Dutch Ministry of Interior Affairs

Department: Directie Personeel en Organisatie

Mentor: drs. G. Kreffer MPA

University: University of Twente

Faculty: Bedrijf, Bestuur en Technologie (BBT)

Study: Business Administration (BA)

Track: Human Resource Management (HRM)

Mentor: dr. T. Bondarouk

Second mentor: prof. dr. J.C. Looise

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Preface

This is the result of research into the effectiveness of e-HRM. E-HRM is a term often used in a broad context and many aspects within this context are unclear and in need of scientific research. This research is aimed to support future research into e-HRM, by uncovering e-HRM and its context, and by the provision of valuable research instruments. Besides this, the research framework was applied within the Dutch Ministry of Interior Affairs. The research was performed in the context of the finalisation of the master program Business Administration.

The research and this report are made in cooperation with several persons. I would like to use this opportunity to thank them.

At first, I would like to thank Rob Bokkers, my colleague in doing this research, writing this report, performing some assignments within the Dutch Ministry of Interior Affairs, and roommate at the Reinwardtstraat.

Secondly, I would like to thank Tanya Bondarouk, Huub Ruël and Jan-Kees Looise, my academic supervisors. Especially the efforts of Tanya have made this research possible. She always has supported me intensively, and made me enthusiastic about the topic of e-HRM. She always remained positive no matter what I reported to her.

Thirdly, I would like to thank Gerrit Kreffer my supervisor within the Dutch Ministry of Interior Affairs and project manager of the Emplaza project. He has given me the opportunity to finalise my research. Moreover, his openness about the project of Emplaza, gave me the opportunity to see not only the advantages of e-HRM, but also the difficulties faced during the adoption of e-HRM. His practical, but also scientific perspective was very useful during the research.

As last, I would like to thank my family and friends for supporting me during my period in Enschede and Den Haag. I was always welcome at home and many of my friends came to visit me on the other side of the country.

Marco Maatman
Den Haag, 13 December 2006

Summary

Practice based e-HRM started earlier than academic research into e-HRM. And as the promises of the vendors of e-HRM technology are not achieved and the investments to be made in e-HRM are high, scientific research can be of value for identifying the reasons for not achieving these promises. The Dutch Ministry of Interior Affairs is such an organisation that has made the investments in e-HRM. Although Emplaza, the e-HRM solution of the Ministry, is still under construction and therefore the effectiveness at this moment cannot be determined, there exists a need for a scientific reflection on Emplaza. However, to be able to determine the effectiveness of Emplaza, a research framework is needed for measuring the effectiveness of e-HRM. This report elaborates on the development of a framework for measuring the effectiveness of e-HRM, and the application of the framework within the Dutch MIA.

Before the research framework could be developed, the context of e-HRM and Emplaza had to be explored. This has lead to the development of a preliminary theoretical framework that was expected to cover the important aspects affecting e-HRM effectiveness. The preliminary theoretical framework contained three constructs, the e-HRM goals, the use of e-HRM, and the effectiveness of the HR system, that were expected to determine the effectiveness of e-HRM. The preliminary theoretical framework was used as a guide during the literature study, necessary for the uncovering of the constructs into research components. A multi method research approach was chosen to gather data on these components. The operationalisation of the components allowed the development, or adoption of research instruments for data gathering on the constructs. In this way, a research framework was developed for measuring the effectiveness of e-HRM. This research framework was applied within the Ministry to get some first insights in the effectiveness of Emplaza, but also to test the research framework. Although not the entire research framework could be applied, some interesting results were found on Emplaza, as well as on the research framework.

The characteristics of the MIA allowed the development of Emplaza as it now exists. In a short period of time an e-HRM solution was developed, which already has achieved some interesting results. There remain however, many opportunities for the improvement and future developments of Emplaza. The research framework can be of support for the Ministry as it has proven itself to capture interesting aspects and uncovered some relations that determine the effectiveness of e-HRM. The framework can also be used for general research into the effectiveness of e-HRM, although it needs to be researched more intensively.

The Ministry should consider intensively how to further develop Emplaza. The focus should be on what could be improved and what, but also how future e-HRM activities should be provided through Emplaza. Future research into e-HRM effectiveness should especially focus on the relations within the theoretical framework.

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Acronyms

A = Attitude towards Using

BI = Behavioural Intention

ESS = Employee Self Service

E-HRM = Electronic Human Resource Management

FTE = Full Time Equivalent

HR = Human Resource

HRIS = Human Resource Information System

HRM = Human Resource Management

IT = Information Technology

MEA = Ministry of Economical Affairs

MIA = Ministry of Interior Affairs

MSS = Management Self Service

ROI = Return on Investment

SSC = Shared Service Centre

TAM = Technology Acceptance Model

TRA = Theory of Reasoned Action

UTAUT = Unified Theory of Acceptance and Use of Technology

U = Usefulness

1 Prologue

"I think you all see e-HRM as a web-based tool for employees and managers to support them in doing their HR tasks. That is not how I perceived e-HRM." This was a remark made by an attendant of the first European Academic Workshop on e-HRM. This remark however, is representative for the research into e-HRM, as the existing literature on e-HRM is ambiguous on what e-HRM exactly is. Two main approaches for the research into e-HRM can be identified. These approaches are related to the research fields of Information Technology and Human Resource Management. As different authors look with different perspectives to e-HRM, it is hard to capture the essence of e-HRM. Is it just an IT tool, or a new strategy for HRM?

When you have read some of the literature on e-HRM, you might have faced some difficulties yourself in defining the scope of e-HRM. You are not alone! I also encountered a lot of ambiguous stories and research findings on e-HRM. I found these ambiguous stories in literature, but also faced them during my conversations with the buyers, end-users, project members and vendors of the technologies. It is therefore very hard to do research into e-HRM, as everybody seems to speak about something different. When you also have faced these problems, this report might be of help for you.

We (my research partner and I) have researched e-HRM from the IT perspective as well as the HRM perspective and used literature from both perspectives. Besides the literature, we have had many conversations with different people to understand what e-HRM is about. By combining the IT and HRM perspective, we were able to develop a framework that enables the measurement of e-HRM effectiveness, but also enables in-depth research of certain aspects related to e-HRM. The framework captures some important aspects on e-HRM, like for example what the goals for the adoption of e-HRM could be, what different kinds of e-HRM support exist, the suitability of different types of HR activities for provision through web-based channels, and how the effectiveness of the HR system could be measured.

For me, it has been a tough road to come up with the results I now present. In February 2006, the first agreements were made to conduct the research within the largest telecom company of the Netherlands. The company however, cancelled the research. Therefore, another partner for the research had to be found. In May 2006, a consultancy agency was found to join the research into e-HRM. This organisation was responsible for the development of Emplaza. They were however not able to find a customer which could welcome us for the research into e-HRM. At that moment, our theoretical framework was finished, but there was no company willing to join the research. Therefore, we decided to limit our research to the refinement of the research framework and its instruments. At the last moment, the Dutch Ministry of Interior Affairs gave us the opportunity to apply some of the parts of the theoretical framework. I was very grateful that they gave us the opportunity to

research e-HRM within their organisation. Although it was not possible to apply the entire framework within the Dutch Ministry, the application of the framework has generated some interesting results I proudly present in this report. Although it has been a tough road, the topic of e-HRM still captivates my attention since there remains a lot to be researched.

2 Introduction

Although the Human Resource (HR) function was an early adopter of computing technology, it spent the last decade playing catch-up to other business functions in terms of integrating Information Technology (IT) into their processes (Hendrickson; 2003). During the nineties, organisations became experienced in using IT for Human Resource Management (HRM). Although, a little later as within other business functions, IT retailers offered more and more new solutions for HRM problems. As within other business functions, IT has become an important tool for supporting the processes of the HR function and the HR function is now closing the gap in terms of applying new IT capabilities to traditional functions (Hendrickson; 2003). To be able to explain how some of the new IT solutions work for supporting the HR function, it is important to know what is meant with HR function. For this research the HR function is understood as:

The HR function is the way in which tasks needed for HRM are organised and the way they are executed. In other words, the HR function includes the tasks and responsibilities of HR professionals, managers and employees with respect to HRM

The IT for supporting HRM used to be grouped under the name HR Information Systems (HRIS). These technologies were directed towards the HR department itself (Ruël et al.; 2004). They have the purpose to support the HR department staff to execute the processes of the HR function. There is however, a change occurring in the use of IT for supporting the HR function (Kovach et al.; 2002). Where HRIS were directed to support the HR professionals in performing their HR tasks, electronic HRM (e-HRM) applications are, besides directed to support HR professionals in performing their HR tasks, also directed to support managers and employees performing their HR tasks. E-HRM refers to conducting business transactions - in this case HR - using the internet (Lengnick-Hall & Moritz; 2003). *"E-HRM is a way of implementing HR strategies, policies, and practices in organisations through a conscious and directed support of and/or with the full use web-technology-based channels"* (Ruël et al.; 2004, p. 365-366). These web-technology-based channels provide the managers and the employees of the organisation with information as well with the ability to complete HR-related transactions (Kovach et al.; 2002).

Distributors of the e-HRM technology promise several advantages an organisation can benefit from when using these technologies. The following quote, found on a website of a consultancy agency, which accompanies organisations in the implementation of e-HRM technologies, illustrates the promises made about such technologies.

> *"e-HRM costs money, but ignoring e-HRM costs a fortune. Modern technology can be helpful in creating a strategic HRM-policy, reducing costs, higher productivity, increasing quality of your labour force and more responsibility of managers and employees in the execution of HRM-tasks. Your organisation cannot miss this surplus value."*
>
> (EHRM; 2006)

In practice however, the results mentioned above are often not achieved. And as the quote, but Lengnick-Hall & Moritz (2003) also mention, the investments to be made in such technologies are high. Therefore, it is important that the promised results are achieved. There is a gap between organisations' belief in the value of the web-based-technologies and what organisations are actually achieving from e-HRM (Keebler & Rhodes; 2002). There is a need to understand the reasons for this gap and the involvement of researchers can contribute to a greater understanding of this gap. Obvious is that practice based e-HRM started earlier than academic research. What currently is known about e-HRM is based primarily on non-scientific surveys and organisational testimonials and anecdotes (Lengnick-Hall & Moritz; 2003).

The School of Business, Public Administration and Technology of the University of Twente, the Netherlands, is involved in the research into e-HRM. A part of this research is aimed at the impact of e-HRM on the HR system. As Lepak et al. (2004) have noticed, *"HR systems have emerged as a fundamental stream of research"* (Lepak et al.; 2004, p. 604). Since the research into strategic HRM, many authors stress the necessity to discuss HRM from the systematic approach instead of a sum of isolated HRM practices (e.g., Wright & McMahan; 1992, Delery; 1998). One of the basic principles of SHRM research is that the contribution of HRM on organisations and its individual employees is a result of a systematic integration of HR practices within a given organisation. Looking at the SHRM literature, it is not difficult to notice how diverse HR systems are mentioned: human capital enhancing HR systems (Youndt et al.; 1996), high involvement HR systems (Lawler; 1992), commitment oriented HR systems (Lepak & Snell; 2002), and high performance HR systems (Huselid; 1995), to name a few. Despite an existing diversity in HR systems, common for all of them stays that HR systems are considered from a systematic approach, implying the link between HR and business strategy, and focusing on how HR strategy and practices are rooted in particular contexts of business systems (Martin & Hetrick; 2006, Reddington et al.; 2005). HR systems operate at a high level of analysis within organisations, and encompass a program of multiple HR policies that are incorporated in HR practices and internally consistent with the HR philosophy and business strategy, and support reinforcing of desired organisational results.

There is a lot of research conducted on the effectiveness of HRM (e.g. Becker & Gerhart; 1996, Boselie et al.; 2001, Bowen & Ostroff; 2004, Delaney & Huselid; 1996, Keebler &

Rhodes 2002). Several studies have contributed to the knowledge about the effects of different e-HRM applications (e.g. Buckley et al.; 2004, Dineen et al.; 2004, Hustad & Munkvold; 2005, and Williamson et al.; 2003). These studies concentrate on implementation aspects and factors e.g. gender, age, IT experience of employees, usefulness of the technology, ease of use of the technology, and other factors to understand the success of these applications. The use of e-HRM technology also has an impact on the HR department (Ruël et al.; 2004). Several studies have reported on this impact (e.g. Gardner et al.; 2003, Lengnick-Hall & Moritz; 2003, Letart; 1997, and Trapp; 2001). Little research however, is conducted on the impact of e-HRM on the HR system as a whole. Moreover, Lengnick-Hall & Moritz (2003) state that there is a need for a method to measure e-HRM effectiveness. This research is aimed to give some insights in how to measure these aspects. Moreover, these aspects will be measured within the Dutch Ministry of Interior Affairs (MIA), where Emplaza is adopted.

2.1 Introducing e-HRM

The HR function of an organisation is responsible for complying with the HR needs of the organisation. As with other business functions, strategies, policies and practices have to be implemented to ensure smooth operation of the organisation and prepare the organisation in such a way that smooth operation can be guaranteed in the (nearby) future. Using e-HRM technology is a way of implementing these HR strategies, policies and practices. The e-HRM technology supports the HR function to comply with the HR needs of the organisation through web-technology-based channels (Ruël et al.; 2004). The e-HRM technology provides a portal which enables managers, employees and HR professionals to view, extract, or alter information which is necessary for managing the HR of the organisation. Lawler III (2005) suggests that e-HRM and it self-service characteristics can be the cheapest and fasted way to provide specific HR activities.

"With e-HRM, managers can access relevant information and data, conduct analyses, make decisions, and communicate with others - and they can do this without consulting an HR professional unless they choose to do so. For example, a manager who wants to make a merit pay decision may access files containing text, audio, and video describing how best to make the decision. Then, the manager can access the data file containing information on his/her employees. With a click of the mouse, the decision is recorded and other departments (such as finance) are notified. Hours of processing are reduced to minutes, and much paperwork is avoided by the use of this technology (Lengnick-Hall & Moritz; 2003, p. 366)*."*

"With e-HRM employees control their own personal information. They can update records when their situations change and make many decisions on their own, consulting HR professionals only when they deem it necessary. For example, an employee who wishes to increase investments in a retirement plan can do so from work or home using the Internet.

Employees may also, for example, participate in a training program at home after working hours (Lengnick-Hall & Moritz; 2003, p. 366).*"* Self-service for managers (MSS) and employees (ESS) are the key concepts of these technologies (Lengnick-Hall & Moritz; 2003).

"For the HR function, e-HRM has the potential to affect both efficiency and effectiveness. Efficiency can be affected by reducing cycle times for processing paperwork, increasing data accuracy, and reducing HR staff. Effectiveness can be affected by improving the capabilities of both managers and employees to make better, timelier decisions. E-HRM also provides the HR function the opportunity to create new avenues for contributing to organisational effectiveness through such means as knowledge management and the creation of intellectual and social capital (Lengnick-Hall & Moritz; 2003, p. 366)*"*

Summarising, the following statements can be found on e-HRM:

- E-HRM is the cheapest way of providing some HR activities
- E-HRM, enables managers access to relevant information and data, conduct analysis, make decisions and communicate with others without being dependant on HR professionals
- E-HRM, enables employees to control their own personal information and update this information, make own decisions concerning their own situation without being dependant on HR professionals.
- E-HRM affect the efficiency and the effectiveness of the HR system by reducing cycle times, increasing data accuracy, and reducing HR staff,
- E-HRM, enables the HR system to increase efficiency and effectiveness of the organisation by improving the capabilities of both managers and employees in taking better, timelier decisions.
- E-HRM, enables the HR system to create value for the organisation in new ways

The use of e-HRM technology, as it is a way to implement HR strategies, policies and practices, is expected to have an impact on how the HR function operates. Moreover, it is aimed to improve the HR system. The impact of e-HRM technology on the HR system however, is expected to be dependent on the way the technology is used. It is dependent on what and how the technology supports the HR function but also on how the technology is constructed. This is on its turn affected by what the organisation is trying to achieve with the technology, or in other words, what the e-HRM goals of the organisation are. The e-HRM goals and the actual use of the e-HRM technology thus have an impact on the HR system. Therefore, these aspects will all be considered during this research.

2.2 E-HRM at the Dutch Ministry of Interior Affairs

In February of the year 2001, the committee Van Rijn (Rijn; 2001) presented the results of their study on the labour market within the public sector of The Netherlands. The necessity to

appoint this committee was the ever increasing efforts required of the public sector to find and retain qualified employees (MinBZK; 2006). The reasons for these developments were identified as (MinBZK; 2006):

- The lasting economical growth which caused scarcity at the labour market
- The turnover of aged employees and a decreased availability of employees of the younger generation
- The decreased recruitment in former years because of the economisation of the public sector, which made the public sector less visible at the labour market

It was also expected that the increasing need for employees remained for at least five years, whereas the availability of labour was expected to decrease. Without measures tackling these threads, the public sector would not be able to fulfil its labour needs. This would lead to a negative affection of public services (MinBZK; 2006). Three approaches to tackle the fulfilment issues of the labour needs were identified by the committee Van Rijn (2001). First, the demand of labour can be reduced. An important point to consider here is not to investigate solely how more employees can be recruited to fulfil the labour needs, but also to investigate how to organise the tasks of the organisation in such a way that the tasks can be performed by the available employees. Existing processes should be optimised and supporting business functions should be executed centrally. Another possibility is the outsourcing of these support functions. Second, the offer of labour can be increased when efforts are made to increase the attractiveness of the public sector. Third and last, the available employees should be retained by removing their dissatisfaction. This can be realised by improved career development programs, other management styles and individual designed secondary labour agreements. (Rijn; 2001)

The committee suggested that the public sector should take the following measures which they further elaborated in the report (MinBZK; 2006):

- Measures for removing sector specific bottle-necks
- Make sector specific arrangements
- Starting innovations

The third point of measures, starting innovations, contains the immediate adoption of special taskforces which should implement structural improvements within the areas of management and steering, the use of information and communication technology, and HRM (MinBZK; 2006). The committee Van Rijn (2001) stated that the public sector did not use the opportunities of IT and therefore could not meet the demands of civilians and employees.

The report of the committee Van Rijn created the space for the Dutch MIA to engage in projects concerning the “improvement” of HRM. At that moment (the year of 2002), the Ministry of Economical Affairs (MEA) had just enrolled Emplaza, an e-HRM tool to support the HR activities. The MIA saw the potential of e-HRM and decided to adopt Emplaza within

their organisation. The concept of Emplaza at the Dutch MIA is partially originating at the MEA. However, the availability of new technologies created opportunities which were also considered important and therefore a new basis was developed. Besides this, the MIA broadened the content of Emplaza with some additional functionality (Kreffer; 2003). In the following years the MIA implemented again and again new functions and became the care taker of Emplaza. The technology grew during those years. The next paragraph will elaborate on the content and context of Emplaza

2.2.1 Emplaza

Emplaza is a web-based application, which is accessible through the intranet of the Dutch MIA. Emplaza provides the employees, managers, and HR professionals of the Dutch MIA with the tools and information to perform HR activities (Kreffer; 2003). A good way to describe Emplaza is to perceive Emplaza as a “peel” build on the front side of the HRIS of the Dutch MIA. Every employee, manager, and HR professional has his own entrance (personalised portal) into this peel. In this way the “peel” acts as an interface between the HRIS and the employees, managers, and HR professionals of the organisation, allowing them to retrieve and store HR data that is of concern for them. Besides the interface with the HRIS, Emplaza also supports the performing of some of the HR activities to be performed by employees, managers and HR professionals. Emplaza provides the end-users of the technology with the necessary HR data (retrieved from the HRIS databases) and supports the workflow of some of these HR activities. Mutations generated during the performing of HR activities as well as the process information are stored within Emplaza. Some examples of HR activities supported by Emplaza at the Dutch MIA are:

- Travel expenses declarations
- Relieve requests
- Consulting management information
- Changing personal information
- Changing the employment contract
- Functioning conversation cycles

When an end-user starts Emplaza he / she will arrive in his / her personal cockpit. The messages of importance to him / her are displayed here, but also the birthdays of colleagues etc. Besides these messages, the cockpit also displays the forms to be filled in and status of sent forms.

The status of the Emplaza project however, is not a static one. On this moment Emplaza is still under development as new functions are enrolled and solutions for new functions are under development. According the project leader of Emplaza one-third of the HR activities within the MIA are supported with Emplaza.

2.2.2 Related developments

In February of the year 2003 the Dutch cabinet approves with “vernieuwing HRM-stelsel Rijk” (renewal of the Kingdom’s HRM system), a Kingdoms at length “Shared Service Centre HRM” (Digitaal Bestuur; 2006). These plans are driven by the proposal of the committee Van Rijn. The goals of the project were the improvement of the quality of the HR system and service delivery, and the adoption of self-service for employees. Four goals were established which should be accomplished by “vernieuwing HRM-stelsel Rijk”, namely (Kabinetsbesluit; 2003):

- An accelerated reinforced development of the manager in which the focus is broadened from ‘content’ to ‘people’
- The optimisation of the service provided by the HR system, the set of HR instruments in general and especially the HR professional
- The introduction of a new concept of self service; employees, managers and HR professionals should be enabled to take care of a number of administrative activities themselves, on a simple automated manner
- The realisation of integrated management information

These developments resulted in the quest for e-HRM in all the Dutch Ministries, because e-HRM was recognised as a part of the Shared Service Centre solution. While some of the Ministries sought for other (own) solutions, many Ministries focussed on the adoption of Emplaza. At this moment, some of these Ministries are enrolling Emplaza and trying to catch-up with the MIA. This has resulted in the acceptance of the look and feel of Emplaza as the standard for future developments on e-HRM for the Shared Service centre of the Dutch Ministries.

2.3 Objective of this research

As mentioned earlier, organisations have in recent years heavily invested in IT for the support of different business functions. The HR functions of organisations are no exception. IT has been developed for the support of different parts of the HR function. The use of these technologies has however preceded the scientific research about the impact of these technologies. It is therefore not clear what the impact of some of these technologies is. This is also the case for the use of e-HRM to support the HR function. There are a lot of aspects of e-HRM that remain unclear. However, the goals for implementing e-HRM are aimed at the improvement of the HR system of the organisation. It is therefore expected that the use of e-HRM technologies has an impact on the performance of the HR system, but also on the structure and characteristics of the HR function. Although the characteristics of public organisations are different from those of private organisations, it is expected that the use of e-HRM technology also has an impact on the HR system of public organisations.

First impressions are that Emplaza became an inevitable 'structure' within the MIA. Obviously there is sound optimism about the quality of the content functionality of Emplaza. At the same time this calls for independent scientific research into the impact of Emplaza on the HR system, in order to get findings which make generalisations possible for other Dutch Ministries and public organisations. The objective of this research is therefore formulated as:

The development of a framework for measuring the effectiveness of e-HRM, and the application of the framework within the Dutch MIA

Research questions

The objective of this research is translated in the following research questions:

How to measure the effectiveness of e-HRM?

What is the effectiveness of e-HRM within the Dutch MIA?

2.4 Preliminary theoretical framework for measuring e-HRM effectiveness

To reach the objective of this research, a framework must be developed that enables the researchers to measure the effectiveness of e-HRM and apply this framework within the Dutch MIA to measure the effectiveness of Emplaza. As mentioned before, the effectiveness of the HR system is expected to be dependant on the use of e-HRM. Therefore it is important to adopt the use of e-HRM within the framework to measure e-HRM effectiveness. Moreover, the use of e-HRM is expected to be dependant on the goals for the adoption of e-HRM, and therefore the goals of e-HRM will also be adopted within the framework for measuring e-HRM effectiveness. Figure 1 presents the preliminary theoretical framework of this research into e-HRM effectiveness. The blocks of the figure are the research constructs that need to be measured or characterised to enable measurement of the e-HRM effectiveness. The arrows represent the direction of influence.

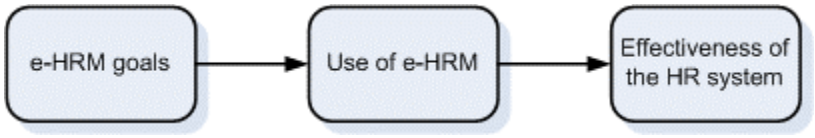

Figure 1, Preliminary theoretical framework

2.5 Research path

This paragraph will elaborate on the research path for the research into e-HRM effectiveness and the application of the research framework within the Dutch MIA. For answering question one it is necessary to uncover the blocks, or constructs, of the preliminary theoretical

framework into research components. These research components of a construct characterise specific parts of the construct and enable data gathering on the construct with the use of research instruments. The research components and the research instruments together compose the research framework. Chapter 3 will answer question one of this research and elaborates on the uncovering of the constructs of the preliminary theoretical framework. The uncovering of the constructs of the preliminary framework allows the development of research instruments. The development of the research instruments will be discussed in chapter 4. Besides this, this chapter elaborates on the research paradigm and strategy for the research into e-HRM effectiveness and how the research framework was applied within the Dutch MIA. The research framework has to be applied within the Dutch MIA to answer question two of this research. Chapter 5 elaborates on the findings of the application of the research framework within the MIA. Besides this, this chapter will reflect on the research instruments. Chapter 6 discusses the research findings and the reflection of the research framework and its research instruments. Chapter 7 contains the conclusions of the research and the recommendations made for the Dutch MIA and future research. The report is finalised by discussing the research limitations in chapter 8.

3 Theoretical framework for measuring e-HRM effectiveness

This chapter is aimed to give insights in how to answer the first question of this research:

How to measure the effectiveness of e-HRM?

The preliminary theoretical framework consisted out of three blocks that together were expected to enable the measurement of the effectiveness of e-HRM. These blocks were:

- E-HRM goals
- The use of e-HRM
- The impact of e-HRM on the effectiveness of the HR system

Each block will be addressed in a separate paragraph. The first block will be uncovered in paragraph 3.1, the second block in paragraph 3.2, and the third block in paragraph 3.3. These paragraphs explore and uncover the blocks of the preliminary theoretical framework and come together in the final theoretical framework in paragraph 3.4. The uncovering of the blocks enables the design of research instruments to measure the characteristics of these blocks. With these research instruments the measurement of e-HRM effectiveness is expected to be enabled.

3.1 E-HRM goals

In this paragraph the "e-HRM goals" block of the preliminary theoretical framework will be uncovered.

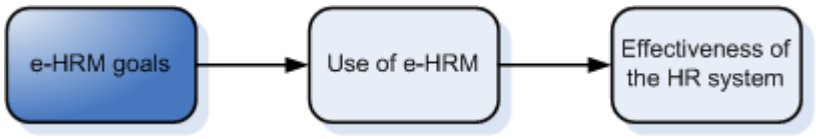

Figure 2, Uncovering the "e-HRM goals" block of the preliminary theoretical framework

As mentioned in the introduction, the investments to implement e-HRM technologies are high. Organisations thus have reasons to implement these technologies otherwise the investments would not be justifiable. What are organisations trying to achieve with these technologies? What are the goals of the implementation of e-HRM technologies?

Organisations strive for different goals to be achieved with the implementation of e-HRM technologies. For recruitment, organisations are utilising their own web sites ever better because of the rising costs of web advertising and decreasing ease of finding qualified applicants (Cober et al.; 2004). Some organisations strive to free HR professionals for more

strategic tasks (Huselid; 2004). HR professionals are enabled to spent more time on strategic aspects of HRM when are freed from administrative day-to-day activities. Other organisations strive for a better overall financial performance (Buckley et al.; 2004). A typical argument for the adoption of e-HRM technologies is: *"Use e-HRM and your organisation can reduce process and administration costs. Fewer HR professionals are needed because e-HRM eliminates the "HR middleman". Furthermore, e-HRM speeds up transaction processing, reduces information errors, and improves the tracking and control of HR actions. Thus e-HRM improves service delivery.* (Lengnick-Hall & Moritz; 2003, p. 369)*."*

"Most organisations that adopt e-HRM rely on available, accessible, and tangible measures to make a business case for the investment (Lengnick-Hall & Moritz; 2003, p. 369)*."* Some statistics used to justify the investments made in e-HRM technologies are for example the average cost of an HR transaction, number of inquiries to the service centre, cycle times, headcount changes in the HR department and financial metrics such as ROI and the duration of the payback period, but also measures of employee satisfaction (HR Focus; 2002). In a survey about the results of e-HRM conducted in 2002, four top metrics were identified in formal business cases: productivity improvements within the HR organisation, cost reductions, ROI, and enhanced employee communications (Watsonwyatt; 2006).

The above mentioned goals for implementing e-HRM technologies were mostly found in business cases for justifying the investments in e-HRM technologies. They are all aimed to improve the HR function of the organisation.

There exists however a scientific framework of goals for justifying the implementation of e-HRM technologies. This framework of e-HRM goals developed by Ruël et al. (2004) is based on the four pressures placed on the contemporary HR department identified by Lepak & Snell (1998) and is also focussed on the improvement of the HR system. Lepak & Snell (1998) stated that HR departments are forced to look for alternative paths for the delivery of HR activities to meet the increasing demands placed on the HR departments. These demands, or pressures, are (Lepak & Snell; 1998):

- The increasingly strategic role of the HR departments
- The greater demand of flexibility
- The pressure to be as efficient as possible
- Maintain the role as service provider to managers and employees

These four pressures are reduced by Ruël et al. (2004) to three types of goals for the adoption of e-HRM technologies to improve the HR system. However, in the case study conducted within five international companies by the same authors (Ruël et al.; 2004), a fourth type of goal was found. The companies involved in the case study had chosen standardisation and harmonisation of HR policies and practices as a condition for globalisation. Globalisation was a driver for centralising HR policies responsibilities at

company headquarters, while responsibilities for applying HR responsibilities were actually decentralised (Ruël et al.; 2004). E-HRM can be of support in integrating the dispersed HR function. The four types of goals for organisations making steps towards e-HRM are therefore (Ruël et al.; 2004):

- Cost reduction / efficiency gains
- Client service improvement / facilitating management and employees
- Improving the strategic orientation of HRM
- Allowing integration of a dispersed HR function (of different organisational units or entire organisations)

3.1.1 Unfolding the e-HRM goals

Although public organisations have other characteristics than private organisations, it is expected that the e-HRM goals of public organisations are the same as those of private organisations. Therefore, the e-HRM goals identified by Ruël et al. (2004) are used as a starting point for identifying the e-HRM goals of the organisations involved in this research. The report of the committee Van Rijn (2001) supports these expectations. The e-HRM goals identified above could be related to the suggestions made by the committee Van Rijn (2001). This will be elaborated below.

Cost reduction / efficiency gains

In the year 2002 a survey was conducted by WatsonWyatt (2006) to research the impact of e-HRM technologies. Cost reduction was found to be a top metric in formal business cases for the adoption of the e-HRM technology. As public organisations have a monopoly position in providing their services to civilians and organisations (public and private) they have the responsibility of meeting the needs of these civilians and organisations (Rijn; 2001). It is therefore important to act responsible with resources acquired from civilians and organisations; save cost whenever possible and work as efficient as possible. However, the committee Van Rijn (2001) concluded that reducing costs was not necessary because money, in their opinion, was not a real problem. The problem was the shortage of qualified employees on the labour market and therefore the public sector risked not being able to provide the services demanded. The public sector therefore should work more efficient to be able to more with less (more work with fewer employees) and in this way guarantee service provision. Especially the staffing and management activities should be reorganised (Rijn; 2001). It is therefore expected that the adoption of e-HRM technologies at the Dutch MIA was driven by the need of cost reduction and efficiency improvements of the HR system.

As mentioned before, cost reduction is often a reason for implementing e-HRM technologies. Different authors (e.g. Ruël et al.; 2004, Watsonwyatt; 2006) have suggested that the implementation of e-HRM are driven by cost reduction goals of the HR system. There are two areas were costs could be reduced through the implementation E-HRM technologies, namely (described by Lengnick-Hall & Moritz; 2003):

- Full Time Equivalent (FTE) of the HR department
- Costs of administration
    - Reducing use and distribution of paper
    - Reducing costs of HR transactions

The goal of gaining efficiency is often related to the goal of reducing costs. However, there are some aspects which can be measured which cannot be categorised under cost reduction goals but may lead to costs reduction. The survey of Watsonwyatt (2006) for example mentions productivity improvement as one of the four top metrics used to justify the implementation of e-HRM technologies. Besides this, the automation and provision of HR activities enables streamlining of the HR processes which can lead to reduced cycle times of the HR processes (Lengnick-Hall & Moritz; 2003). Therefore, the efficiency gains advantages can be categorised under:

- Productivity of the HR professionals
- Cycle times of HR activities

Client service improvement / facilitating managers and employees

MSS and ESS are as mentioned earlier the key concepts of e-HRM. With MSS and ESS, organisations are trying to meet the HRM needs of managers and employees and at the same time support the organisational business objectives (Keebler & Rhodes; 2002). The committee Van Rijn (2001) concluded that in contemporary times were there is a shortage of qualified employees, the employees became at least as important as the customers (civilians and organisations) of the public sector. The committee suggested therefore that employees should be kept satisfied and motivated and improving the service provided by the HR department is mentioned as a part of the solution. It is therefore expected that the adoption of e-HRM technologies at the Dutch MIA was driven by need for client service improvements.

Service is something that is experienced by clients. To improve the service level to clients of the HR department it is important to focus on the experience of the clients requiring service of the HR department (Keebler & Rhodes; 2002). According to Keebler & Rhodes (2002) the e-HRM technology should not only be designed to make the HR processes as efficient and cheap as possible, but the e-HRM technology should be made useable too, to increase the service experience of the managers and employees. In this way a client service improvement of the HR system can be achieved. To realise service improvements of the HR department it is important to focus on two aspects, namely (Keebler & Rhodes; 2002):

- The design of the interface which supports interaction between the HR department and the clients of the HR department

- Content of services provided by the HR department
    - Usefulness of the services provided by the HR department
    - Personal character of services provided by the HR department
    - Availability and accessibility of the service provided by the HR department
    - Timeliness of services provided by the HR department

Improving the strategic orientation of HRM

In the literature the role of strategic partner of HRM is researched extensively (e.g. Armstrong, 2005, Baird & Meshoulam; 1988, Cascio, 2005, Ferris et al.; 1999) *"The HR function can and increasingly is making significant contributions to building an organization that is staffed by the right human capital to carry out the work of the firm and enable the accomplishment of business strategy* (Lawler III & Mohrman; 2003, p. 16)*."* The committee Van Rijn (2001) was appointed to research the problems of staffing the public sector with qualified employees and retain these employees. The committee Van Rijn (2001) mentions the role the HRM could have in solving these problems. In this way the HRM could play a significant role in strengthening the position of the public sector in the labour market. However, this required the renewal of the HR system and use of IT (MinBZK; 2006). It is therefore expected that the adoption of e-HRM technologies at the Dutch MIA was driven by the need of an increased strategic orientation of HRM.

Lawler III & Mohrman (2003) researched the content of the strategic role of HRM with a cross-sectional analysis of HR activities changes. They found that the organisations with HR as a full strategic partner made more changes in the way they designed and planned organisational development then organisations without HR as strategic partner. The authors related this higher degree of changes, to the strategic partner role of the HR of these organisations. *"It is impossible to tell from our data whether doing more work on organizational design and development leads to HR being more of a strategic partner, or the reverse hold….Regardless of the exact causality here, the evidence is clear that being a full partner involves being increasingly active in the organizational design and development area* (Lawler III & Mohrman; 2003, p. 21)*."* The link with the implementation of e-HRM technology is according Lawler III & Mohrman (2003) that the technology frees up time in the HR organisation which can be spent on the activities related to the strategic role of HR. The authors divided the design and planning of organisational development further in:

- HR planning activities: The forecasting of HR needs and the projected matching of individuals with expected job vacancies (adapted form Daft; 2000)
- Organisational development activities: The application of activities for improving organisational performance through increasing its ability to cope with environmental changes, improve internal relationships, increasing problem solving capabilities and the full use of human potential (adapted from Daft; 2000, 2001)

- Organisational design activities: Defining the set of formal tasks assigned to individuals and departments, formal reporting relationships (including lines of authority, decision responsibility, number of hierarchical levels, span of managers' control), and the design of systems to ensure effective coordination of employees across departments (adapted from Daft; 2000)
- Strategic planning activities: Deciding about action steps how to attain organisational goals (Definition adapted from Daft; 2000)

Allowing integration of HR functions

According to Ruël et al. (2004), the need for integration of the HR function can be an e-HRM goal. Although, the authors found this goal within international organisations it is expected that this e-HRM goal also can be found within the public sector as the adoption of a Shared Service Centre HRM is initiated by the Dutch Ministries. The committee Van Rijn (2001) concluded that the different HR functions of the different parts of the public sector should be integrated into a single Shared Service Centre HRM. Another suggestion made by the committee was outsourcing parts of the HR function to the private sector. IT should enable the integration of the dispersed HR function and therefore could be HRM goal for the adoption of e-HRM technologies within the Dutch MIA. Lepak & Snell (1998) state that IT can be of support when the HR function is to be integrated as different parts of the HR function are provided by different parties (managers, employees, HR professionals or even other organisations). There are however two conditions for the integration of the HR function (Ruël et al.; 2004). These conditions were used to measure the intention of the organisation to integrate the dispersed HR functions and are:

- Standardisation of the HR function: Equalise the content of the HR processes of different organisations (public or / and private)
- Harmonisation of dispersed HR functions: Enable cooperation of the HR function of different organisations (public or / and private)

3.1.2 Clarity of e-HRM goals

"The goals that drive parties, stakeholders, and individuals in organisations will set a framework for the real e-HRM applications and approaches to be implemented (Ruël et al.; 2004, p. 367)*."* In other words, the goals for implementing e-HRM technologies of a specific organisation have an influence on the use of the technology. It is therefore important that the goals are interpreted right by the end-users or else it might lead to unintended use of the technology. Ruël (2001) elaborates on the clarity of spirit of office technology. The spirit of the technology should lead to the right user behaviour of end-users of the technology. It is beyond the scope of this research to elaborate on the clarity of spirit of e-HRM technology and its effects on the appropriation of the e-HRM technology. However, the e-HRM goals could be considered as the framework that should lead to the intended use of the technology by end-users. It is therefore important that these e-HRM goals are known and understood by

the end-users of the technology. It is expected that when end-user understand the e-HRM goals and the intended effects of the e-HRM technology, it will positively affect the use of the e-HRM technology which is expected to lead to the intended use of the technology.

3.1.3 Summarising e-HRM goals

Four potential e-HRM goals are expected to have lead to the adoption e-HRM technologies. Besides this, it is expected that the clarity of the e-HRM goals will affect the use of the technology.

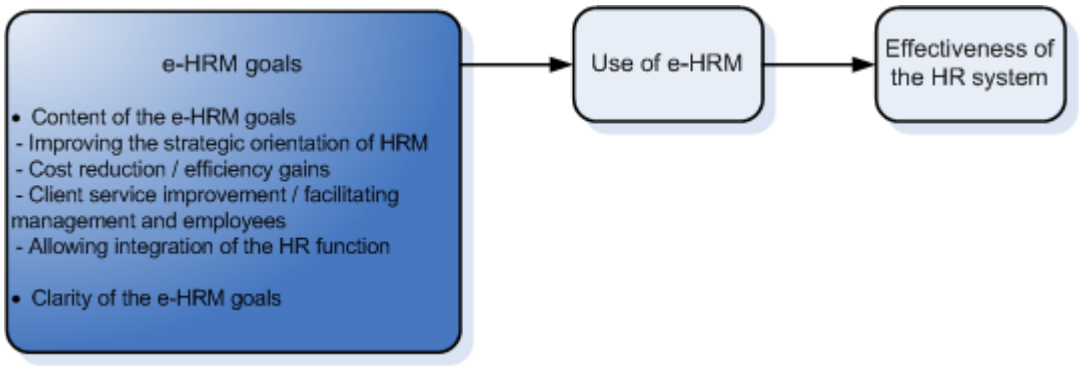

Figure 3, E-HRM goals uncovered in the preliminary theoretical framework

3.2 The use of the e-HRM technology

In this paragraph the actual "use of the e-HRM" technology block of the preliminary theoretical framework will be will be uncovered.

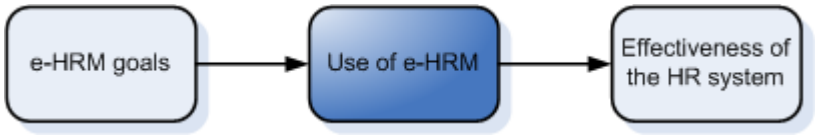

Figure 4, Uncovering the block of the "use of the e-HRM" of the preliminary theoretical framework

To understand how the information technology is used to perform the HR activities it is important to consider three aspects:

- The e-HRM activities
- The type of technological support for e-HRM
- The user acceptance of the e-HRM technology

The implementation of the e-HRM technology has the consequence that specific HR activities are devolved to managers and employees and thus the implementation of e-HRM technology influences the division of HR responsibilities. It is however unclear how this division of responsibilities between managers, employees and HR professionals should be

made. It is expected that the organisations' overall strategy has an influence on the division of the responsibilities.

Besides what activities are provided through e-HRM technology, it also important to study how technology is used to support the activities. The provision of HR activities with the support of e-HRM technologies can occur in different ways. At the one extreme the web-based channels can be used for e.g. the collection and recording of data, at the other extreme the web-based channels can be used to change the way the organisation operates. The way the e-HRM technology is used determines the impact of the e-HRM technology and is therefore very important to consider.

As last, it is important to analyse the factors that have an influence on the user acceptance of the technology, as it is expected that the user acceptance also has an influence on the use of the technology. There has been a lot of research done on how characteristics of the technology and the work environment of employees influence the actual use behaviour of end users of the technology. An exploration of the IT research will be conducted to explain the actual use behaviour of end-users.

3.2.1 E-HRM activities

As described in the introduction chapter, self-service for managers and employees are the key concepts of e-HRM. Managers and employees, when using the e-HRM web-based-technologies, are made responsible for fulfilling some of the activities of the HR function. In this way a new HR architecture is created. In this study HR architecture refers to a 'map' of responsibilities of different parties for the fulfilment of HR activities. However, not all the HR activities are suitable for self-service of managers and employees. Snell et al. (1996) suggest that, as HR strategy in most cases is aligned with the organisation's overall strategy, the IT strategy should be aligned with the organisation's overall strategy too. As the overall strategy of the organisation has an influence on the choice for specific of e-HRM tools, the strategy of the organisation arguably has an influence on the design of the HR architecture. The impact of the organisation's overall strategy on the HR architecture therefore will be discussed in this paragraph.

The use of e-HRM technology also is expected to lead to changes in time spent by HR professional spent on specific HR activities. This is expected to be caused by the new HR architecture, which divides the HR responsibilities over employees, managers and HR professionals. This will be elaborated in paragraph 3.2.2.

In the new, driven by the implementation of e-HRM technologies, HR architecture there is an increased role for managers and employees in the fulfilment of the activities of the HR function. As the implementation of e-HRM technologies changes the HR architecture, it is interesting to study the impact of these changes in the HR architecture of HRM. It is however

important to understand what this HR architecture is, and what determines a specific composition of the HR architecture before its impact on HRM can be studied properly. Therefore, the concept of the HR architecture will be discussed first.

The HR architecture

The study of Lepak & Snell (1998) focuses on how the HR function is to be structured to help organisations compete as the 21st century approached and therefore could contain the answer to the question how to 'map' the responsibilities for the different HR activities. The authors explore the notion of virtual HR. Virtual HR is defined as a network-based structure built on partnerships and typically mediated by information technologies to help the organisation acquire, develop, and deploy intellectual capital. Organisations are forced to create this network-based structure for the delivery of HR activities by the four pressures (by Lepak & Snell; 1998) placed on the contemporary HR department mentioned in the "e-HRM goals" chapter. Outsourcing HR activities to an external party is considered as a solution to these pressures and could enable the HR department to deal with the pressures and fulfil its role supporting the HR system as effective as possible (Lepak & Snell; 1998). This means that there should be made a distinction what activities should be outsourced and what activities should be performed internally to create an HR architecture that is as effective as possible. The HR architecture therefore is understood as the representation of the responsibilities of different parties for the delivery of the activities of the HR function.

It is expected that the adoption of e-HRM affects the architecture of the HR function. In other words, it is expected that the adoption of e-HRM affects the responsibilities of the different stakeholders of the HR function for performing HR activities. When an organisation has implemented e-HRM, some of the HR activities of the HR function are provided through web-based-technologies and become the responsibility of managers and/or employees, known in the literature as the devolution process. But not all the HR activities are suitable for devolution to managers and employees. Some activities for example require knowledge of the HR professionals. The challenge now is how to categorise the different HR activities, and analyse if there are differences in suitability for devolution to managers and employees through web-based-technologies. This could be of support in explaining the causes of the impact of e-HRM on the HR system as a whole.

When the devolution of HR activities to the managers and employees is conceived as the outsourcing of activities to managers and employees (supported by Trapp; 2001), the body of literature about outsourcing HR activities could give an answer to the question which activities are suitable for devolution to the managers and employees.

A contingency framework for the 'mapping' of the HR activities

Lepak & Snell (1998) present a model, which supports organisations to map their portfolio of HR activities into an overall architecture of virtual HR (Lepak & Snell; 1998). According to

Lepak & Snell (1998) HR activities can be delivered internally or externally. The external delivery of HR activities can be further divided in the delivery based on contractual arrangements and partnerships.

- A contractual arrangement refers to relationships where the external party performs some well defined standard HR activities, in which the external party is specialised, for a limited period of time (Lepak et al.; 2005)
- In a partnership the external party takes up the responsibility of some of the HR activities and tries together with the internal HR function of the organisation to fulfil the organisation's demands over a longer period of time (Lepak et al.; 2005).

Where the focus of the research of Lepak & Snell (1998) and Lepak et al. (2005) is on activities that should be delivered externally and activities that should be delivered internally, the focus of this research is on which activities are suitable for devolution to managers and employees. The activities delivered internally are divided in activities for which the HR professionals are responsible for, and activities for which managers and employees are responsible. Together with the research on the internal or external delivery of HR activities, this research brings more details into the problem of how to design the HR architecture. Which activities should be delivered by the HR department, which should be delivered externally and which activities should be the responsibility of managers and employees? A schematic presentation of the focus of this study can be found in figure 5.

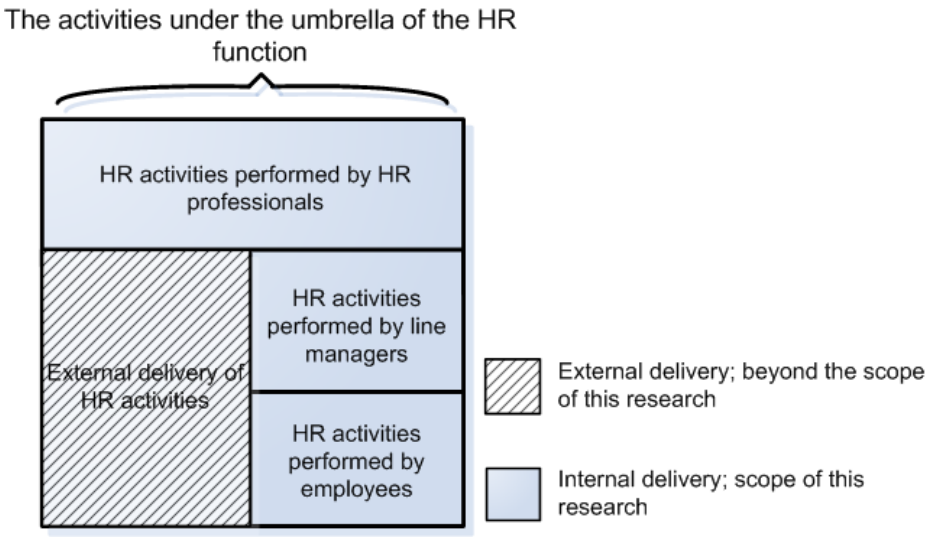

Figure 5, Schematic presentation of the focus of this study

"Too often, outsourcing decisions in HR are driven by cost considerations without an eye toward broader strategic issues (Lepak & Snell; 1998, p. 220)*."* The authors stress the strategic importance of making the right decision of designing an HR architecture. How should a distinguishing be made between HR activities that are done internally versus those that are done externally? Two dimensions are believed to serve as strategic criteria for determining which HR activities are suitable for outsourcing and those, which are not. They

are the dimensions of value of an HR activity and the uniqueness of an HR activity (Lepak & Snell; 1998). In this way the HR architecture is aligned with the organisation's overall strategy.

For the categorisation of the e-HRM activities on their strategic value, it is necessary to measure their value and uniqueness for the specific organisation. This is a difficult step. *"A particularly important challenge for managers adopting an architectural perspective to map virtual HR is determining which HR activities are most and least important from a strategic point of view and deciding the most appropriate structural alternative for their deployment. In other words, managers must determine which activities fall into which quadrant* (Lepak & Snell; 1998, p. 225-226)*."* However, an important point to consider is that an activity considered valuable for a specific organisation does not have to be valuable for another organisation. The same applies to the uniqueness of an HR activity. This implies that the HR architecture of different organisations differs. For some organisation a specific HR activity is considered a core activity were for another organisation the same activity is considered peripheral. Besides this, managers should also consider the value and uniqueness of combinations of HR activities. Managers may choose external or internal delivery of a combination of HR activities. It is however more likely that a choice of delivery is made for every individual activity. (Lepak & Snell; 1998).

Value of HR activities

"The value of an HR activity depends on its ability to help firms achieve a competitive advantage or develop core competencies (Lepak & Snell; 1998, p. 222)*."* Activities that are considered valuable should be provided internally, where activities considered not valuable are candidates for outsourcing. The question still remains when an activity is considered valuable and when not valuable. The authors suggest that HR delivers to customers (i.e. managers, employees, job applicants, contractors, partners, etc.) and therefore valuable HR activities are those activities perceived valuable by the customers of HRM who directly depend on HR services. However, Lepak & Snell (1998) state that the value for the customers of the organisation as a whole is considered more important as the value of HR's own direct customers. Of course, the costs of deployment of an HR activity internally or externally should be considered in determining the HR architecture (Lepak & Snell; 1998).

- Value of an HR activity: The value of an HR activity is its ability to help firms achieve a competitive advantage or develop core competencies (Lepak & Snell; 1998, and Lepak & Snell.; 2002). The value of an HR activity can be characterised by:
    - Contribution to the creation of customer (civilians and organisations) value
    - Affect the efficiency or productivity of the organisation
    - Affects the quality of products/services
    - Affects the costs of production, service, or delivery
    - Affects the ability to develop new markets/products/services

- Strategic benefits derived from a particular HR activity relative to the costs with its deployment

Uniqueness of HR activities

Besides the value of an HR activity, the uniqueness of an HR activity is an important determinant for designing the HR architecture, which should be able to fulfil the demands of the organisation. An HR activity is considered unique when its characteristics are specific for the organisation, or when there is scarcity in the external market for the delivery of these specific HR activities. *"As HR activities become more idiosyncratic to a particular firm, relying upon an external arrangement may prove infeasible and/or incur excessive costs since these activities are not likely to be readily available in the open market. And if rare, they may be extremely costly to acquire, thereby diminishing their potential value* (Lepak & Snell; 1998, p. 223)*."* When an HR activity is considered generic or standardised across firms, the costs of internal delivery may not be justified when external vendors can deliver the specific activities more efficient. Besides the uniqueness of a specific HR activity, firm-specific combination of HR activities can also be considered unique. Externalising parts of a firm-specific combination of HR activities may decrease the uniqueness of the entire configuration. (Lepak & Snell; 1998)

- Uniqueness of an HR activity: An HR activity is considered unique when its characteristics are specific for the organisation, or when there is scarcity in the external market for the delivery of these specific HR activities (Lepak & Snell; 1998, and Lepak & Snell; 2002). The uniqueness of an HR activity can be characterised by:
    - Firm specificity of an HR activity
    - The degree of customisation to the organisation of the HR activity
    - Scarcity of external providers of the HR activity (infeasible / costly)
    - Distinguishes the organisations from organisations
    - The difficulties faced when the HR activity is replaced
    - The degree of which the HR activity is inimitable
    - Organisation-specific combination of HR activities

The value and uniqueness of HR activities combined

The two dimensions (continua) of value and uniqueness of an HR activity can be combined in a map spanning the HR activities. This model gives insights in how to design the HR architecture to meet the organisational demands of enhanced efficiency, flexibility, strategic focus and customer responsiveness (Lepak & Snell; 1998). The map consists out of four quadrants varying on high or low value and high or low uniqueness (see figure 6). The HR activities are divided over the four quadrants according their value and uniqueness for specific organisation. In this way, the organisational characteristics have an influence on the HR architecture.

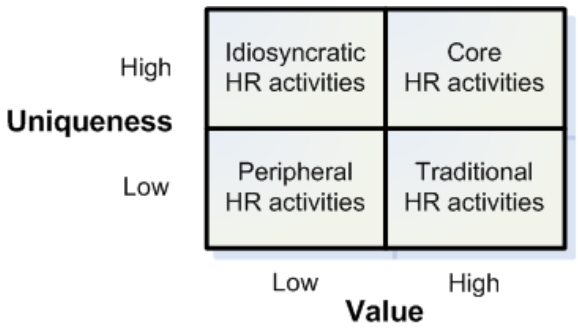

Figure 6, The value and uniqueness of HR activities (adapted from Lepak et al.; 1998)

Idiosyncratic HR activities have a unique character but are of limited or infrequent value. Partnerships for the delivery of activities conducted by for example, industrial psychologist, lawyers, and accountants may provide an alternative for these specialised activities. In this way an organisation can access specialist knowledge without incurring the costs for internal development of these highly specialised functions. However, the organisation and the external party have to work together to co-design and execute these HR activities to meet the unique needs of the organisation. (Lepak & Snell; 1998) Because idiosyncratic HR activities require specialist knowledge and because the external delivery of these activities provides a good alternative, these HR activities should not be provided through web-based-technologies. They are candidates for external delivery and not suitable for devolution to managers and employees. Therefore, these activities are beyond the scope of this study (see figure 5).

Core activities have a high value and are unique for the organisation. The unique character of the activities makes external delivery difficult and especially costly. Core HR activities should be developed internally to achieve a competitive advantage. The strategic benefits exceed the costs of the internal delivery of these activities. Organisations therefore have strategic incentives to retain and deliver these activities internally (Lepak & Snell; 1998). The study of Lepak & Snell (1998) however, does not elaborate on who should be responsible for these HR activities. Should the managers, employees or of the HR professionals be responsible for the fulfilment of these HR activities? The core HR activities are characterised as unique for a specific organisation. They are very valuable and require special HR knowledge. Therefore, it is expected that these activities are the responsibility of the HR professionals. The specialist knowledge required to perform these activities makes them less suitable for the devolution to managers and employees.

Traditional HR activities are important as they have a high value but are rather generic or standardised. As the number of external vendors grows, advances in IT are made and the sophistication of HR software increases there are a lot of solutions for the deployment of these activities. IT of external vendors offers al lot of solutions for the delivery of these generic standardised activities. This gives organisations the flexibility to choose a solution saving a lot on developmental expenditures for the deployment of these activities. (Lepak &

Snell; 1998) The value of these activities justifies the internal delivery of these activities and together with the suitability for IT support, one might expect that these activities are suitable for the devolution to managers and employees.

The difference between peripheral HR activities and traditional HR activities is that peripheral HR activities besides the limited uniqueness also have a limited value. The high codification within industry standards, design specifications, and the like make these HR activities candidates for outsourcing. External parties may prove more efficient in the delivery of these activities. (Lepak & Snell; 1998) As technology improves and e-HRM technologies make delivery through e-HRM tools possible, it is expected that these activities are delivered internally. Managers and employees in this way free the HR professionals form these standard low value HR activities. It is therefore expected that the peripheral HR activities are provided through web-based-technologies and are the responsibility of managers and employees.

Every single HR activity can be mapped in one of the four quadrants by determining its value and uniqueness for a specific organisation. In this way the organisation's strategy becomes a determinant in designing the HR architecture. It is expected that HR activities with a low uniqueness are devolved to managers and employees. Core HR activities are expected to be performed by the HR professionals.

The use of e-HRM technology is expected to lead to changes in times spent by HR professionals on specific HR activities. This change is driven by the new HR architecture were employees and managers are expected to have more HR responsibilities. HRM technology is expected to lead to changes in the time spent by HR professionals on IT activities, administration activities, supporting managers and employees, and strategic activities.

3.2.2 Time spent on HR activities by HR professionals

The e-HRM technology enables managers and employees to take care of some of the activities under the HRM umbrella themselves without the intervention of an HR professional (Lengnick-Hall & Moritz; 2003). This has consequences for the job content of the HR professionals. *"Less administrative tasks for the HR department and therefore less administrative positions, more focus on strategic goals of the organisation and therefore* an *HRM staff consisting mainly of 'thinkers'* (Ruël et al.; 2004, p. 369)*." "Getting run-of-the-mill things done electronically frees up HR people to do more important stuff face-to-face* (Trapp; 2001, p. 31)*."* Gardner et al. (2003), Hempel (2004) but also Snell et al. (1996) see a role for the HR professional in maintaining and developing e-HRM applications. Stanton & Coovert (2004) even see a bridging role for HR professional between IT and its end-users. The use of e-HRM technology is expected to lead to changes in the time spent by HR professionals on:

- Strategic activities
- IT activities
- Administration activities
- Supporting managers
- Supporting employees

The expected changes in time spent on specific HR activities is driven by the use of e-HRM technology and is expected to have an impact on the HR function and will therefore be researched. For measuring the time spent on strategic activities the theory of Lawler III & Mohrman (2003) again was used (see paragraph 3.1). The authors state that HR departments which have an increased strategic orientation spent more time on:

- HR planning activities
- Organisational development activities
- Organisational design activities
- Strategic planning activities

The theory of Hempel (2004) was used to measure the time spent on IT activities Hempel (2004) identified three approaches for confronting HR professionals with the use of technology, namely:

- Introduction with computer tools approach: When HR professionals for the first time are confronted with the use of IT for the support of their work
- User approach: Introduction of commercial HRIS and the use for HR professionals
- Developer approach: Where HR professionals are confronted with system implementation and operation, managing IT projects, system planning and selection, determining and structuring system requirements, selecting design strategies, designing the human interface, and designing databases

The time spent by HR professionals on administration activities, supporting managers, and supporting employees was measured very straightforward and does not need elaboration.

Besides, the HR activities supported by e-HRM technology, the way the technology supports the HR activities also determines the impact of the e-HRM technology. It is therefore expected that the impact of e-HRM on the HR system is dependant on the type of the e-HRM technology support. This will be elaborated in the following paragraph.

3.2.3 A new approach to e-HRM types

IT can support HR activities in different manners. There is however no typology on how technology can support e-HRM activities. This however could increase the insights in how the e-HRM technology is used within the organisation. The typology should enable the organisation to look for opportunities for technology support of e-HRM activities or even benchmark their technology with alternative technologies. Although there is no typology on e-HRM support, there are some typologies on what organisations can achieve with IT supporting HR activities.

Lengnick-Hall & Moritz (2003) describe in their article the history of e-HRM. They have identified three different levels of e-HRM that have developed over time, namely:

- Publishing information
- Automation of transactions
- Transformation of the organisation

The first form of e-HRM, simply publishing information, involves one-way communication form the organisation to employees or managers through web-based channels. The second higher-level form of e-HRM involves the automation of transactions, workflow, and even supply-chain integration where paperwork is replaced by electronic input. Managers and employees can access databases, update information, search for needed information, and make decisions. The third and highest-level of e-HRM involves the transformation of the HR system. (Legnick-Hall & Moritz; 2003). The theory however, describes what the role of the e-HRM technology in the organisation is. The theory fails to describe how technology can be used to support HR activities.

Lepak & Snell (1998) suggested that IT can influence the integration HR function, when the responsibilities for performing the HR activities are dispersed, in three ways. IT can influence operational, relational and transformational integration of the HR function. This theory is used by Ruël et al. (2004) for the categorisation of e-HRM technology in three types, namely:

- Operational e-HRM
- Relational e-HRM
- Transformational e-HRM

Operational e-HRM technology is concerned with the basic HR activities in the administrative area. For example, employees keeping their own personal data up-to-date through an HR portal. Relational e-HRM concerns more advanced HR activities. The emphasis here is on tools that support basic HR processes such as the use of web-based-technology for recruitment and selection of new personnel. Transformational e-HRM technology is concerned with HR activities with a strategic character as for example, creating a change-

ready workforce through e-HRM technology that enables the workforce to develop in line with the company's strategic choices. (Ruël et al.; 2004)

The categorisation of Ruël et al. (2004) uses the HR activities provided through web-based channels as a basis for the categorisation. The categorisation of the technology is made dependant on which HR activities are provided through web-based channels. It is however expected that is not so important which type of HR activities are provided through e-HRM, but how these activities are supported. Therefore the categorisation of Ruël et al. (2004) is not useful for this research. For this research, it is important to characterise the way the technology supports the HR activities, because it is expected to affect actual usage. Therefore, a new typology, which categorises the type of technological support, needs to be developed.

The theories of Snell et al. (1996) and Lengnick-Hall & Moritz (2003) can be used as starting points for the development of a new typology to determine the kind of e-HRM support the technology offers. The theories of Snell et al. (1996) and Lengnick-Hall & Moritz (2003) can be used to get insights in the differences in how IT can be used to support e-HRM. The different types of e-HRM support seem to vary, according the theory of Snell et al. (1996) and Lengnick-Hall & Moritz (2003), on two aspects, namely:

- The intended impact of the technology
- The role of IT in supporting an HR activity

These differences in support, allow the creation of a typology with three levels of e-HRM support. For this research the following typology for the support of e-HRM activities is used:

- Informational e-HRM support
- Relational e-HRM support
- Transformational e-HRM support

Figure 7 depicts the differences between informational, relational, and transformational e-HRM support in a more detailed level.

Varies over \ Type of e-HRM support		Informational e-HRM technolgy	Relational e-HRM technolgy	Transformational e-HRM technolgy
Intended impact of the IT	Target	HR department	HR function	Organisation
	The impact of the technology	Reducing administrative and informing pressure on the HR professionals	Optimising the workflow between employees, management and HR professionals	Creating of a flexible organisation
	Means	Provision of HR data through web-based channels	Automation of HR actvities and workflow support of the HR activities	Supporting the execution of HR activties adjusted to the specific situation
Role of IT in supporting an HR activity	IT capabilities	Digitilising HR data and making this HR data available for its stakeholders	Steering and recording of the interactions and mutations made when an HR activity is performed	Bypassing organisational hierarchy and freeing up HR decission-making from bureaucracy
	Technology ..... HR data	provides and records	supports the flow and recording of	analyses, processes and distributes

Figure 7, The differences between informational, relational, and transformational e-HRM support

Informational e-HRM support

Informational e-HRM support can be characterised as support that is primarily focussed on improving the operational efficiency of the HR system (adopted from Snell et al.; 1996). This is realised by the automation of HRM. This description however, is very broad as all the three types of support contain an automation part that increases the efficiency of the HR system. Lengnick-Hall & Moritz (2003) state e-HRM in its most simple form can be used to inform the employees, managers, and HR professionals. Relevant changes in policies can be communicated by means of IT in a cheap efficient manner. Digitalising HR data enables online provision of data. In this way the employees, managers and HR professionals can quickly obtain the required data. The technology supports the provision of data to the different stakeholders and records mutations on the data. Informational e-HRM support is for this research understood as:

The digitalisation of HR information and data, and the provision and recording of this information and data through web-based channels

With informational e-HRM supports, employees, managers and HR professionals are enabled to obtain data necessary for performing their HR activities. This data can be personalised for the specific end-user, or it could contain general information necessary for performing the HR activity. However, an HR activity is often performed by multiple persons within the HR function. Informational e-HRM support does not support the process or workflow of such an activity. The technology only provides the employees, managers, and HR professionals with the necessary data to perform the activity, and in some cases records

mutations in the data. Figure 8 is a schematic presentation of the HR function in which an HR activity is performed by multiple persons with the support of e-HRM. In this situation the employee triggers the execution of an HR activity. The mutations are first checked/completed/altered by the manager of the employee and finally checked/completed/altered by a HR professional. Figure 8 represents a specific HR activity, and the figure could be different when another HR activity was presented. However, it is important to understand what the role of the technology is in supporting the activity when informational e-HRM support is adopted. It enables the employees, managers, and HR professionals to acquire the right information for making decisions. It does however, not support the flow of the HR activity.

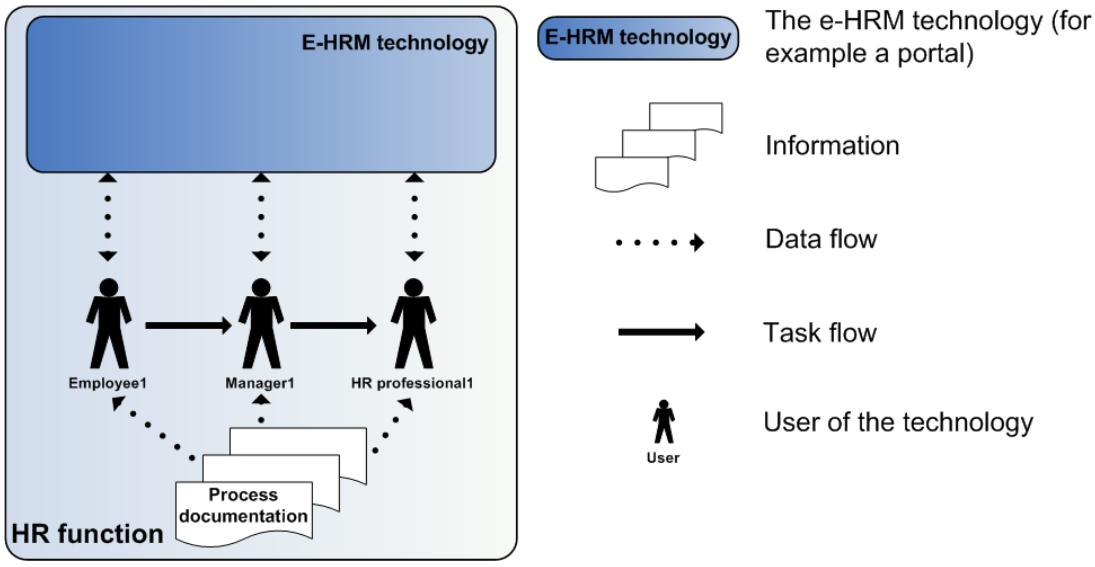

Figure 8, Informational e-HRM support

Relational e-HRM support

Whereas informational e-HRM support is primarily focussed on providing information to the employees, managers, and HR professionals in an efficient manner to reduce the pressure on the HR department, relational e-HRM support is focussed on how the technology supports the flow of an HR activity between the HR department and its customers (Snell et al.; 1996). The technology supports the execution of the specific HR activities and supports the flow of data between end-users of a specific HR activity through web-based channels. In this way the technology plays a big role in the execution and support of the HR activity. Relational e-HRM support is for this research understood as:

Providing HR processes through web-bases channels to the people of the HR function

Relational e-HRM support, supports the flow of an HR activity between the employees, managers, and HR professionals. These interactions are supported when a specific HR activity is performed which requires efforts of multiple persons. Therefore, it is necessary that the e-HRM technology contains the process flow of this specific HR activity. When, for

example an employee has performed an HR activity by using his HR portal, the technology ensures that the next person in the process is enabled to perform the next step in the process. The comparison with workflow management system could therefore be made. *"A system that defines, creates and manages the execution of workflows through the use of software, running on one or more workflow engines, which is able to interpret the process definition, interact with workflow participants and, where required, invoke the use of IT tools and applications* (WFMC; 1999, p. 9)*."* The difference however is that workflow management systems are aimed at business processes which are associated with the organisation's operational objectives or business relationships (WFMC; 1999). Relational e-HRM support is focussed on the support of the interaction between the customers of the HR department and the HR department. The benefits of relational e-HRM are optimised, when the technology provides the end-users performing the HR activity, with the information necessary for performing the task (which means complete informational e-HRM support). Figure 9 represents the performing of the same HR activity as in figure 8 However, in this situation the HR activity is supported by e-HRM technology in a relational manner.

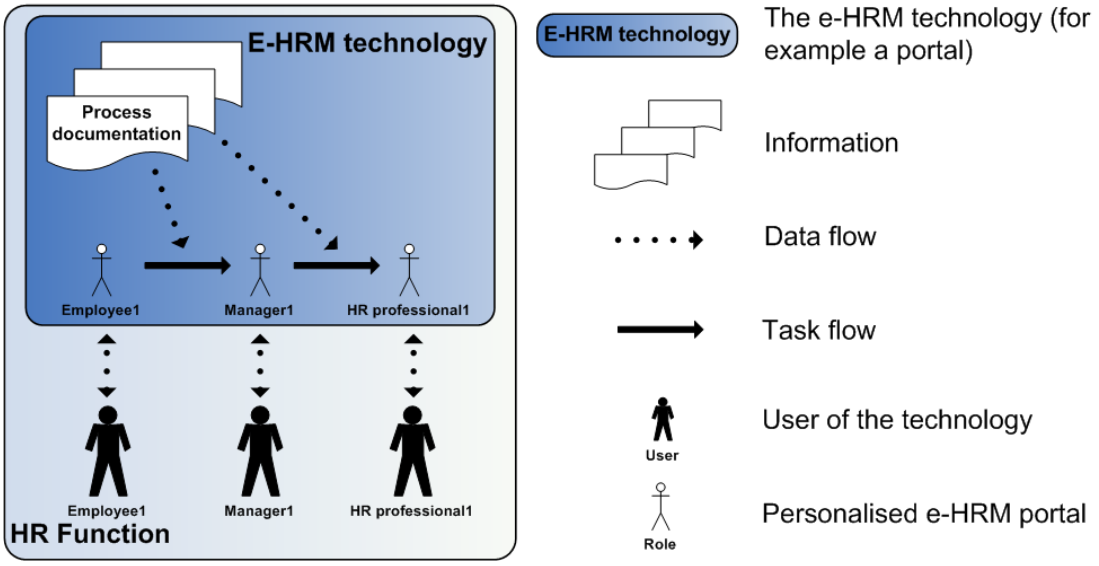

Figure 9, Relational e-HRM support

Transformational e-HRM support

IT can also support to change the organisation (Snell et al.; 1996). In these situations, there is transformational support of IT. The IT in these situations concerns the management of people (Snell et al.; 1996). IT bypasses organisational hierarchy and can steer the primary and secondary processes of the organisation. In other words, the technology replaces some of the bureaucratic processes of the organisation. In this way, the IT supports the HR function in creating a flexible organisation, which can be of value for the organisation. Transformational e-HRM is for this research understood as:

Technology that bypasses organisational hierarchies and frees up HR decision-making from the effects of bureaucracy

With transformational e-HRM support, the way the HR activities are performed changes. Besides the automation of the HR activities, new ways of conducting HR activities are adopted which were formerly unknown. It exceeds automating the existing HR activities. Transformational e-HRM support is about becoming flexible. Transformational e-HRM support could for example mean that the e-HRM technology divides HR tasks over the employees, managers, and HR professionals, by the use of knowledge management systems. The technology ensures that the activities are performed on time and by the right persons. Therefore, it is necessary that the technology can obtain the information required to steer the HR activities in the most efficient way. Figure 10 is again the representation of the HR function performing the same HR activity as in figure 8 and figure 9. This time however, the e-HRM technology supports the performing of the HR activity in a transformational manner. To stress the bypassing of organisational bureaucracy capacity of transformational e-HRM support, the e-HRM technology block in the figure contains a brain, which represents the decision-making capacity of the technology.

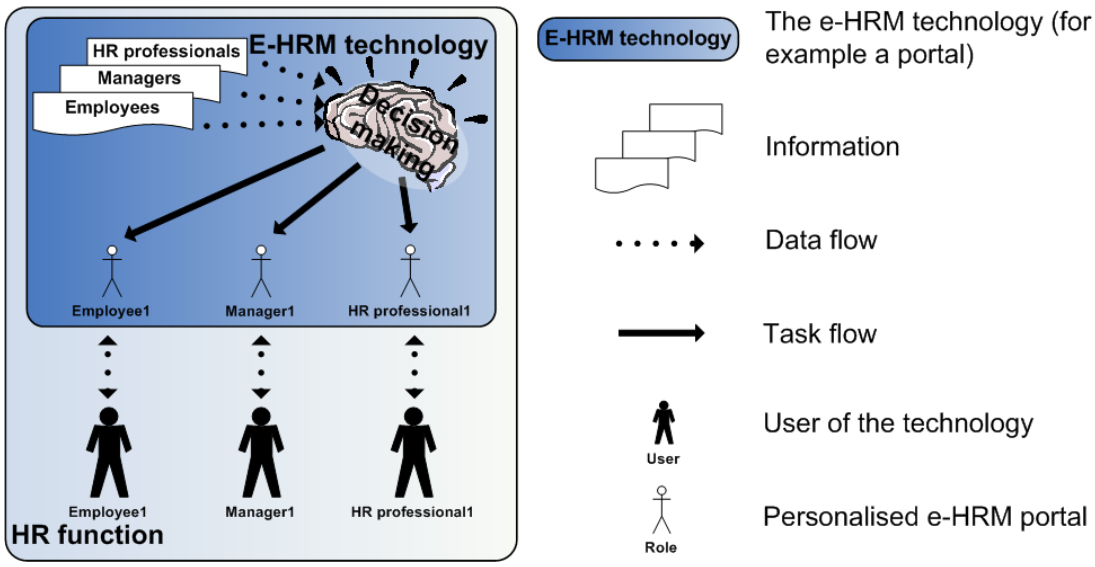

Figure 10, Transformational e-HRM support

3.2.4 The user acceptance of the e-HRM technology

IT research has long studied *how* and *why* individuals adopt IT. Within this broad area of inquiry, there have been several streams of research (Venkatesh et al.; 2003). One stream of research focuses on individual acceptance of technology by using intention or usage as a dependent variable. Other streams have focused on implementation success at the organisational level and task technology fit (Goodhue & Thompson; 1995).

Research has been conducted in the comparison of two streams of research, namely task technology fit and technology acceptance model (Klaus et al.; 2003). Task technology focuses on a fit between task and technology while the technology acceptance model focuses on the link between on the one hand perceived usefulness and perceived ease of use and on the other hand attitude towards use. Outcome of this research is that there is a weak link between task and technology and the fit between those two while there is a strong link between perceived usefulness and perceived ease of use and on the other hand attitude towards use. Therefore, it can be concluded that the technology acceptance model explains better why users actually use a technology and that is why this research includes an elaboration on the technology acceptance of users.

The stream about individual acceptance of technology will be further elaborated, as this model will be useful in explaining what influences the effectiveness of IT. In the last decade, several models created by different researchers with as starting point the Technology Acceptance Model. Venkatesh et al. (2003) have studied those models. Further, they unified the models in one model; the unified theory of acceptance and use of technology (UTAUT).

Technology Acceptance Model

Technology Acceptance Model (TAM) was researched by Davis et al. in 1989. It is an adaptation of Theory of Reasoned Action (TRA), which has its roots in social psychology. TAM is based on two beliefs namely that perceived usefulness and perceived ease of use are of primary relevance for computer acceptance behaviour, which results in figure 5.

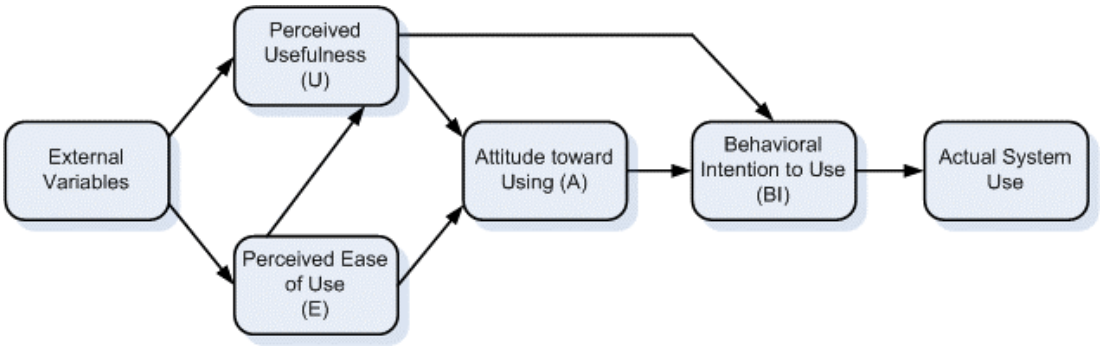

Figure 11, Technology Acceptance Model (Davis et al; 1989)

TAM postulates that behavioural intention (BI) determines actual system usage and that BI is only determined by perceived usefulness (U) and attitude towards using (A).

BI = U + A

A is jointly determined by U and perceived ease of use (E) which results in: A = U + E.

Three conclusions can be drawn upon this research (Davis et al.; 1989):

- People's computer use can be predicted reasonably well from their intentions.

- Perceived usefulness is a major determinant of people's intentions to use computers.
- Perceived ease of use is a significant secondary determinant of people's intentions.

Unified Theory of Acceptance and Use of Technology

In 2003 several models related to TAM were unified into one model, the Unified Theory of Acceptance and Use of Technology (UTAUT). Eight dimensions were identified to be determinants of intention of usage of IT (Venkatesh et al.; 2003). Four dimensions were theorised by Venkatesh et al. (2003) to be direct determinants of user acceptance and user behaviour: performance expectancy, effort expectancy, social influence and facilitating conditions see figure 12.

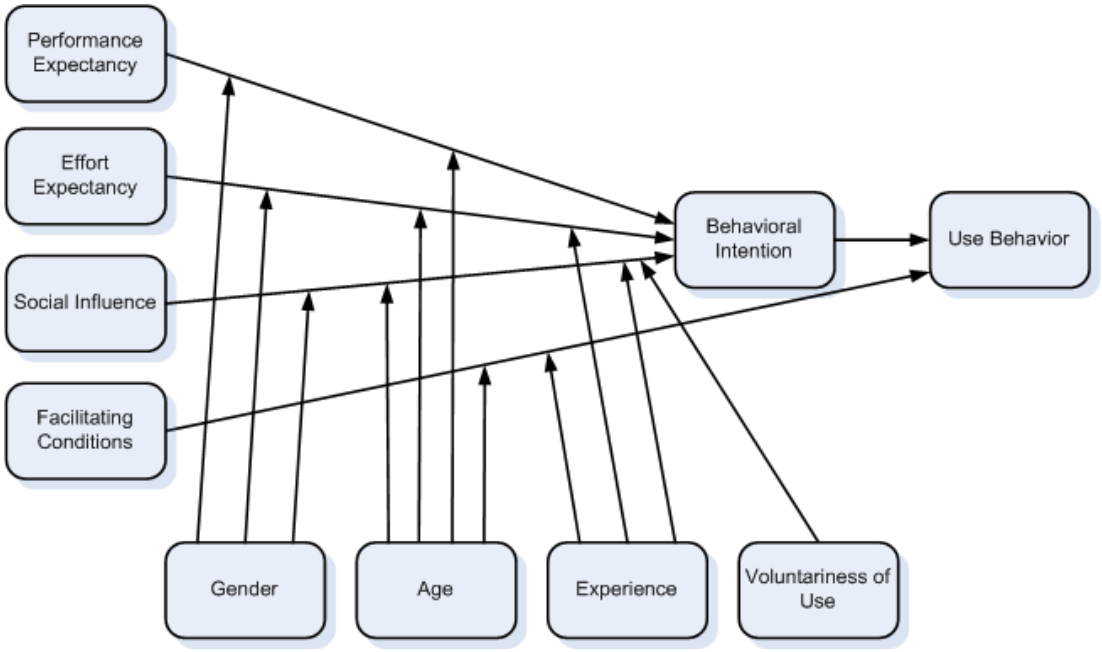

Figure 12, Unified Theory of Acceptance and Use of Technology (Venkatesh et al. ; 2003)

Performance expectancy

"Performance expectancy is defined as the degree to which an individual believes that using the system will help him or her to attain gains in job performance (Venkatesh et al.; 2003, p. 447)*."* Performance expectancy is the strongest predictor for intention of use and remains the strongest indicator at all points, in voluntary and mandatory settings. The relationship between intention and performance expectancy is moderated by gender and by age (Venkatesh et al.; 2003). So (Venkatesh et al.; 2003) state that *"The influence of performance expectancy on behavioural intention will be moderated by gender and age, such that the effect will be stronger for men and particularly for younger men* (Venkatesh et al.; 2003, p. 450)*."* The results verify the expectations. The effect of Performance expectancy was especially salient to younger men (Venkatesh et al.; 2003).

Effort expectancy

"Effort expectancy is defined as the degree of ease associated with the use of the system (Venkatesh et al.; 2003, p. 450)*."* Three moderators are expected to influence effort expectancy, namely age, gender and experience in work (Venkatesh et al.; 2003). It is proposed that *"the influence of effort expectancy on behavioural intention will be moderated by gender, age, and experience, such that the effect will be stronger for women, particularly younger women, and particularly at early stages of experience* (Venkatesh et al.; 2003, p. 450)*."* The effect of Effort expectancy was more salient to older women and also the effect was decreasing when experience increased (Venkatesh et al.; 2003).

Social influence

"Social influence is defined as the degree to which an individual perceives that important others believe he or she should use the new system (Venkatesh et al.; 2003, p. 451)*."* All four moderators are expected to effect social influence which results into the following hypothesis *"The influence of social influence on behavioural intention will be moderated by gender, age. voluntariness, and experience, such that the effect will be stronger for women, particularly older women, particularly in mandatory settings in the early stages of experience* (Venkatesh et al.; 2003, p. 453)*."* Results show that social influence is more important to women and more so to older women. Social influence's effect also decreased with experience.

Facilitating conditions

"Facilitating conditions are defined as the degree to which an Individual believes that an organizational and technical infrastructure exists to support use of the system (Venkatesh et al.; 2003, p. 453)*."* Aspects are included of technological and/or organisational environment that are designed to remove barriers to use a system. When Performance expectancy and Effort expectancy are present then (Venkatesh et al.; 2003) expect Facilitating conditions to be non significant in predicting intention. This results in the following hypothesis *"Facilitating conditions will not have a significant influence on behavioural intention* (Venkatesh et al.; 2003, p. 454)*."* However, when Facilitating conditions are moderated by experience and age this will have a significant effect on usage behaviour (Venkatesh et al.; 2003). *"The influence of facilitating conditions on usage will be moderated by age and experience, such that the effect will be stronger for older workers, particularly with increasing experience* (Venkatesh et al.; 2003, p. 454-455)*."* Results show that facilitating conditions was non significant as a determinant for intention. For predicting usage behaviour both behavioural intention and the facilitating conditions were significant. Facilitating conditions were moderated by age and the effect was stronger with increasing experience in technology (Venkatesh et al.; 2003).

Behavioural intention

It is expected that behavioural intention will have a significant influence on technology use. This results in the following hypothesis "*Behavioural intention will have a significant positive*

influence on usage (Venkatesh et al.; 2003, p. 456)." Results have proven that behavioural intention has a significant influence on technology usage (Venkatesh et al.; 2003).

The technology acceptance model has been proven useful for determining actual use of a system (Klaus et al; 2003). Important determinants are the four dimensions: performance expectancy, effort expectancy, social influence and facilitating conditions. Three dimensions (performance expectancy, effort expectancy, social influence) are direct determinants of behavioural intention and behavioural intention and the dimension facilitating conditions are direct determinants of use behaviour.

Together with type of technological support, the HR activities provided through the web-based channels and the time spent on them, the user acceptance of the technology characterises the use of the e-HRM technology. The use of e-HRM technology is expected, as mentioned before, to have an impact on the HR system.

3.2.5 Summarising the use of e-HRM

The actual use of the e-HRM technology is schematically represented in figure 13.

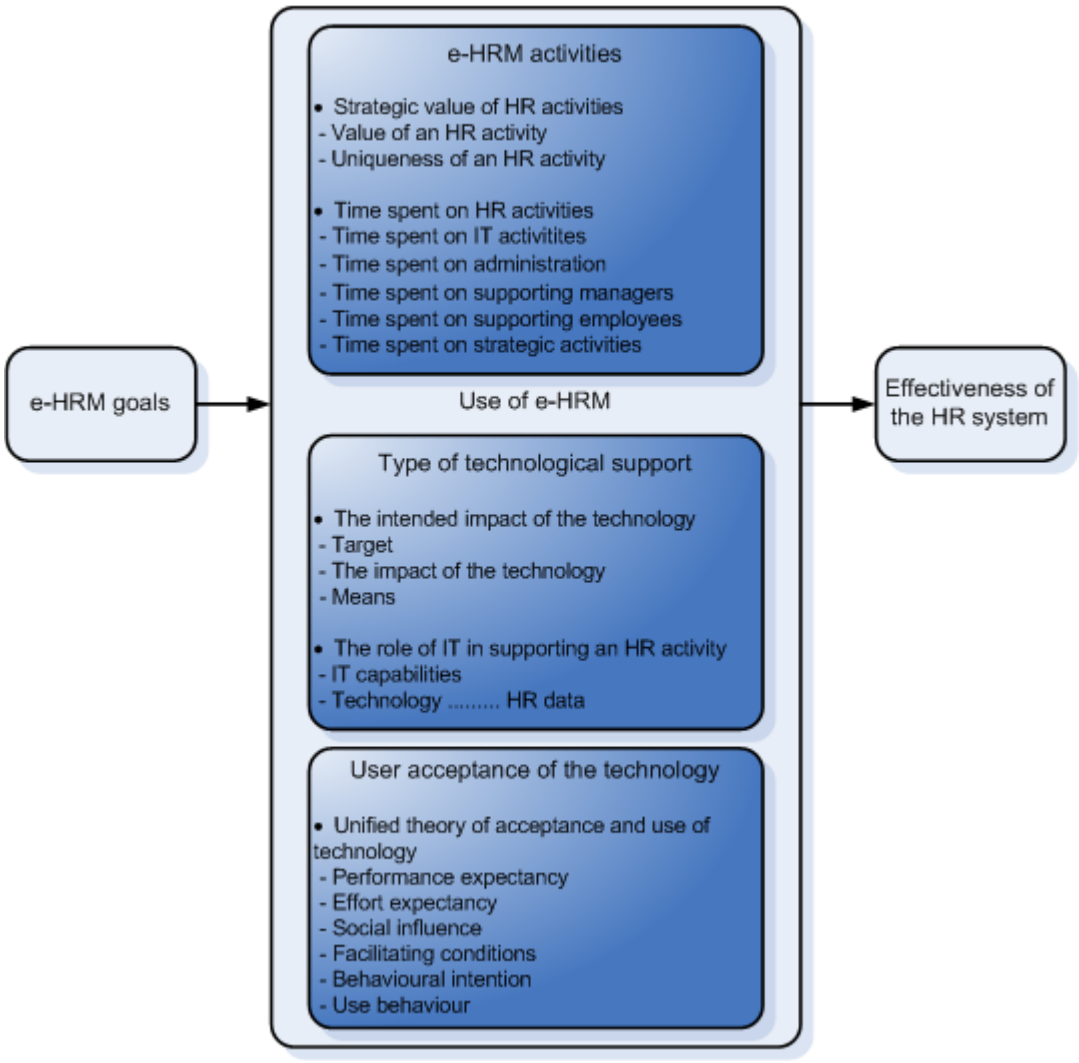

Figure 13, The actual use of e-HRM uncovered in the preliminary theoretical framework

3.3 The impact of e-HRM on the effectiveness of the HR system

In this paragraph the actual "impact of e-HRM on the HR system" block of the preliminary theoretical framework will be uncovered.

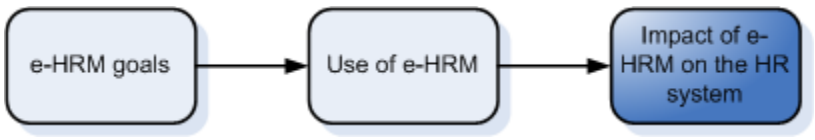

Figure 14, Uncovering the "impact of e-HRM on the HR system" block of the preliminary theoretical framework

The previous paragraph elaborated on how the use of e-HRM technologic might have an impact on the HR system. This impact can be analysed from two different perspectives, namely:

- The impact of e-HRM technology on the HRM performance
- The impact of e-HRM on the job of the HR professional

Besides the differences in perspective, studies on the effectiveness of the HR system often differ in the level of analysis of the HR system. Some studies focus on a single HR activity while others analyse the HR system as a whole. The study of Lepak et al. (2004) states that there are three levels of analysing the HR system and that consideration of all the three levels are important to understand HRM in practice. The arrows indicated the direction of influence. This means that when the HR system is not effective on the highest level this will negatively affect the effectiveness of the HR system at the lower levels. The three levels and the way they influence each other are presented in figure 15.

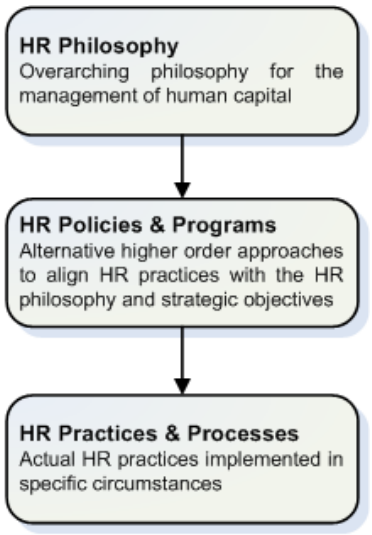

Figure 15, Level of analysis (adapted from Lepak et al.; 2004)

The HR philosophy

The HR philosophy is *"a statement of how the organisation regards its HR, what role the resources play in the overall success of the business, and how they are to be treated and managed* (Schuler; 1992, p. 21)*."* It is a very general statement, which can be interpreted and implemented in different ways and can be found in the organisation's "statement of business value". It does however not describe how and which activities should be performed for managing the HR. (Schuler; 1992)

The HR policies and programmes

An HR policy, used in this context, does not mean an HR policy manual. The HR policies do not contain rules prescribing the HR activities to be performed. They however, provide guidelines flowing from the strategic business needs to align the different HR activities to create an HR system that contributes to the same business needs. HR programmes are the efforts, which should be undertaken to align these HR activities. (Schuler; 1992) Thus, the HR policies provide guidelines for HRM issues related to the strategic needs of the

organisations and HR programmes represent coordinated efforts to implement these policies related to the strategic needs (Lepak et al.; 2004).

The HR practices and processes

The HR practices describe how behaviour of employees can be directed to contribute to organisational performance. They describe what the HR system should try to achieve with the employees. Three roles are necessary to achieve the right behaviour of employees. The roles for the HRM are (Schuler; 1992):

- Leadership role
- Managerial role
- Operational role

These roles contain statements about what the HR system should achieve. A statement from the managerial role could be for example: *"Give people the freedom they need to do their jobs* (Schuler; 1992)*."* This level describes actual HR practices implemented in specific circumstances and enhances accuracy in measurement (Lepak et al.; 2004). *"The HR processes area deals with "how" all other HR activities are identified, formulated, and implemented* (Schuler; 1992, p. 26)*."* Where HR practices are used to elicit and reinforce needed behaviours by workers, HR processes define how activities are to be carried out (Lepak et al.; 2004)

"Considering these levels of analysis is critical to understand the use and effectiveness of human capital management systems (Lepak et al.; 2005, p. 644)*."* If for instance the focus lies on the HR philosophy then it enhances generalisations but it reduces the accuracy by neglecting variations in HR system implementations. Focusing solely on HR practices enhances the accuracy in measurement but neglects the importance of other HR practices that are also used. The three levels will all be considered for this research.

3.3.1 Performance of the HR system

Before the impact of the e-HRM technology on the performance of the HR system is studied, it is important to know how the performance or effectiveness of the HR system can be measured. The effectiveness of the HR system is since the mid 1990s heavily debated (Hailey et al.; 2005). The reason for this is that it is not clear to what extent HRM contributes to the firm performance. Different studies have focussed on different aspects of the effectiveness of the HR system. Some studies focus solely on financial numbers like return on investment, assets or equity while others focus on the balanced score card to gather other data as well as customer and employee indications (Hope Hailey et al.; 2005). In addition, surveys of workforce satisfaction are used as indicators of performance (Jamrog & Overholt; 2004). It is expected that the use of the e-HRM technology has an impact on the performance as it is expected that the implementation of e-HRM speeds up transaction processing, reduces information errors, and improves the tracking and control of HR actions.

For this research, it was studied how the outcomes and the effectiveness of the HR system could be measured. These aspects will be elaborated below.

HR efficiency

As stated earlier, many consultants claim that e-HRM contributes to the effectiveness of the organisation. One way of researching these claims is to look at the performance outcomes of the organisations. Four outcomes of firm performance can be related to HR (Dyer & Reeves; 1995). The four outcomes are HR outcomes as turnover and absenteeism, organisational outcomes as productivity and financial outcomes such as return on investment and capital market. Other authors as Huselid (1995) and Buckley et al (2004) use similar indicators in their research such as productivity, turnover and return on investment. Objective outcomes, as used in the research of Huselid (1995) and Huselid et al. (1997), are often used as financial indicators of performance while subjective outcomes, as used in the research of Delaney & Huselid (1996), Guthrie (2001) and Youndt et al. (1996), are often used as overall performance ratings (Wall et al.; 2004). This research suggests some objective performance measures that together can be used to determine the HR efficiency.

Return on investment

When companies are investing in technologies, they expect certain benefits due to this technology. Automation should bring immediate value to the organisation according to Buckley et al. (2004). In addition, it is expected that the implementation of an e-HRM technology should create value for the HR department. Return on investment (ROI) is probably the most often used metric for measuring efficiency. When viewed from an economic perspective, for instance automated employee selection technologies can provide a substantial ROI for organisations and reducing operating and hiring costs (Buckley et al.; 2004). The expectation is that the adoption of e-HRM technologies can provide a substantial ROI for an organisation as well. Although ROI is a financial outcome it will be used as an HR outcome in this research as the ROI of the e-HRM technologies for the research framework is going to be measured on the HR level.

ROI is a viable measurement tool for identifying if the investment is worth investing. Although there are many, different ways to calculate return on investment it often has two key elements:

- The costs of the technology
- The savings or revenues these technologies generate

Different types of costs were identified for example (Phillips et al.; 2001):

- Requirement analysis costs
- Development costs

- Implementation costs
- Operating costs
- Evaluation costs
- Overhead

The first costs are the requirement analysis costs as most organisations before they start with a project conduct a need analysis. Then, there are the development costs of the e-HRM technology, which belong often to the most significant costs categories and it includes the designing and developing and/or investing of a specific e-HRM program (application), and investing in the needed materials like hardware. Another substantial cost that has to be made is the cost of implementation of the e-HRM technology. During the implementation phase of the project to program has to customised and configured in such a way that it fits the organisation. Processes of the e-HRM technologies and processes of the organisation are integrated in order to create a workable e-HRM technology. These implementation costs are often costs for hiring people who have the knowledge of implementing these e-HRM programs. Other costs that can be categorised under the costs of implementation are the costs for (Phillips et al.; 2001): Training of the project team and the end-users of the technology (job aid), guidelines and documentation, and facilities for/and members of the organisation needed for the implementation.

When e-HRM technologies are adopted, they need to be operated and they need maintenance. Operating and maintenance costs are should also be adopted for calculating ROI. These costs are major as they capture the full life span of an e-HRM technology. Operating costs include: Salaries for employees who are kept/hired after for maintenance or development, costs for office supplies and technology support.

As most projects will have an evaluation stage, these costs should also be included. Evaluation costs are the costs for: Conducting surveys, analysing data, and the distributing documents.

The last costs that could be included are overhead costs. Typical overhead costs are (Phillips et al.; 2001): Costs for support, space and utilities.

Besides the costs, you also need the savings or the revenues the investment realises. The savings and revenues used for calculating the ROI were divided into four aspects (Phillips et al.; 2001):

- Output increases
- Savings on costs concerning quality
- Cost savings on operation and overhead
- Time savings

Every organisation has some sort of “basic” measurement of work output, appearing in various forms as (Phillips et al.; 2001): Productivity, forms processed, and tasks completed.

Further, every organisation is concerned about quality and e-HRM technologies might affect quality. Type of quality costs savings are for instance (Phillips et al.; 2001): Costs saved on data error corrections, and costs saved on dealing with “customer” complaints.

Another significant effect of the adoption of e-HRM technologies is the decrease of costs in general. Different kind of costs savings can be distinguished like (Phillips et al.; 2001): Savings in overhead costs, and savings in operating costs.

The last cost saving is time saved. Time savings may mean that activities are completed faster and thus new activities could be initiated earlier. Types of timesaving are for instance (Phillips et al.; 2001): Cycle time reduction of HR activities, the decrease of downtime of the availability, and processing time improvements

- Return on investment
    - Definition: The savings realised divided by the cost of the e-HRM technology (Phillips et al.; 2001).
        - Analysis costs
        - Development costs
        - Implementation costs
        - Operating costs
        - Evaluation costs
        - Quality improvement savings
        - Output increases
        - Time savings
        - Cost savings on operation and overhead

Productivity

HRM intensity has a direct positive effect on productivity (Sels et al; 2006). Different authors look different towards productivity. It also depends in which market an organisation is operating. Some authors use sales per employee as definition for productivity (Huselid; 1995) while others use value added per working hour because it is less cost sensitive then sales (Sels et al.; 2006, Giampietro et al.; 1993). Moreover, by using working hour or FTE instead of the number of HR professionals so the actual hours are measured (Sels et al; 2006). Productivity is an organisational outcome when you measure the productivity of employees. However, the productivity of the employees will not be affected much by the implementation of the e-HRM technologies. The productivity of HR professionals will be influenced more by the e-HRM technologies as it affects their primary tasks as for instance HR professionals have less administrative tasks as these are partly automated and therefore

can process the activities quicker. Assessing productivity requires two measurements: what has been achieved by the work done (value produced, packages delivered or amount of activities processed) and a sort of ”cost” referring to the work done (hours of human time required or wage paid). *“Then a ratio of these two quantities can be used as an assessment of productivity* (Giampietro et al.; 1993, p. 2).” Productivity will be defined as the amount of work achieved divided by the costs (Giampietro et al.; 1993) with the components amount of activities processed and hours of human time required.

- Productivity
    - Definition: Amount of work achieved divided by the costs (Giampietro et al.; 1993).
        - Amount of processed activities
        - FTE (or labour costs) required for performing these activities

Cycle time of HR activities

HR activities or HR processes take time for completion when they are executed. This is called the cycle time of a process. By automating such HR activities or HR processes, it is expected that the time for completion will decrease. E-HRM has this potential to affect efficiency by reducing cycle times (Lengnick-Hall & Moritz; 2003). Consultants claim that their e-HRM technologies improve the cycle time of HR services (Emplaza, 2006). This claim that implementations of such technologies actually improve the cycle time for HR activities will be researched. The time for completion of HR activities and HR processes after the implementation of the e-HRM technology was measured. Different definitions can be distinguished, for instance Sivakumar et al. (2001) define theoretical cycle time as the sum of pure process time of each unique part number through its entire route based on a fixed lot size. Heike et al. (2001) define the cycle time as the time interval between two successive outputs from a given station. Both researchers have two main components in their definition: time and output. Therefore, adapted from the two former definitions, cycle time will be defined as the time an output needs for completion. Thus, the time between the request of an output from an employee until a finalised and processed output by an HR professional or manager.

- Cycle time
    - Definition: Time an output needs for completion.
        - Time
        - Activity

The goals of the implementation of e-HRM technologies are all aimed to improve the HR system. It is expected that the use of e-HRM have an impact on the performance indicators of the HR system.

HR Effectiveness

The multiple constituency approach of Tsui & Milkovich (1987) states that, as an HR system wants to be effective, it should meet its stakeholder's expectations and demands. Guest & Peccei (1994) confirm that the multiple constituency approach, were the HR system should meet stakeholders needs and demands, is an indicator of the effectiveness of the HR system. They also considered the analysis of different levels the HR system important, just as Lepak et al. (2004) have stated. Guest & Peccei (1994) concluded the following about effectiveness of the HR system:

- At the highest level there should be an integration of the HR strategy with the organisation's business strategy.
- At the policy level there should be consistency of focus, although more research is perceived necessary.
- At the process level it is important how different activities are performed.

Effectiveness of the three levels is related to effectiveness of the HR system (Guest & Peccei; 1994). Although the research sample of Guest & Peccei (1994) contained only HR professionals and managers, their conclusions are expected to be useful. Therefore, an elaboration is made on how to measure effectiveness at the three different levels. Another distinction is the distinction between different types of personnel. Three types are categorised namely: the HR professional, the manager and the employee. This distinction is created because the three types have different position within the HR system and therefore can perceive the effectiveness of the HR system differently. For instance a HR professional can perceive that an activity is well organised while the manager who uses that activity is less positive.

Effectiveness at the philosophy level of the HR system

The HR system at the HR philosophy level is effective when there is an alignment of the HR strategy with the organisation's overall strategy (Guest & Peccei; 1994). The use of e-HRM technologies is dependant on the strategy of the organisation. The value and uniqueness of an HR activity were identified as determinants for mapping the HR activities in the HR architecture of responsibilities. When the HR activities are mapped, a choice for the delivery of an HR practice should be made and providing an HR activity through web-based-channels is such a choice. The value and uniqueness in this way have an influence on what activities are provided through web-based-technologies and an alignment of the e-HRM technology with the organisation's strategy is realised. The use of e-HRM technologies therefore is expected to contribute to the alignment of the HR strategy with the organisation's overall strategy.

The philosophy level of the HR system is the highest level of the HR system and is perceived effective when HR strategy is integrated with business strategy (Guest & Peccei; 1994, Bowen & Ostroff; 2004). It is important that there is a fit between the two strategies and that

they complement each other. As stated earlier e-HRM can contribute to the alignment of HR strategy and business strategy as e-HRM is dependent on organisational strategies. Integration implies according to Guest & Peccei (1994) that the business strategy and HR strategy are formulated on the same level and are “owned” by the same people. Moreover for stimulating organisational integration an identification with and ownership of HRM values among line managers is suggested (Guest; 1987). An indication of ownership is the role of the line managers in supporting and implementing HR strategy through participation in areas of HR decision making. Further organisational integration must include a willingness to incorporate an HR dimension in important strategic decisions (Guest & Peccei; 1994).

- Perceived effectiveness at the philosophy level: Integration between business strategy and HR strategy
    - Fit between HR and business strategy
    - Complement HR and business strategy
    - Participation of line managers in HR decision making

Effectiveness at the policies and programmes level of the HR system

At the policy level, or policy and programs by Lepak et al. (2004), the HR system is effective, when there is consistency of focus of the policies (Guest & Peccei; 1994). The use of e-HRM technology has however no influence on the choices made with about the policies of the HR system. However, the use of the e-HRM technology confronts managers and employees with the HR policies and programs. The use of the technology enables managers and employees of the organisation to observe the policies of the HR system themselves through web-based-channels. Bowen & Ostroff (2004) state that an HRM system of an organisation sends signals to employees that allow them to understand the desired and appropriate behaviour and form a collective sense of what is expected from the employees. When these HRM system signals are strong, the HRM system is considered strong which leads to the understanding of desired and appropriate behaviour and collective sense of expectations of employees. Bowen & Ostroff (2004) use the attribution theory in explaining message-based persuasion of the HRM system and in identifying key features that allow for messages (HRM system signals) to be received and interpreted uniformly among employees. The authors propose that when the HRM system signals are perceived high in distinctiveness (refers to a situation where features are allowed to stand out in the environment, thereby capturing attention and arousing interest), consistency (refers to establishing an effect over time and modalities whereby the effect occurs each time the entity is present, regardless of the form of interactions), and consensus, (refers to the situation were there is agreement among employees’ view of the event-effect relationship), a strong HRM system will be created which leads to the understanding of desired and appropriate behaviour and collective sense of expectations of employees.

The managers and employees of the organisation, when an organisation has adopted e-HRM technology, are enabled to analyse the policies and programmes of the HR system and are themselves responsible for performing parts of the HR policies and programmes. The e-HRM technology thus provides the HR system with a tool to communicate its HR system signals which leads to understanding of desired and appropriate behaviour and collective sense of expectations of employees. The e-HRM technology is expected to create HRM system signals that are distinctive, consistent and it is expected that the e-HRM technology increases consensus among employees.

The policies and programmes level of the HR system is perceived effective when there is consistency of focus of the HR policies. However, as stated before, e-HRM technology has no influence on policy choices. The technology is however expected to create strong HR signals (situation) and transparent HR policies. *"The strength of the HRM system can be conceptualized in terms of its effectiveness in conveying the types of information needed to create a strong situation* (*Bowen & Ostroff; 2004, p. 208)*." A strong situation can be created when the HRM system is perceived high in distinctiveness, consistency, and consensus (Bowen & Ostroff; 2004). Guest & Peccei (1994) also state that policies should have a clear and consistent focus. By using e-HRM technologies, the policies can be communicated to employees, which leads to the desired behaviour of the employees. The e-HRM technology is expected to create distinctive and consistent signals and is expected to increase consensus among employees. By identifying these three constructs, it is possible to measure the perceived effectiveness of the policies and programmes. The first construct distinctiveness refers to a situation where features are allowed to stand out in the environment, thereby capturing attention and arousing interest. Distinctive HRM practices are salient and readily observable, have a lack of ambiguity are easy to comprehend, and are relevant for the user. This will increase the chance that the HRM signal will be interpreted uniformly among employees. Consistency enhances the likelihood of desired behaviour further according to Bowen & Ostroff (2004). Consistency refers to establishing an effect over time and modalities whereby the effect occurs each time the entity is present, regardless of the form of interactions (Bowen & Ostroff; 2004). HRM practices should display consistency in what they purport to do and what they actually do in order to create a strong situation. Further HRM practices should be compatible and stable in the signals they send out. The last construct is consensus and is achieved when there is agreement among employees. This can be fostered by agreement amongst message senders and the fairness of the HRM system.

- Distinctiveness of HR signals: A situation where features are allowed to stand out in the environment, thereby capturing attention and arousing interest
    - Visibility
    - Understandability
    - Legitimacy of authority,

    - Relevance
- Consistency of HR signals: Establishing an effect over time and modalities whereby the effect occurs each time the entity is present, regardless of the form of interactions
    - Instrumentality
    - Validity
    - Consistent HRM messages
- Consensus about HR signals: Situation were there is agreement among employees' view of the event-effect relationship
    - Agreement among principal HRM decision makers
    - Fairness

Effectiveness at the practices and processes level of the HR system

At the lowest level it, the processes level or practices and processes level (categorisation of Lepak et al.; 2004), Guest and Peccei (1994) concluded that it was not important by whom, but how the HR activities are performed. The speed or efficiency of performing these HR activities leads to effectiveness of the HR system (Guest & Peccei; 1994). For employees however, as clients of the HR system, the quality level of service of the HR system is also important (Guest & Peccei; 1994). Therefore, it is expected that when there is a degree of helpfulness of the HR system, the HR system is effective.

Increasing the efficiency of the HR system and improving service quality are two e-HRM goals, which were mentioned in chapter 3. When these goals are attained using e-HRM technology, it is expected that this attainment has an impact on the effectiveness of the HR system.

The practices and processes level of the HR system is perceived effective when the clients of the HR system perceive efficiency of the HR system. Besides the efficiency of the HR system, the perceived quality of services provided by the HR system plays a role in the perceived effectiveness at this level of the HR system. An increase of efficiency of the HR system can be identified by measuring the speed of response of the HR professional according to Guest & Peccei (1994). By using one of the ten dimensions described by Parasuraman et al. (1985) the responsiveness can be measured and thus the efficiency.

- Responsiveness: Speed of response of the HR professional
    - Responsiveness

An improvement of the service quality can be identified by measuring the quality of response and referred to approachability and knowledge (Guest & Peccei; 1994). Thus, it is important how the employees perceive the efficiency and quality of the HR system. According to Schneider & Bowen (1995) organisations must meet three key customer needs to deliver service excellence namely security, esteem, and justice. If the HR system is seen as the

organisation and the employee as customer then the HR system must meet the needs of the employees. Measuring the needs of employers is not always possible as needs are sometimes on an unconscious level. Therefore, employees cannot always explain their motivations. For identifying the needs of employees, the expectations of the employees can give guidance. Parasuraman et al. (1985) described ten dimensions of service quality which are expected by employees. By using these ten dimensions the service quality of the HR system can be measured.

- Service quality: The approachability and knowledge of the HR professional
    - Reliability
    - Competence
    - Access
    - Courtesy
    - Credibility
    - Security
    - Responsiveness
    - Communication
    - Understanding
    - Tangibles

Kane et al. (1999) also have studied the effectiveness of the HR system. They developed a questionnaire were they have added the component helpfulness of the HR department for organisation with an HRM staff. This component therefore is also considered for this research.

- Helpfulness: The profit for HR clients of HR services
    - Helpfulness for managers
    - Helpfulness for employees

3.3.2 The job of the HR professional

E-HRM not only has an impact on the performance indicators of the HR system. As the use of the e-HRM technology also drives a change in the HR architecture, and therefore changes the time spent of HR professionals on specific HR activities, it is also expected that is has further consequences for the HR professional.

One of the goals of e-HRM technologies, mentioned in the "e-HRM goals" chapter, was increasing the strategic orientation of the HR system. *"Extensive use of IT will likely influence the HR professionals' focus as they may be expected to spend more time toward efforts to improve the organisation* (Gardner et al.; 2003, p. 164)*."* Besides the increased strategic role, the HR professionals also receive the responsibility of the e-HRM technology. *"IT influences the focus of work that HR professionals perform by focussing more time on*

activities related to IT support, such as maintaining and developing IT-based HR applications (Gardner et al.; 2003, p. 165)*."* Ruël et al. (2004) state that adoption of e-HRM technologies requires HR experience for the renewal of instruments and prepare these instruments for easy web-based use. The HR professionals also have a role in the accompaniment of end-users of the technology. The end-users must be trained and motivated to use the technology. The HR professionals are responsible for the guidance of the end-users of the technology and the attainment of the right technological skills and competences for end-users to use the technology (Snell et al.; 1996). There is also the expectation that the adoption of e-HRM technologies leads to HR professionals being functional specialists supporting employees and managers in stead of being administrative experts.

The roles of the HR professional

The typology of Ulrich (1997) can be used to describe the different roles to be preformed by HR professionals as business partners within an organisation. Four roles for HR professionals are defined based on the variations of two dimensions: strategy versus operational and people versus processes (see figure 16). An important point to consider is that Ulrich (1997) states that the HR professionals as business partner does fulfil all four the roles. There exists some criticism about the typology of Ulrich (Boselie & Paauwe; 2005 and Caldwell; 2003). According these authors the theory is prescriptive, not empirically proven, based on the USA solely and they do not address the issue of role conflict within the function of the HR professional. Still, this theory is useful to describe the differences in roles of the HR professional. The four roles of HR professionals described by Ulrich (1997) will be further elaborated below.

Figure 16, Four roles of HR professionals (adapted from Ulrich; 1997)

Partner in strategic execution

The organisation's executive team is responsible for the strategy of the organisation. HR, as a part of this executive team should impel and guide discussions of how the organisation should be organised to carry out its strategy. The responsibilities of the HR department are the following:

- Defining an organisational architecture

- Conducting an organisational audit to detect problems that require immediate improvements
- Identify methods for renovating the parts of the organisational architecture that need it
- Take stock of its own work and set clear priorities

This role requires additional skills and competences of the HR professional. Therefore HR professionals need training or education in order to perform these analytical tasks properly. (Ulrich; 1998)

Administrative expert

Traditionally, the role of the HR professional was that one of an administrator. Nowadays, the role has extended form just being an administrator, to being responsible for the efficiency of both their own function but also the entire organisation. Besides the financial benefits of decreasing costs, efficiency improvements will also build HR's credibility to be a strategic partner. (Ulrich; 1998)

Employee champion

The employee champion is mostly considered to keep the employees of the organisation committed toward the organisation. Especially the disappearing of the employment contract has had an impact on the morale of the employees. The relationship between organisations and employees has become transactional. Employees give their time but not much more. It is the responsibility of the HR professional to keep the employees engaged to the organisation. Nowadays this often means that HR professionals should train line management about the importance of high employee morale and how to achieve it. Besides this responsibility the HR professional is the voice of the employees in management discussions, offer employees opportunities for growth, and provide resources that help employees meet demands placed on them. (Ulrich; 1998)

Change agent

These changes in the organisation its environment occur in an ever-increasing pace. The winners in this fast changing environment are the organisations, which have the ability to adapt to these changes the quickest. The HR professional has the responsibility to build the organisation's capacity to change. Besides this, it is the responsibility of the HR professional to take away any resistance and fear to change. (Ulrich; 1998)

The HR professionals as business partner:

> *"Business Partner = Strategic Partner + Administrative Expert + Employee Champion + Change Agent* (Ulrich; 1997, p. 37)*"*

Expected role changes of the HR professional

One of the e-HRM goals was “improving the strategic orientation of the HRM”. Another goal was “improving to service quality to employees and managers”. E-HRM technology should free up the HR professionals from time-consuming administration activities. This should enable HR professionals to spend more time on strategic activities and the delivery of important HR activities face-to-face. It is therefore expected that the use of e-HRM implies a change of the job content of the HR professional to strategic partner and employee.

Additional skills for HR professionals

It is expected that the HR professionals require additional skills to cope with the change of focus and technology maintenance responsibilities. The increased strategic responsibilities require additional skills of the HR professional. HR professionals therefore, should receive proper training and education to be able to carry the responsibilities of such a role (Ulrich; 1998). Bell et all. (2006) have studied the importance of specific skills of HR professionals after the adoption of e-HRM technologies. The authors interviewed HR professionals of several organisations, which had adopted e-HRM technologies. The HR professionals indicated the increased importance after e-HRM adoption of:

- Strategic skills
- Functional skills
- IT skills

Strategic skills

The increased strategic responsibilities require additional skills of the HR professional. HR professionals therefore, should receive proper training and education to be able to carry the responsibilities of such a role (Ulrich; 1998). Bell et al. (2006) mention several skills that enable HR professionals to have a strategic focus. The authors mention:

- Understanding of the financial, strategic, and technological capabilities of an organisation
- The ability to align HR strategies with business vision and communicate them to the workforce
- The ability to consult with line managers to analyse and solve problems
- Understanding of how HR can create profit
- The ability to view issues from a customer perspective

The following aspects should be considered when the need for additional strategic HRM skills was measured:

- Additional strategic HRM skills

    - Need of HR professionals themselves for additional strategic HRM skills
    - Need of the organisation for additional strategic HRM skills of the HR professionals

The need for additional strategic HRM skills may have lead to training and / or education on these strategic HRM skills for HR professionals. Therefore, the following aspects should be researched:

- Received strategic HRM training and / or education
    - Received training and / or education of HR professionals for additional strategic skills
    - Attained additional strategic skills on-the-job

Functional skills

The reduction of administrative and transactional responsibilities allows the HR professionals to adopt more specialised roles, which require a higher level of expertise within specific functional areas of HR (Bell et al.; 2006). This specialisation in specific functional areas should lead to service quality improvements. HR professionals therefore should receive proper training and education to be able to specialise themselves. Bell et al. (2006) mention several skills that enable the improvement of the functional delivery of HR activities:

- Knowing and being able to deliver state-of-the-art innovative practices
- Being able to deliver practices to organisational members

For the specialisation however, the HR professionals need additional skills. Therefore, the following aspects should be measured:

- Additional functional skills
    - Need of HR professionals themselves for additional functional HR skills
    - Need of the organisation for additional functional HR skills of the HR professionals

The need for additional functional delivery skills may have lead to training and / or education on these functional delivery skills for HR professionals. Therefore, the following aspects should be researched:

- Received functional training and / or education
    - Received training and / or education of HR professionals for additional functional skills
    - Attained additional functional skills on-the-job

IT skills

Besides the additional strategic and functional skills, HR professionals need additional IT skills. Several authors (Bell et al.; 2004, Gardner et al.; 2003, Hempel 2004, Ruël; et al.; 2004, Snell et al.; 1996, and Stanton & Coovert; 2004) elaborate about the responsibilities of HR professionals for the e-HRM technologies. *"As information technology emerges as a key delivery vehicle for HR services, it becomes increasingly important for HR professionals to demonstrate technology expertise* (Bell et al.; 2006, p. 297)*."* HR professionals receive the responsibility for the use of the e-HRM technology and therefore they require additional skills to be able to cope with IT issues. The HR professionals are responsible for developing new HR instruments and prepare them for easy web-based use Ruël et al. (2004). The HR professionals therefore need additional IT skills to comply with these requirements. Bell et al. (2006) mention the following skills concerning IT expertise:

- Proficient with HRIS usage
- The ability to use web-based channels to deliver services
- The ability to teach others how to use HR technology
- Understanding of the technology aspects for identifying technology needs and managing technology vendors
- Capabilities for using technology to collect data and transform it in strategically valuable information

The following aspects should be considered when the need for additional IT skills and competences were measured:

- Additional IT skills
    - Need for additional IT skills of HR professionals by HR professionals themselves
    - Need for additional IT skills of HR professionals by the organisation

The need for additional IT skills may have lead to training and / or education on these IT skills for HR professionals. Therefore, the following aspects should be researched:

- Received IT training and / or education
    - Received training and / or education of HR professionals for additional IT skills
    - Attained additional IT skills on-the-job

3.3.3 Summarising the impact of e-HRM on the effectiveness of the HR system

The exploration of the impact of e-HRM on the HR system is schematically presented in figure 17.

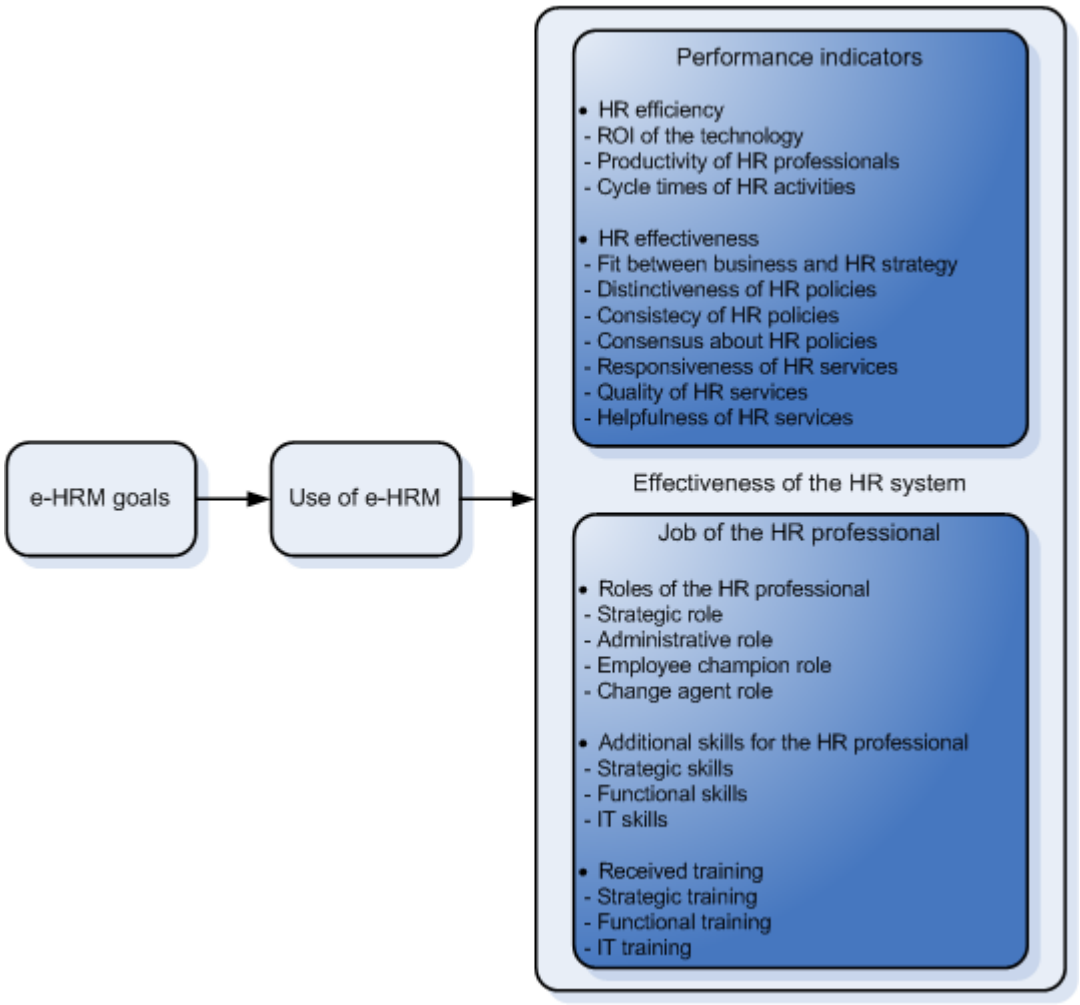

Figure 17, The impact of e-HRM on the HR system uncovered in the preliminary theoretical framework

3.4 Finalising the theoretical framework

Now the three blocks of the preliminary theoretical framework are explored and uncovered, the final theoretical framework will be presented. The preliminary theoretical framework is presented in figure 18.

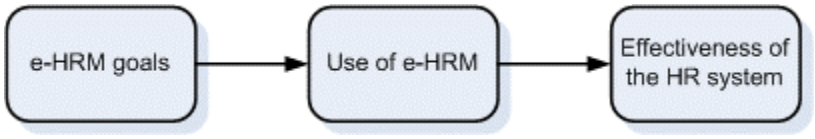

Figure 18, Preliminary theoretical framework

The exploration and uncovering of the blocks of the preliminary theoretical framework will be summarised first.

In chapter 2 an introduction about the issues around e-HRM technology was made. There remain many uncertainties around the topic of e-HRM. The objective of this research however, was formulated as the development of a framework to measure the effectiveness of e-HRM, and its application within a Dutch MIA.

The impact of e-HRM technologies is expected to be dependant on the actual use of the technology, which is on its turn expected to be dependant on the goals of the organisation for adopting e-HRM technologies.

In paragraph 3.3, performance indicators and the changes for the HR professionals were derived to act as indicators of the impact of e-HRM on the HR system. Paragraph 3.2 derived the IT characteristics and user acceptance, and categorised e-HRM activities as measures for the actual use of the e-HRM technology. Four e-HRM goals for the adoption of e-HRM technologies were identified in paragraph 3.1.

Figure 19 is a representation of the final theoretical framework.

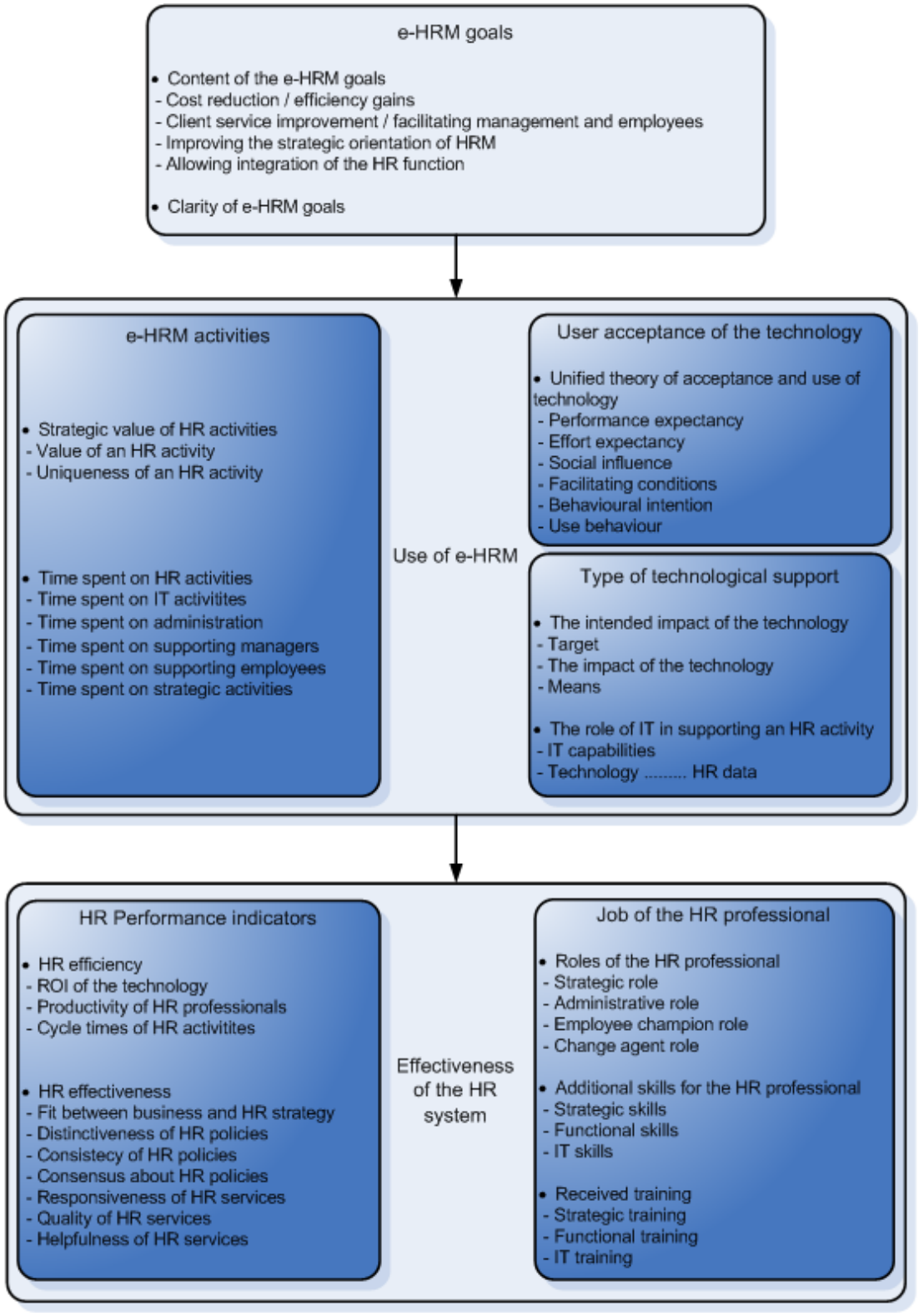

Figure 19, Final theoretical framework

4 Research methodology

Chapter 3 elaborated on the aspects that should be considered for the research into e-HRM effectiveness. It gave insights in which constructs, dimensions, and components affect e-HRM effectiveness. It gave insights in what aspects should be considered to be able to answer question one of this research, which was:

How to measure the effectiveness of e-HRM?

Now, a methodology has to be developed that enables the answering of question one. Therefore, it is necessary to design research instruments that can be used to gather data on the components of the constructs of the theoretical framework. The application of these research instruments within the Dutch MIA enabled the answering of the second question of this research. Question two of this research was:

What is the effectiveness of e-HRM within the Dutch MIA?

It is expected that during the application of the research framework within the Dutch MIA, some insights can be obtained on the usefulness of the theoretical framework and its components, and the research instruments designed for the research into e-HRM effectiveness, but also in the usability of the theoretical framework and the research instruments designed for the research into e-HRM effectiveness. In other words, this research gives some first insights in the e-HRM effectiveness of the Dutch Ministry, but is also a validation of the theoretical framework and its components and the research instruments designed for the research into e-HRM effectiveness.

This chapter is divided in two paragraphs. Paragraph 4.1 elaborates on the strategy for research, the research instruments, and the research samples or sources to be chosen for the research into e-HRM effectiveness. Paragraph 4.2 elaborates on the research strategy chosen, the application of the research instruments within the Dutch MIA, and the research samples and sources used within the Dutch MIA.

4.1 Research strategy and research instrument design

Before the research instruments can be chosen or developed, a proper research strategy should be adopted. First, it is important to know what to achieve with the research. Do the researchers want to understand or explain phenomena? Positivistic research is aimed to explain phenomena, as interpretive research is aimed to understand phenomena. However, during the literature study, some aspects were found that needed explanation (for example the arrows between the constructs), while other aspects needed to be understood (for example, type of technological support and the architecture of the HR function). When the

difference between positivistic research and interpretative research is perceived as a continuum, post-positivism can be understood as a research paradigm placed between both positivism and interpretivism (Grix; 2004). Post-positivism is also understood within some literature as critical realism. Critical realism attempts to combine the "how" (understanding) and the "why" (explanation) approaches (Grix; 2004). Following Grix (2004), this research can be located within the post-positivism paradigm.

It is now necessary to acknowledge what research methods are suitable for measuring the components of the construct of the theoretical framework. First, it is important to mention that it would be interesting to measure the effectiveness of the HR system before the adoption and after the adoption of e-HRM. Although the differences between the results cannot directly be claimed by the adoption of e-HRM, it might give some interesting results.

Paragraph 2.5 elaborated on the arrows within the theoretical framework. These arrows represented the direction of influence, or relations between the constructs. To be able to research these relations, a quantitative approach should be adopted, as quantitative research enables hypothesis testing with the use of a large research sample. However, qualitative research enables the researchers to gather in-depth insights in phenomena. It can give "rich" findings on the constructs of the theoretical framework. Quantitative and qualitative research, both have strengths and weaknesses. Quantitative approaches for instance, in general, lack the possibility to gain in depth insights into phenomena (Ruël; 2001). Qualitative approaches, in general, lack the possibility of including larger number of respondents. By using, a combination of qualitative and quantitative approaches, the weaknesses of individual approaches will be diminished. Therefore, it is recommended for the research into e-HRM effectiveness to adopt quantitative and qualitative research methods. As quantitative research is expanded with qualitative research, a multi method research approach is suggested for the research into e-HRM effectiveness. The multi method approach will be elaborated now.

4.1.1 Multi method research

Multi method research is combining several methods preferably from different paradigms. Methodology pluralism, or multi methods, may be conceptualised in a number of different ways (Mingers; 2001)

- Loose pluralism, a discipline should support a variety of research paradigms and methods but should not specify how or when to be used.
- Complementarism, different paradigms are viewed as internally consistent and based on different assumptions about their context of use
- Strong pluralism, all research situations are inherently complex and multidimensional, and thus would benefit from a range of methods.

There are two main arguments for strong pluralism. The real world is differentiated and consisting of a plurality of structures that generate the events that occur (and do not occur) (Mingers; 2001). A paradigm can focus on different aspects of a situation and a multi method approach is necessary to deal effective with the richness of the real world. "*Adopting a particular paradigm is like viewing the world through a particular instrument such as a telescope (Mingers; 2001, p. 244).*" An instrument reveals certain aspects but is blind to others. For instance, questionnaires can help testing hypothesises but cannot give in depth insights in the subject that can be acquired by using interviews. Further, a research study is not a single event but rather a process that proceeds through several phases. These phases posses different tasks and problems and different research methods tend to be more useful in relation to some phases than others are (Mingers; 2001). Four phases were identified:

- Appreciation, what is happening
- Analysis, why is it happening
- Assessment, how could the situation be different
- Action, report of the results and if necessary to bring about change to a situation

The phases should not be seen as stages that are enacted one after another. Rather, they are aspects in a research that need to be considered throughout. There are also differences in the emphasis the different studies place. For this research the emphasis is placed on the first two phases as the researchers are interested in what and why certain phenomena are happening.

Other advantages of multi method research are validation of data and results by combining different a range of data sources and methods and widening the scope of a study to take wider aspects of a situation (Mingers; 2001).

Research has shown that there is a lack of multi method research (Mingers; 2003). There are several barriers for multi method research which were identified (Mingers: 2001) in terms of philosophy, culture, psychology, and practice.

- Philosophy, the problem lies in the compatibility of different paradigms. It is often assumed that methods are bound to certain paradigms but there are many critics especially in the social research and more pluralism is considered desirable (Mingers; 2001).
- Culture, the problem is that disciplines tends to split into subcultures based around countries, university departments, journals, and even methods (Mingers; 2003).
- Psychology, individuals have personal preferences or competencies that incline them towards one style of research. Multi method research requires both expertise and comfort with different research styles (Mingers; 2003).
- Practice, perhaps the most fundamental constraint is practice. Multi method can be time consuming and sometimes expensive. Researchers don't always have the

resources available for this kind of research. Despite these difficulties multi method research can increase the richness and validity of results (Mingers; 2003).

Mingers (2003) elaborates on five multi method research strategies. These strategies are presented in figure 20.

Type of design	Method Mix	Illustration
Sequential	Methods are employed in sequence with results from one feeding into the later one.	Do a statistically analyzed questionnaire then follow up with some in-depth interviews to better understand the results. Or, undertake ethnographic research and content analysis to design a questionnaire
Parallel	Methods are carried out in parallel with results feeding into each other	Observation and recording of computer usage together with interviewing and cognitive mapping of users
Dominant	One method or methdology as the main approach with contribtion(s) from the other(s)	An intensive study using ethnography or participant observation with some statistical data analysis in the appreciation phase
Multimethodology	A combination of methods, embodying different paragigms, developed specifically for the task	Interviews, data analysis, and questionnaires, combined with root definionts and conceptual models (from SSM), and strategic choice commitment package
Multilevel	Research conducted simultaneously at different levels of an organization and using different methods	Survey if cal-center operators and interviews/cognitive mapping with supervisors and managers

Figure 20, Different types of multi method research designs (Mingers; 2001)

For future research into e-HRM effectiveness, with the support of the research framework, a dominant strategy (see figure 20) is recommended. The main method for the research framework to be developed is the questionnaire, which enables hypotheses testing. However, document analysis and interviews can give more insights in the context of e-HRM and its constructs. Besides this, it can be used for adapting the questionnaire to the specific situation the organisation is in. Data gathered during the research into the strategic value of e-HRM activities and the type of e-HRM support, can be combined and used for the research into the IT acceptance of the technology by end-users. This will be explained later.

4.1.2 The research instruments

This section will elaborate on the research instruments and the research samples for the research into e-HRM effectiveness. For some of the components it was necessary to develop research instruments. Sometimes existing research instruments were used. All the instruments used, developed, adopted, and adapted can be found in the appendixes.

Research instrument and sample for the content of the e-HRM goals

Paragraph 3.1 elaborated on the content of the e-HRM goals. Four different types of e-HRM goals were identified during the literature study. For all the types of e-HRM goals, components were identified that were expected to characterise the e-HRM goals and enable the measurement of the presence of the specific e-HRM goals within a specific organisation. According these components an interview protocol was developed. The interview protocol can be found in appendix 1. Semi-structured interviews are recommended to gather data on the content of the e-HRM goals, because it is difficult to capture the content of a type of e-HRM goal within a questionnaire. For example, there exist many variations on the cost reduction and efficiency improvements e-HRM goal. To capture all these variations within a questionnaire is hard and would result in a very large questionnaire. Semi-structured interviews allow further uncovering of the content of the e-HRM goals of the organisation during the process of data gathering and therefore create a more representative picture of the content of the goals. The recommended interview population for these interviews consists out of HR managers and project managers involved in the implementation project of e-HRM. They are expected to be able to fulfil the information need on the content of e-HRM goals for the research into e-HRM effectiveness.

- Research method: Semi-structured interviews
- Twelve components divided over the for e-HRM goals
- Research sample: At least two HR managers

Research instrument and sample for the clarity of the e-HRM goals

The clarity of the e-HRM goals is recommended to be measured with a questionnaire for the end-user (employees, managers, and HR professionals) of the e-HRM technology. The aim is to get insights in what the end-users think the goals of the e-HRM technology are, as this is expected to affect the actual use behaviour of end-users of the technology. Besides this, this part of the research is aimed to get insights in congruency among end-users about the goals for the adoption of e-HRM. Although an intensive research into the clarity of e-HRM technology is beyond the scope of this research, some questions for this part of the research were adopted from the questionnaire of the dissertation of Ruël (2001) on the clarity of spirit of technology and its effects on the appropriation of the technology. These questions are aimed to get insights in the perception of the end-user on the clearness of the goals, the thought behind the technology, and if end-users know what effective use of the technology leads to. The other questions focus on the presence of the four identified types of e-HRM goals. The questions on the clarity of e-HRM goals can be found within appendix 2.

- Research method: Questionnaire
- Seven items, of which three focus on the clarity of the goals and four on the presence of the specific e-HRM goals found within literature. The questions should be scored on of five-point liker scale
- Research sample: Employees, managers, and HR professionals

Research instrument and sample for the strategic value of e-HRM activities

Semi-structured interviews are recommended for data gathering on the strategic value of e-HRM activities, because problems were foreseen in the interpretation of the value and uniqueness of e-HRM activities by HR professionals. These components are rather abstract and therefore a way had to be found to ensure that the data that is collected is representative for the reality. Semi-structured interviews are expected to be the best solution to tackle expected problems. Just as with the content of the e-HRM goals, an interview protocol was developed for these interviews and the protocol can be found within appendix 3. The interview protocol was developed according the components found during the literature study, and the questionnaire of Lepak & Snell (2002). The results of these interviews enable researchers to categorise the e-HRM activities according the model of Lepak & Snell (1998) over the four different categories of HR activities. The recommended interview sample of these interviews consists out of HR managers, as they probably have the capabilities to asses the value of the e-HRM activities provided, and the uniqueness of individual e-HRM activities, or set of organisation specific e-HRM activities. The last requires them to have insights in what is available on the external market for outsourcing, but also in what degree the e-HRM activities are customised to organisational needs. The results of these interviews are used as the input for the user acceptance of IT by end-users. The user acceptance of IT questionnaire has to contain questions on actual use behaviour of e-HRM activities from all the four quadrants of HR activities.

- Research instruments: Semi-structured interviews
- Six question on the value of e-HRM activities and seven questions on the uniqueness of e-HRM activities
- Research sample: At least two HR managers

Research instrument for the time spent on HR activities

Paragraph 3.2.2 elaborated on the changes in time spent on HR activities by HR professionals. It was expected that the adoption of e-HRM technology affected the time spent on strategic activities, IT activities, administration activities, supporting managers, and supporting employees.

Therefore some questions were developed for a questionnaire to test the changes in the time spent on these activities. The questions can be found within appendix 4. The research sample of these questions consists out of the HR professionals of the organisation.

- Research method: Questionnaire
- Six items on the time spent on strategic activities, three on time spent on IT activities, four on administrative activities, two for both the time spent on supporting managers and employees. The questions have to be scored on a five-point liker scale
- Research sample: HR professionals

Research instrument for the type of e-HRM support

Paragraph 3.2.3 elaborated on the type of e-HRM support e-HRM technologies can provide. A matrix was developed to characterise the support of the technology in informational, relational, and transformational e-HRM support. The framework was developed according the theories of Lengnick-Hall & Moritz (2003), Lepak & Snell (1998), Ruël et al. (2004), and Snell et al. (1996). The different types of support seemed to differ over:

- The intended impact of the technology
    - Target
    - The impact of the technology
    - Means
- The role of IT in supporting an HR activity
    - IT capabilities
    - Technology…… HR data

The matrix method should be conducted by at least two researchers. Researchers can use the matrix to compare the technology with the descriptions within the framework. When the technology matches the characteristics of one of the three columns, the type of support has been found. The matrix can be found within appendix 5. The results of the classification are needed for the user acceptance of IT questionnaire. The researchers must make sure that the questionnaire on the user acceptance of IT contains questions on use behaviour of e-HRM activities supported on an informational, relational, and transformational manner.

- Research method: Matrix method conducted by at least two researchers
- Research source: The e-HRM technology

Research instrument and sample for the user acceptance of the technology

To research the user acceptance of the e-HRM technology within an organisation, the five components (performance expectancy, effort expectancy, social influence, facilitation conditions, and behavioural intention) of the theory of Venkatesh et al. (2003) should be researched. Venkatesh et al. (2003) developed a questionnaire that enables researchers to research these five components. This questionnaire however, does not include questions on the actual use of the technology and therefore some questions for this component were added to the questionnaire. The “use behaviour” component contains two very straightforward questions, which are indicators of the actual use of specific e-HRM activities and the technology in general. The researchers must make sure that the actual usage questions on specific e-HRM activities contains activities from the four different quadrants of types of e-HRM activities, and contains HR activities supported on an informational, a relational and a transformational manner. The adapted questionnaire of Venkatesh et al. (2003) can be found in appendix 6.

- Research method: Questionnaire

- Five items on the performance expectancy, four items on effort expectancy, four items on social influence, four items on the facilitating conditions, three items on behavioural intention, two items on use behaviour in general, and two items on use behaviour for every specific e-HRM activity included within the questionnaire
- Research sample: Employees, managers, and HR professionals

Research instrument and sample for the efficiency of the HR system

Paragraph 3.3.1 elaborated on the efficiency of e-HRM. ROI, the productivity of HR professionals, and the cycle time of the HR activities were mentioned as important metrics to consider for the research into e-HRM effectiveness. ROI can be calculated by dividing the savings (or revenues) realised by the adoption of e-HRM, by the costs made for the adoption of e-HRM. The savings (or revenues) that should be considered during the calculation of ROI are:

- Quality improvement savings
- Output increases
- Time savings
- Cost savings

The costs of the adoption of e-HRM technology that should be considered for the calculation of the ROI are:

- Analysis costs
- Development costs
- Implementation costs
- Operating costs
- Evaluation costs

Besides the ROI, the productivity improvement of HR professionals was also identified as a performance outcome affected by the adoption of e-HRM. The productivity of the HR professional can be measured by the amount of work achieved by HR professionals divided by the FTE, or labour costs required for performing these activities.

The cycle time of HR activities, the third metric mentioned that might be affected by the adoption of e-HRM, can be measured by measuring the time an HR activity needs for completion.

Although this seems very straight forward, researchers should develop a strategy to obtain the data necessary for the calculations. Data gathering for this part of the research into e-HRM effectiveness can be a very intensive and time-consuming process. However, some organisations do even not record data on these aspects. In these situations it is not possible to conduct a document analysis and another suitable method to gather data on these aspects has to be found.

Research instrument and sample for the perceived effectiveness of the HR system

The research framework considers the effectiveness of the HR system on three levels. In paragraph 3.3.1 the theory of Lepak et al. (2004) was used to describe these three levels of the HR system. The levels described were, the HR philosophy level, the HR policies and programmes level, and the HR practices and processes level. The HR system is effective when:

- At the highest level there is integration of the HR strategy with the organisation's business strategy
- At the policy level there is consistency of focus
- At the process level the different HR activities are provided well

For the identification of the components that enable the measurement of the effectiveness of the HR system at the philosophy level, the theories of Guest & Peccei (1994), Guest (1987), and Bowen & Ostroff (2004) were used. The researchers developed questions that give insights in these components. The questions can be found within appendix 7.

For the identification of the components that enable the measurement of the effectiveness of the HR system at the policy and programmes level, the theories of Guest & Peccei (1994) and Bowen & Ostroff (2004) were used. The questions related to these components were retrieved from the article of Bowen & Ostroff (2004) and can be found within appendix 7.

For the questions for the effectiveness of the HR system at the practices and processes level, the article of Parasurman et al. (1985) was used. The authors describe ten dimensions that determine the service quality of HRM. These ten dimensions were used to develop questions to measure the service quality of the HR system. The questions were completed with some questions of Kane et al. (199) who elaborate on the helpfulness of the HR department. The questions can be found within appendix 7.

The research sample of all these questions consists out of employees and managers. Paragraph 3.3.1 elaborated on the multiple constituency approach of Tsui & Milkovich (1987) which states that, as an HR system wants to be effective, it should meet the expectations and demands of the clients. Guest & Peccei (1994) confirm that the multiple constituency approach, were the HR system should meet its clients needs and demands, is an indicator of the effectiveness of the HR system. For this reason, the researchers decided that the perceived effectiveness of the HR system should be measured with a research sample that consists out of employees, and managers.

- Research method: Questionnaire
- Three items on the effectiveness of the HR system at the philosophy level, eight items on the effectiveness of the HR systems on the policies and programmes level, and eight items on the effectiveness of the HR system on the practices and processes level of the HR system

- Research sample: Managers and employees of the organisation

Research instrument and sample for the roles of the HR professionals

The theory of Ulrich (1997) was used to describe the roles of the HR professionals as business partners. The degree of presence of the four roles can be measured by the questionnaire developed by Sanders & Van der Ven (2004) adapted form Ulrich (Ulrich; 1997) and can be found in appendix 8. The research sample, recommended for this part of the research, consist out of employees, managers, and HR professionals. This enables the comparison of the perceptions of employees, managers, and HR professionals. This is necessary as Sanders & Van der Ven (2004) state that there are differences in the preferred role of HR professionals between, employees, managers, and HR professionals. HR professionals like to see themselves as strategic partners and change agents, while employees and managers prefer a role of the HR professional as an administrative expert and employee champion.

- Research instrument: Questionnaire
- Four items on the strategic role, four items on the administrative role, four items on the employee champion role, and four items on the change agent role
- Research sample: Employees, managers, and HR professionals

Research sample for the additional skills of, and training received by HR professionals

Paragraph 3.3.2 elaborated on the additional skills required for, and training received by HR professionals after the adoption of e-HRM technologies. The work of Bell et all. (2006) elaborated on the increased importance of specific skills of HR professionals after e-HRM adoption. These skills were:

- Strategic skills
- Functional skills
- IT skills

Straightforward questions were developed to measure if the additional skills really were required and acquired (by training, or on-the-job). These questions can be found within appendix 9. The research sample of these questions consists out of HR professionals.

- Research method: Questionnaire
- Four items on the strategic skills and training received, four items on the functional skills and the training received, and six items on the IT skills and training received
- Research sample: HR professionals

The questionnaires

The researchers developed three questionnaires for the research into e-HRM effectiveness. One questionnaire was developed for employees, one for managers, and one questionnaire was developed for HR professionals. The questionnaires were adapted to the perspective of

the research sample they were developed for. The questionnaires of the employees and managers however, also contained the questions on the perceived effectiveness of the HR system. The questionnaire for HR professionals also contained questionson time spent on the HR activities, and the additional skills and training received by HR professionals. The researchers approached two researchers, related to the University of Utrecht the Netherlands, to conduct an expert debriefing. The questionnaire was checked for mistakes that could lead to errors during the data gathering process. Some minor adjustments were recommended and these were made by the researchers. The questionnaires for employees, managers, and HR professionals can be found in appendix 10, 11, and 12. These appendixes contain the modified questionnaires. Figure 21 presents all the constructs and their components, and the research instruments recommended for the research into e-HRM effectiveness.

Constructs	Sub constructs	Dimensions	Components	Research methods / sample
e-HRM goals	Content of e-HRM goals	Cost reduction / Efficiency gains	FTE's of HR department	Interviews with the project leader the project and HR managers
			Costs of performing activities	
			Productivity of HR Professionals	
			Cycle time of HR activities	
		Client service improvements	Interface between clients of the HR department and the HR department	
			Needs of services of clients of the HR function	
		Improving the strategic orientation	Time spent on HR planning	
			Time spent on organisational development	
			Time spent on strategic planning	
			Time spent on organisational design	
		Allowing integration of the HR function	Harmonising the HR function	
			Standardising the HR function	
	Clarity of e-HRM goals		E-HRM goal knowledge	Questionnaire for the end-users of the technology
			Presence of specific e-HRM goals	
Use of e-HRM	E-HRM activities	Strategic value of HR activities	Value of an HR activity	Interviews with HR professionals
			Uniqueness of an HR activity	
		Time spent on HR activities	Time spent on strategic activities	Questionnaire for HR professionals
			Time spent on IT activities	
			Time spent on administration	
			Time spent on supporting managers	
			Time spent on supporting employees	
	Type of technological support	Intended impact of the technology	Target	System analysis by researchers
			The impact of technology	
			Means	
		Role of IT in supporting an HR activity	IT capabilities	
			Technology ..... HR data	
	User acceptance of the technology	Unified theory of acceptance and use of technology	Performance expectancy of the technology	Questionnaire for the end-users of the technology
			Effort expectancy of the technology	
			Social influence of the technology	
			Facilitating conditions	
			Behavioural intention of the technology	
			Use of behaviour	
Impact of e-HRM on the HR system	HR performance indicators	HR efficiency	ROI of the technology	Document analysis or alternative strategy
			Productivity of the HR professionals	
			Cycle times of the HR activities	
		Perceived effectiveness of the HR philosophy	Fit between business strategy and HR strategy	Questionnaire for employees and managers
		Perceived effectiveness of the HR policies	Distinctiveness of HR policies	
			Consistency of HR policies	
			Concensus of HR policies	
		Perceived effectiveness of the HR services	Efficiency of HR services	
			Quality of HR services	
			Helpfulness of HR services	
	Job concent of the HR professional	Roles of HR professional	Strategic role	Questionnaire for the end-users of the technology
			Administrative role	
			Employee champion role	
			Change agent role	
		Additional skills for the HR professional	Strategic HRM skills	Questionnaire for HR professionals
			Functional skills	
			IT skills	
		Received training	Strategic training	
			Functional training	
			IT training	

Figure 21, Component list, research methods and research sample

4.2 Application of the framework within the MIA

The second part of this research focuses on the application of the research framework within the Dutch MIA. The research within the Dutch MIA was conducted within in period of two months, and encompassed interviews and conversations with:

- The project manager of Emplaza
- The head of the "personnel policy, support and monitoring" department
- Three HR professionals.

Besides the interviews and conversations, some documents were used for the research into the effectiveness of Emplaza. The following documents were studied:

- Five project documents
- Two business cases
- Three communication plans
- One document on actual usage behaviour
- Eleven promotion articles
- Three promotion DVD's
- Two evaluation documents
- One Master thesis
- A presentation of the project manager of Emplaza

There was however no approval for full scale quantitative and qualitative research. The questionnaires could therefore not be used for data gathering and therefore it was also not possible to test these questionnaires at this moment. It was necessary to search for alternative research methods for some of the components to enable the measurement of the e-HRM effectiveness at the Dutch MIA, and test framework with its components on its usefulness for research into e-HRM effectiveness. With the data found during the analysis of the documents and the data gathered during the conversations and interviews, the researchers have attempted to measure the effectiveness of Emplaza within the Dutch MIA. Besides this, the data enabled the researchers to test the completeness of the component list and the suitability of the components for characterising the constructs.

The following dimensions were researched according the component list of figure 21:

- The content of e-HRM goals
    - Interviews with the project leader of Emplaza and the head of the "personnel policy, support and monitoring" department (with the interview protocol of appendix 1)
    - Document analysis
- The clarity of the e-HRM goals
    - Promotion material analysis
    - Data gathered during conversations with the project manager of Emplaza
- The strategic value of HR activities
    - A interview with a senior HR professional (with the interview protocol of appendix 3)
    - Data gathered during conversations with the project manager of Emplaza
- The user acceptance of the technology
    - Report of TNO (2006) on employee satisfaction
    - Master thesis of Pasveer (2005)
    - Overview of the use of specific activities
    - Data gathered during conversations with the project manager of Emplaza
    - Presentation of the project manager of Emplaza

- The type of technological support
    - Technology scan by researchers (matrix method)
- Additional skills for HR professionals
    - Observations by researchers
- Received training
    - Observations by researchers

5 Findings: The effectiveness of e-HRM at the Dutch MIA

This chapter elaborates on the findings of the application of some of the research instruments developed for the framework for measuring e-HRM effectiveness within the Dutch MIA. It is aimed to give some first insight in question two of this research:

What is the effectiveness of e-HRM within the Dutch MIA?

Every paragraph elaborates on the research instruments, the research sample, or source and the data gathered. Besides this, a reflection on the research instruments is made, and if necessary modifications are recommended. The modified research instruments can also be found in the appendixes.

5.1 Content of the e-HRM goals of Emplaza

For this part of the research interviews were conducted with the project manager of Emplaza and the head of the "personnel policy, support and monitoring" department of the MIA. Besides the interviews, an analysis of some formal documents was made. The results of the interviews and the document analysis were compared to test if the use of the interview protocol resulted in the same, or even additional interesting data, important for the research into e-HRM effectiveness.

5.1.1 Research findings (content of the e-HRM goals)

During the interviews the interview protocol was used to measure the presence of specific e-HRM goals. With the support of the interview protocol developed for this research, the following e-HRM goals were found:

- Cost reduction and efficiency improvements
- Client service improvements / facilitating managers and employees
- Allowing integration of HR functions

However, some interesting remarks were made during the interviews. These remarks are summed up below.

- Different functionalities of the technology were implemented with different goals
- For the cost reduction and efficiency goal, there were some specified targets mentioned (reduction of 20 FTE). It was however not the intention to replace all administrative processes by IT
- The reduction of paperwork was an e-HRM goal, although not with the intention to reduce costs, but to reduce the bureaucratic procedures

- The user friendliness of the technology was a very important e-HRM goal. The intention was to offer complicated HR activities on a simple e-HRM manner
- The providing of HR activities through self service was the original goal of Emplaza at the MEA
- The improvement of service quality was acknowledged as a constraint for effective usage. Increased transparency of HR policies and HR data was acknowledged as the determinant of service quality
- The facilitation of managers and employees was acknowledged as a mean to increase the use of the technology instead of being a goal
- The improvement of service quality was used as justification for the adoption of Emplaza to unions
- The timeliness of HR activities was not an e-HRM goal. The employees and managers of the MIA however, did expect improvements of the timeliness of the delivery of HR services as a result of the use of IT for the delivery of these HR services
- Improving the strategic orientation of HRM was not an e-HRM goal at the MIA. However, it was expected that the adoption of Emplaza would change the focus of the HR department to more sophisticated HR activities as there were less (administrative) activities to be performed
- Standardisation and harmonisation were very important drivers of the project. They were however not specific e-HRM goals but means to achieve integration
- The standardisation of HR processes would give the MIA a leading position over the other Dutch Ministries for preparing for the SSC HRM
- The integration of the HR activities between employees, managers and HR professionals was an e-HRM goal. This was expected to lead to a more integrated HR function within the MIA

Table 1 summarises the results of the interviews of the pilot study at the Dutch MIA

Table 1, Summarising the e-HRM goals at the Dutch MIA

e-HRM goals form theory	Emplaza goals at the MIA
Cost reduction / efficiency gains	
reduction of FTE's	Important and specified (20 FTE)
costs of performing HR processes	not present
productivity of HR professionals	not present
cycle time of HR processes	not present
Client service improvements / facilitating managers and employees	
interface with the HR department	important and seen as constraint
needs for services of clients of the HR department	original goal of Emplaza at MEA
Improving the strategic orientation of HRM	
time spent on HR planning	not an e-HRM goal, but it was

time spent on organisational development time spent on organisational design time spent on strategic planning	expected as a result of the adoption of Emplaza
Allowing integration of HR functions	
standardisation of the HR function harmonising the HR function	acknowledged as a driver instead of an e-HRM goal
Additional e-HRM goals	
decrease of bureaucratic procedures becoming the example for other Ministries increase of internal efficiency of the HR department	by the reduction of paperwork by taking a leading position by integration of the HR function within the MIA

Although some targets for the reduction of FTE's were mentioned, no further targets could be mentioned that were used to justify the adoption of Emplaza. Intensified questioning was necessary to get insights in the justification of the high investments to be made in Emplaza and why no formal documents or statements on targets existed. Several reasons were mentioned of why no formal targets existed:

- The awareness of the MIA of the future developments concerning the SSC HRM and the importance of ESS and MSS for the success of the SSC HRM
- At the "top" of the MIA there was a strong belief in Emplaza as one of the solution to the pressures faced by HRM, so there was not much need of specified targets
- The culture of "doing instead of talking" at the MIA enabled the project team to focus on the actual implementation of the technology, instead of engaging in bureaucratic procedures for the justification of the project. According the project manager of Emplaza this was enabled because the Dutch MIA was a relatively small Ministry.
- The technology itself was expected to justify the investments, and in this way incremental expansion would be guaranteed.
- There was hardly any information available on results of comparable projects
- It was hard to specify targets because the MIA felt dependent on what vendors offered

Another interesting interview result was that different parts of the technology had different goals. For example, facilitating managers and employees with new HR activities which were useful to them, was used as bait for managers and employees to make them use the technology. On the other hand, the automation of the workflow of existing HR activities was adopted to increase efficiency. In this way, the goals affected the choices for HR activities provided through Emplaza. The results of the research into the content of the e-HRM goals of the MIA, in this way gave insights in the reasons of the composition of Emplaza; what, and for whom, are functionalities adopted. Besides these differences in goals for different technological parts, it became also clear that some e-HRM goals of the framework were not perceived as goals, but as means, or results of the adoption. The standardisation and harmonisation of HR processes was not seen as a goal, but as the mean to allow future

integration of the HR function. Improving the strategic orientation of HRM was not seen as a goal, but as a result of the adoption of e-HRM technologies.

Besides the interviews, five formal documents were analysed to identify e-HRM goals for the Dutch MIA. These documents were:

- A business case for the for developments concerning the total HR function of the Dutch MIA (written in July 2002)
- A project plan of the Emplaza project (written in January 2003)
- A project plan of the Emplaza project (written in June 2003)
- A document that describes Emplaza as a working solution (written in November 2003)
- A document that describes the development of the Emplaza project (written in December 2003)

The documents were researched on statements of why the MIA adopted e-HRM technology, and these statements were compared to the four e-HRM goals and their components identified for this research. Within all the five documents, statements on the same e-HRM goals were found as during the interviews

The statements made within these documents on the e-HRM goals of Emplaza at the Dutch MIA were however not concrete. No specific targets were mentioned. Moreover, within three of the analysed documents, the statements which resembled the “allowing the integration of HR functions“ goal, were not mentioned as a goal, but as a point which should be kept in mind. Document analysis also revealed some new statements on e-HRM goals of the MIA, which did not resemble any of the e-HRM goals components of the research framework. Document analysis revealed that e-HRM technology was also adopted at the MIA because:

- The MIA wanted to decrease the amount of errors made during the execution of HR processes
- The MIA wanted to introduce employees and managers with ESS and MSS

The document that described the developments of the Emplaza project gave insights in the drivers of the Emplaza project. This document also refers to the report of the committee Van Rijn (2001). This report stresses the importance of IT in facing the pressures of contemporary times. The need for e-HRM technology at the Dutch MIA, was according the document that describes the project of Emplaza, driven by:

- The importance of communication technology for contemporary business
- The awareness of the potential of IT for the support of processes
- The tightness at the labour market for skilled employees
- The introduction of complicated regulations
- The need for efficiency at the Dutch Ministries, caused by the economical recession

The document describes also that, in the year 2002 there was awareness of the pressures faced by HRM at the “top” of the MIA. The “top” of the MIA acknowledged the need for efficiency and cost reduction and the potential of IT in facing these pressures. The acknowledgement of the pressures and the potential of IT in facing these pressures, created the space for experimenting with IT for HRM at the Dutch MIA. The HR department within the MIA on its turn, acknowledged the potential of Emplaza, a web-based application at the Dutch MEA, in tackling the pressures the HR department faced at the time.

In general the same e-HRM goals were found during the interviews as within the formal documents. However, it became clear that the specific e-HRM goals and their components, developed for the interview protocol, were not acknowledged as important as the pressures faced by HRM at the MIA. It appeared to be difficult to research the content of the e-HRM goals for the adoption of Emplaza at the MIA. This was caused by several reasons, namely:

- Emplaza was introduced by the MEA. They had another driver for the adoption of e-HRM as the MIA
- The project of Emplaza was justified based on drivers instead of goals
- E-HRM documentation was focussed on the implementation of e-HRM functionality and the consequences of these functionalities, instead of setting targets and developing a plan how to achieve those targets.
- There was no specified documentation available, such as a business case for the adoption of Emplaza
- Emplaza can hardly be seen as a project on itself
- The context of the Emplaza project changed over time
- Emplaza is implemented incrementally over a period of five years and is still under construction
- The Dutch MIA had difficulties formulation specific goals themselves because, according the project manager of Emplaza at MIA, it was very hard to set clear goals for Emplaza as they were dependent on what the vendor of Emplaza offered

It seemed to be that at the Dutch MIA, they did not intensively consider the setting of goals and targets. There was a strong awareness of the pressures on HRM, but a business case, which defines the drivers, goals, targets, the scope of the project, and elaborates on the expected results, was not developed.

Summary (content of the e-HRM goals)

Firstly, it is important to mention that it was hard to find e-HRM goals within the Dutch MIA. This was mainly caused by:

- There was no formal business case for the Emplaza project available
- Emplaza was justified based on drivers, instead of goals, which were identified and stressed by the committee van Rijn (2001)

- At the “top” of the MIA there was awareness of the pressures faced by HRM, but also belief in the strength of Emplaza as one of the solutions. Therefore there was no need for goal setting
- The culture of doing instead of talking within the MIA
- The complicated and changing context of the entire Emplaza project

However, three e-HRM goals were identified. These were:

- Cost reduction and efficiency improvements
- Client service improvements / facilitating managers and employees
- Allowing integration of HR functions

Interesting remarks on these e-HRM goals are:

- For every e-HRM goal found within the MIA, only some of the components of the specific e-HRM goal were applicable within the MIA (for example; cost reduction/efficiency improvements was an e-HRM goal within the MIA, but the component productivity improvements of HR professionals was not found)
- Some new components for e-HRM goals were found
- Goals were not specified with targets, with the exception of the reduction of FTE’s
- Some e-HRM goals of the framework were perceived as means, or expected results, instead of being obvious goals
- Different technological parts had different goals
- The e-HRM goals affected the choice for specific HR activities to be provided through e-HRM

5.1.2 Reflection on the research instruments (content of the e-HRM goals)

Although it appeared to be difficult to analyse the e-HRM goals of the Dutch MIA, the interview protocol was useful. The interviews and the document analysis led to similar results, although some small differences were found. During the interviews, the goal of decreasing the amount of errors made during the execution of HR processes was not mentioned. Besides this, the goal of introducing ESS and MSS within the organisation was not mentioned explicitly, although within the formal documents it is often mentioned as an important goal. However, intensified analysis of the interview results revealed this goal as a main driver for the adoption of Emplaza. The interviews on the other hand also provided results which were not found during the analysis of the formal documents. The interviewees mentioned the specified goals of cost reduction and efficiency improvements, the decrease of bureaucratic procedures, integration within the HR function, and becoming an example for the other Ministries. The small differences in the content of e-HRM goals between the formal document analysis and the interviews could be explained by:

- The fact that the project was initiated almost five years ago and the interviewees have simply forgotten all the e-HRM goals
- The opinion of the interviewees is biased
- The context of the project has changed over time
- Some goals were not mentioned because the realisation was uncertain

The interviews gave also some insights in the goals of different parts of the technology. It also became obvious that some e-HRM goals of the framework were not seen as e-HRM goals, but means to achieve something, or as results. Therefore, these “goals” affected the choices of functionalities adopted within the MIA. The content of the e-HRM goals results of the MIA in this way, gave insight in the reasons of the composition of Emplaza; what, and for whom, are functionalities adopted. In this way, these “e-HRM goals” affect the use of e-HRM and therefore the content of the e-HRM goals should be considered.

During the interviews, some additional e-HRM goals were found. Although these goals were not included in the interview protocol, these goals were mentioned during the interview and could be categorised over the four e-HRM goals identified for this research. The interviewees however, could not think of an e-HRM goals category, which was not discussed during the execution of the interview protocol. The e-HRM block of the research framework with its four e-HRM goals categories seems therefore to capture the essence of why the MIA adopted e-HRM. Besides this, the resemblance of the results gathered during the document analysis and interviews supports the statement that the “e-HRM goals interview protocol” of the research framework captures the essence of why the MIA adopted e-HRM. Moreover, the interview protocol, with the uncovered components of the four e-HRM goals, proved to be a useful research instrument for analysing the e-HRM goals of the MIA as the interviews provided more specified data as the document analysis provided and gave insights in the justification of the adoption of Emplaza.

Unfortunately, the “improvement of the strategic orientation of HRM” goal was not found within the MIA. This does not mean that it is not an important goal for the adopting of e-HRM. It is however, not an e-HRM goal for the adoption of Emplaza at the MIA. Because of the absence of this e-HRM goal at the MIA, this goal could not be tested on the completeness of the components in the research framework, or the suitability of the components of the research framework to measure the presence of the goal.

Although the e-HRM goals construct of the research framework is useful, some additions to components might be made. The first modifications concern additional components for the original e-HRM goals:

- Decrease of the amount of errors made during the execution of HR processes might be added to the “cost reduction and efficiency improvements” e-HRM goal

- Decrease the bureaucratic procedures might be added to the “cost reduction and efficiency improvements” e-HRM goal
- Increasing the integration within the HR function might be added to the “cost reduction and efficiency improvements” e-HRM goal
- Introducing ESS and MSS, although very specific for the MIA, might be added to the “client service improvements / facilitating managers and employees” e-HRM goal
- Becoming an example for other HR functions, although also very specific for the MIA, might be added to the “allowing integration between dispersed HR functions”

The modified interview protocol and its components can be found in appendix 13

The second modification, or actually recommendation, concerns the use of research instruments. The original research framework suggested interviews for this part of the research. However, during the study at the MIA, several documents were analysed to compare the data found within the documents with the data gathered during the interviews. The results where for a large part similar, but some differences where found. These differences could be caused by several reasons but these causes, although mentioned, where not studied intensively. Therefore, when available, it is advisable to analyse formal business cases and other documentation on the project as well, especially when the project was initiated a couple of years ago. Formal document analysis allows objective data gathering. The uncovered components of the content of e-HRM goals of the research framework are also useful for analysing the e-HRM goals within formal documents.

Summary (content of the e-HRM goals)
The interview protocol was very useful for the research into the content of the e-HRM goals. Moreover, research into the e-HRM goals of a specific organisation is useful, as these goals seem to affect the choices made for specific activities to be provided through e-HRM. In this way, insight is given in the use of e-HRM.

Although improving the strategic orientation of HRM was not found, the four e-HRM goals of the framework seem to capture the essence. However, someone new components for the four e-HRM goals of the framework were found during the interviews. These were:

- Decrease of the amount of errors made during the execution of HR processes (cost reduction and efficiency improvements”)
- Decrease of the bureaucratic procedures (cost reduction and efficiency improvements)
- Increasing the integration within the HR function (cost reduction and efficiency improvements)
- Introducing ESS and MSS (client service improvements / facilitating managers and employees)

- Becoming an example for other organisations (allowing integration between dispersed HR functions)

During the interviews and the document analysis, in general the same e-HRM goals were found. The interview protocol of appendix 13 is suitable for document analysis as well as for the interviews, and it is recommended to complete the interview results with the results of a document analysis. This enables the researchers to gain more objective data, especially when the project was initiated some years before the research was conducted. The interview protocol can be used as a components list during the document analysis.

5.2 Clarity of the e-HRM goals of Emplaza

The MIA did not allow the distribution of the questionnaire within a large group of respondents. To get more insights in what the end-users could and should have known about specific goals for the adoption of Emplaza, an analysis of communication plans and promotion material was made. After this analysis, there was need for clarification and therefore a meeting was organised with the project manager of Emplaza.

The communication plans were expected to contain information on the content and the target groups of the communication. The promotion material was expected to contain statements on the goals of Emplaza. The following material was analysed for this part of the research:

- A PowerPoint presentation for end-users (presented in August 2003)
- A communication plan (written in September 2003)
- A promotion DVD of Emplaza (2003)
- Eleven publications of the MIA in magazines (published in 2004)
- Some publications / announcements on the intranet of the MIA (published in November and December 2004)
- A promotion DVD of Emplaza (2006)

Although no questionnaire could be conducted, it was expected that the analysis of the promotion material could give some insights in the usefulness of the research on the clarity of e-HRM goals for the e-HRM effectiveness research.

5.2.1 Research findings (clarity of the e-HRM goals)

The different materials were not consistent on the statements about the goals of Emplaza. A lot of different statements were found within the different promotion material. With the support of the components developed for the “content of the e-HRM goals” part of the framework, these statements were categorised. The result was that the same e-HRM goals were found in the promotion material as within the formal documents and during the interviews. Although the same e-HRM goals were found, there were however some differences in how the adoption of Emplaza was justified. An important remark to make is

that the end-users of the technology were not provided and probably had no access to the formal documents used for this study. Within these formal documents and during the interviews, the adoption of Emplaza was justified as the “top” of the MIA was aware of the pressures faced by HRM. Within the promotion materials however, the adoption of Emplaza was justified by elaborating on the advantages of e-HRM for end-users of Emplaza. Besides the difference in justification for the adoption of e-HRM technologies between the promotion materials on the one hand and the formal documents and interviews on the other hand, there were also some differences found in the pronounced importance of the different goals. Cost reduction for example, was hardly mentioned within the promotion material, while the improvement of efficiency was explained mainly as an advantage for the clients of the HR department, instead of a necessity as mentioned in the formal documents and interviews. Besides this, the facilitation of managers and employees with useful HR tools was elaborated intensively. It was stressed that Emplaza was an opportunity for employees to develop themselves and an opportunity for managers to be more efficient.

A meeting was organised with the project manager of Emplaza to get insights in the reasons of the differences between the promotion materials on the one hand, and the formal documents and interview results on the other hand. The project manager mentioned the following reasons:

- There was no need to communicate cost savings as employees and managers were expected not to be interested in cost savings of the HR system
- There was fear within the project team that cost reductions and efficiency improvements of the HR function would be perceived by employees and managers as service quality loss provided by the HR department
- The facilitation of employees and managers was stressed, because the project team felt the need to attract employees and managers in using Emplaza. This was expected to lead to the acceptance of Emplaza as a whole.

The most interesting results found during the document analysis en the conversation with the project manager of Emplaza was that it seemed that the project team of Emplaza communicated deliberately other goals for the adoption of Emplaza towards the end-users of Emplaza. This strategy was chosen because it was expected that communicating the official goals of Emplaza would not lead to the right end-user attitude towards, and the desired use-behaviour of the technology. To stimulate the right attitude towards, and the desired use behaviour of the technology, goals were communicated that met the needs of the end-users of Emplaza. It was expected that this would enable the MIA to adopt some functionalities that were not in favour of the employees and managers of the MIA.

Summary (clarity of the e-HRM goals)

During the analysis of the promotion material, the same e-HRM goals were found as during the interviews and formal document analysis. However, there were some differences in:

- How Emplaza was justified
- The importance of goals within the promotion material compared to the importance of goals identified during the interviews and the document analysis of formal documents

These differences were caused by the communication strategy chosen by the MIA. The MIA seemed deliberately to have chosen a strategy that would lead to the right end-user behaviour, and the end-user acceptance of the Emplaza. Therefore, the goals of the project that met the needs of the end-users of Emplaza were stressed. The communication strategy of the MIA was:

- To stress the advantages for end-users of Emplaza so that they would also accept the perceived disadvantages
- Not to scare employees and managers with cost savings stories that might lead to resistance

5.2.2 Reflection on the research instruments (clarity of the e-HRM goals)

Within the Dutch MIA, the communication strategy had the aim to stimulate the right attitude towards, and the desired use behaviour of the technology. Therefore, it is useful to research the clarity of the goals communicated towards the end-users of the technology. However, this is only useful if the clarity of the goals that are communicated towards the end-users are researched, rather than the official goals. User-acceptance research of the technology, combined with the research of the clarity of the communicated goals, than can give insights in the suitability of the communication strategy chosen. It is interesting to study if the communication strategy has led to the right attitude towards, and the desired use behaviour of the technology, but also if the communication strategy has lead to achieving the official goals.

End-users of the technology should not be questioned on the presence of the e-HRM goals identified during the uncovering of the preliminary framework, but end-users should be questioned on the clarity of the goals communicated towards them, as these might differ form the official goals. Therefore, the questions on the clarity of the e-HRM goals should be made according the results found during the analysis of the promotion material. The questions of appendix 14 therefore, should be modified to the specific context. It is therefore recommended, to analyse the communication plan besides the analysis of the promotion material.

Summary (clarity of the e-HRM goals)

It is useful to measure the clarity of the e-HRM goals because:

- It gives insights in the communication strategy chosen that is expected to lead to the right end-user behaviour of, and the end-user acceptance of the technology

- It enables researchers to determine the effectiveness of the communication strategy when an evaluation is conducted on the achievement of the goals

Measuring the clarity of the e-HRM goals is however only useful when the clarity of the communicated goals are measured. Analysing the communication plan gives insights in the communication strategy chosen.

5.3 The strategic value of HR activities at the MIA

To measure the strategic value of the HR activities provided through Emplaza, an interview was conducted with a senior HR professional to test the interview protocol and to make an overview of peripheral, traditional, idiosyncratic, and core e-HRM activities. During the interview, the answers to the questions of appendix 3 were recorded. Conversations with the project manager of Emplaza provided also some interesting remarks, and these were also considered. The data gathered during the interview was used by the researchers to categorise the e-HRM activities over the four categories, of peripheral, traditional, idiosyncratic, and core HR activities. This gave insights in the division of responsibilities of the e-HRM activities. Besides this, it enabled the researchers to make some first conclusions on the usefulness of measuring the strategic value of e-HRM activities for the research into e-HRM effectiveness. Before the interview was conducted, an analysis was made of the HR activities provided through Emplaza. This analysis will be discussed first.

5.3.1 Research findings (the strategic value of HR activities)

The design of Emplaza confirms the acknowledgement that the HR activities within the MIA are performed by employees, managers and HR professionals. Emplaza, separates these HR activities by categorising these HR activities in cluster of HR activities for employees, a cluster of HR activities for managers, and a cluster of HR activities for HR professionals. These clusters are called “Persoonlijk” (“personal”), Management, and “P&O” (“HRM”). Employees (managers and HR professionals are also employees as they have a manager themselve too) are responsible for performing the activities of the personal cluster. Managers (some of the HR professionals are also managers) are responsible for performing the activities of the management cluster. And HR professionals are responsible for performing the activities of the HRM cluster. Every user of Emplaza, when logged on, is only permitted access to clusters the user is authorised to. Besides this restricted access to the clusters, a user is directed automatically to his personal Emplaza environment when he logs on. Users are also restricted to access the personal environment of other users. In this way the division of responsibilities is guaranteed and the HR architecture of the HR function acknowledged. Table 2 gives an overview of the HR activities supported by Emplaza grouped by the cluster they belong to.

Table 2, Summarising the e-HRM goals at the Dutch MIA

Personal	Management	HRM
Cockpit	**Cockpit**	**Cockpit**
Employee files	**Employee files**	**Employee files**
-consult your files	-consult employee files and make notes	-consult employee files make notes
Personal information	**Reports**	**About Emplaza**
-consult / change personal information	-consult budgets and prognoses	-consult welcome page
-consult your function	-consult formation info	-consult release information
-consult / change résumé	-consult illness oversight	-consult security information
-consult employers costs	-consult demographics of your department	-consult authorisation information
-consult salary strip	-consult mobility	-consult messages
-consult conversation overview	-consult functioning conversation reports	**Forms**
-consult your availability	-consult pay levels of your department	-approve IKAP requests
Forms	-consult recruitment and selection information	-approve / make / archive employee mutations
-overview of forms	**Reports on name**	-consult / archive functioning conversations
-request functioning conversation	-consult prognoses on name	-employee mutations after layoff
-submit IKAP request	-notepad personnel costs	-approve / archive relieve requests
-submit IKAP declaration	-consult formation on function	-send standard letters
-employee development	-consult formation on name	-employee development
-other forms	-sick leave on name	-other forms
Travel expenses	-functioning conversation info on name	**View employee**
-submit travel expenses declaration	-mobility on name	-become employee
Relieve	**Reports on history**	
-submit relieve request	-consult sick leave	
-consult your relieve	-consult formation and availability	
-consult relieve of your department	-consult functioning conversation info	
-request for work beyond your schedule	**Forms**	
-change your working schedule	-overview of forms	
Competencies	-approve relieve request	
-consult competencies	-fill in functioning conversation	
360° feedback	-approve IKAP requests	
-consult content	-make employee mutations	
-request feedback	-approve travel expenses declarations	
-consult archive	-make reward advice	
-give colleague feedback	-approve work beyond schedule	
Functioning conversation	-approve schedule changes	
-consult information on the functioning cycle	-send standard letters	
Employability scan	-employee development	
-consult the employability questionnaire	-other forms	
Introduction square	**Authorisation**	
-for new employees	-become other manager	
-guiding in your work	-authorise other manager	
-central introduction	**Recruitment & selection**	
-checklists		
-after introduction		
-links		
-brochures and forms		

	-make a checklist for recruitment and selection **Employability scan** -consult the employability questionnaire	

In total, Emplaza supports eighty-four HR activities. However, many of the HR activities are similar. These activities could be brought under one type of activity. Table 3 presents the list of the forty-three HR activities remaining for intensified analysis. No HR activities were deleted, although some were aggregated.

Table 3, List of aggregated HR activities

Personal	Management	HRM
Personal data -consult personal data -change personal data -consult salary strip -consult submitted forms **Forms** -record functioning conversation data -submit IKAP request -employee development **Travel expenses** -submit travel expenses declaration **Relieve** -submit relieve request -change your working schedule -request work beyond schedule -consult relieve and schedule information **Competencies** -consult competencies **360° feedback** -request 360° feedback **Functioning conversation** -consult information on the functioning cycle **Employability scan** -consult the employability questionnaire **Introduction square** -consult the introduction square	**Employee files** -consult employee files and make notes **Reports** -consult budgets, prognoses and pay levels -consult formation, sickness and availability info -consult demographics of your department -consult mobility -consult functioning conversation reports **Forms** -approve relieve requests and schedule changes -fill in functioning conversation -approve IKAP requests -make employee mutations -approve travel expenses declarations -make reward advice -approve work beyond schedule -employee development analysis **Authorisation** -become or authorise other manager **Recruitment & selection** -make a checklist for recruitment and selection **Employability scan** -consult the employability questionnaire	**Employee files** -consult employee files and make notes **About Emplaza** -consult the information site of Emplaza **Forms** -approve IKAP requests -approve / make / archive employee mutations -consult / archive functioning conversations -employee mutations after layoff -approve / archive relieve requests -employee development analysis -other forms **View employee** -become employee

During the interview with the HR professional, the e-HRM activities of table 3 where tested on their strategic value. The interview results enabled the researchers to categorise the e-HRM activities over peripheral, traditional, idiosyncratic, and core HR activities. Besides this,

the interview was a test of the usefulness of the interview protocol of appendix 3, and the usefulness of measuring the strategic value of e-HRM activities in general. Figure 22 gives an overview of the categorisation of the HR activities made by the researchers, over peripheral, traditional, idiosyncratic, and core HR activities.

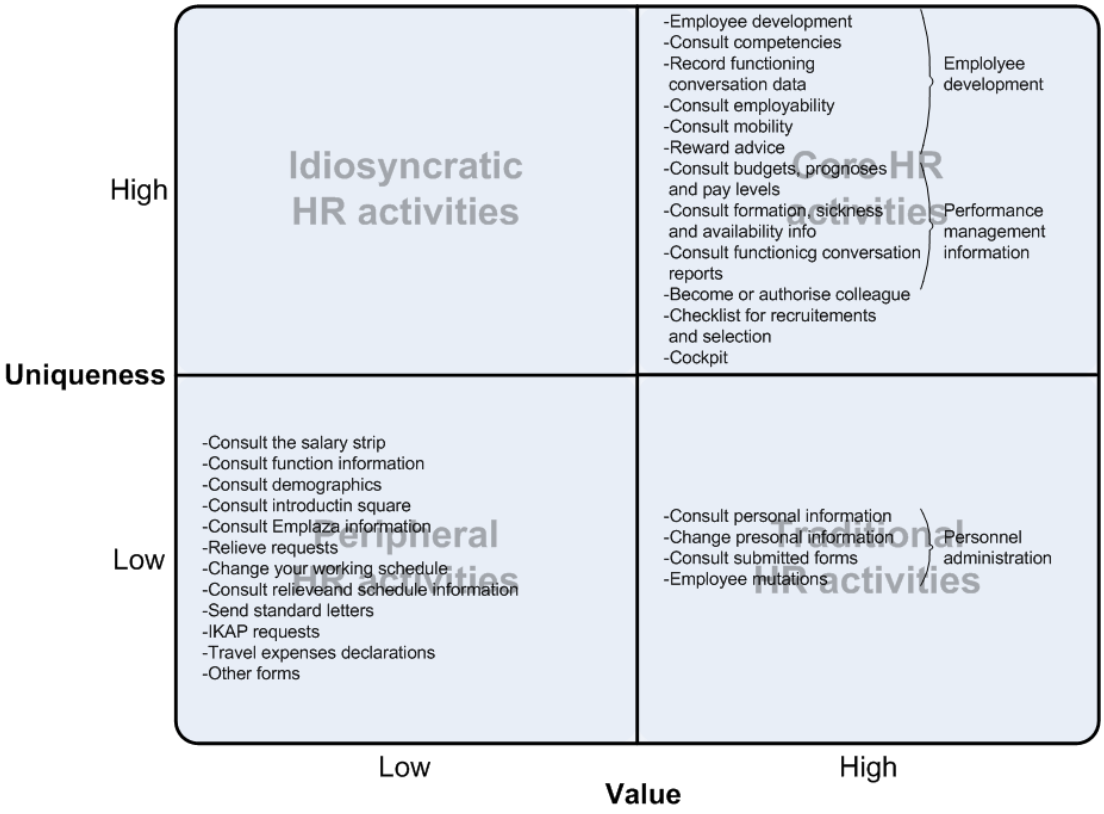

Figure 22, Overview of the strategic value of HR activities

During the interview it became clear that some e-HRM activities should not be categorised individually, but because they belonged to a specific combination of HR activities they should be categorised together. Three clusters of HR activities were found that should be categorised together. These were clusters of HR activities related to (see figure 22):

- Employee development
- Management information on performance
- Activities concerning personnel administration

Two of these clusters were acknowledged to be so specific for the organisation that they could be considered unique (see figure 22). Therefore these activities are grouped under core HR activities.

The results gathered during the interviews were also compared with the expectations mentioned in chapter 3.2.1. It was expected that the HR professional would be responsible for performing the core e-HRM activities and that managers and employees would be responsible for performing the traditional and peripheral e-HRM activities. This is however

not the case within the Dutch MIA. Actually, the responsibility for performing some of the individual HR activities was even divided over employees, managers, and HR professionals (supported by workflow). Although, considering that only the HR activities provided through Emplaza were analysed, it seems that within the Dutch Ministry, managers also have responsibility for core HR activities. They are together with the HR professionals responsible for e-HRM activities concerning employee development. The managers also have received the opportunity to monitor their performance related to HRM. During the interview, the HR professional elaborated on the procedure for acquiring the management information concerning HRM before the adoption of Emplaza. Before Emplaza was adopted, managers had to submit a request for this HR data. HR professionals were responsible for the collection, analysis and presentation of the data. This required the specialist knowledge but also the access to the data of the HR professional. With Emplaza, managers are provided the opportunity to consult the HR data whenever they want it. Emplaza in this way supports the managers in performing HR activities that before the adoption of Emplaza needed specialist knowledge. Although, managers seem to be involved in core HR activities, no evidence was found that employees are also involved in many different core HR activities (they have responsibility for the recording of the functioning conversation results and that they are enabled to check their personal cockpit, and the reports on their development). As expected no idiosyncratic HR activities were found that are supported through Emplaza.

The results of the interview on the strategic value did not fulfil the expectations of differences in the responsibility for core, traditional, and peripheral HR activities. It seems that the Dutch MIA did not consider the strategic value of an HR activity when choices were made about what HR activities were to be provided through Emplaza. The MIA has chosen to provide HR activities that fulfilled the needs of the organisation, but also the needs of the end-users of Emplaza. The employees and managers seem both to be capable of performing core e-HRM activities. Although not much core activities for employees were found, the managers within the MIA do perform several core e-HRM activities and therefore the expectation is that there are no reasons why employees could not perform more of these activities. This means that the strategic value of HR activities is not suitable for characterisation of the HR architecture (who is responsible for what activity) of the Dutch MIA. In other words, the division of responsibilities of employees, managers, and HR professionals cannot be based on the strategic value of the activities within the MIA.

Other interesting points mentioned during the interview with the HR professional were:

- Some of the provided e-HRM activities are not valuable themselves, but when provided through Emplaza, they can generate cost savings and efficiency improvements (e.g. IKAP requests, travel expenses declarations)
- Although some activities are not of value for the organisation as a whole, they could be very valuable to the workforce (e.g. consulting the salary strip, relieve requests)

- Some of the activities are very valuable, but there is a lack of good HR policies to perform them well, or they are not provided optimally through Emplaza (will be discussed in the e-HRM support paragraph)
- Managers make a lot of errors during the performing of the more sophisticated activities (will be discussed in the e-HRM support paragraph)

The HR professional mentioned that although the value of some e-HRM activities is acknowledged and stressed, in reality the opportunities for some of these activities where left unused. The HR professional mentioned as example the provision of management information and employee development. Although the HR professional considered these activities as valuable, in his opinion there were no good HR policies and agreements on how to use and provide these valuable HR activities. This affected in his opinion the way the employee development activities were developed, and this affected the actual usage of these activities.

During the conversations with the project manager of Emplaza, the following interesting remarks were noticed:

- HR professionals have a minor role in the HR activities provided through Emplaza
- The HR activities to be provided through Emplaza were selected on the possible efficiency improvements they would realise, reduce costs, could support the workforce to tackle difficult regulations and legislation, or increase the transparency of the HR function

Comparing the result of the interview with the remarks made by the project manager of Emplaza, it seems that the HR activities to be provided through Emplaza were chosen based on two reasons:

- Activities that generated the largest cost reductions and biggest efficiency improvements
- Activities that fulfil the needs of employees and managers of the MIA

Summary (the strategic value of HR activities)

Although the researchers did find evidence of division of responsibilities between employees, managers, and HR professional within the structure of Emplaza, the expectations of the theoretical chapter were not met. The HR architecture with responsibilities for employees, managers, and HR professionals could not be created according peripheral, traditional, idiosyncratic, and core HR activities. The research into the strategic value of the HR activities provided through Emplaza did however provide some interesting results:

- Responsibilities for performing some of the individual HR activities, is divided over employees, managers, and HR professionals. This integration is enabled by Emplaza

- It seems that the adoption of e-HRM technology enables employees and managers to perform core activities, but with the constraint that the activities are provided well
- The activities to be provided were chosen on the opportunity of the e-HRM activities to generate cost savings and efficiency improvements on the one hand, and the fulfilment of the needs of employees and managers on the other hand
- The opportunities for some of the strategic valuable e-HRM activities remained unused, caused by the lack of good HR policies, or proper support of Emplaza
- HR professionals seem to have a small role in the activities provided through Emplaza

Some general research findings were:

- Emplaza provides eighty-four e-HRM activities divided over three clusters (employees, management, and HR professionals)
- Employees, managers, and HR professionals are restricted to perform only the HR activities they are responsible for
- The researchers found three sets of HR activities of which two were besides valuable, also organisation specific (unique)

5.3.2 Reflection on the research instruments (the strategic value of HR activities)

Although the strategic value seems not to be a determinant for the HR architecture, the research into the strategic value has resulted in other interesting findings. Lepak & Snell (1998) state that IT supports the integration of dispersed HR functions. One of the goals of Emplaza, mentioned during the interview on the content of the e-HRM goals, was the integration of the HR function within the MIA. Emplaza seems to enable that the employees, managers and HR professionals together can have responsibility for performing a single HR activity. There seems however to be one constraint for this statement and this is interesting. Employees and managers can perform core HR activities, but only when they are supported well. Therefore the expectation is that e-HRM technology enables employees and managers to perform HR activities when the technology "possesses the specialist knowledge" normally possessed by the HR professional and that the e-HRM activities are based on well through thought HR policies. Therefore, it is still interesting to test end-user acceptance, the end-user satisfaction, and the actual use behaviour of the HR activities within the different categories of idiosyncratic, traditional, peripheral, and core HR activities provided through e-HRM.

Although some interesting results were found it was very hard to gather useful data for this part of the research. This was caused by:

- The HR professional
- The characteristics of the Dutch MIA
- Data gathering with the interview protocol

- The order of the components

The HR professional was related to the support department of the HR department. A part of his job therefore was to finalise the processes of the activities performed through Emplaza by employees and managers. It was therefore difficult for him to analyse the strategic value of an HR activity without considering the HR activity as an HR activity that is provided through Emplaza. For example, when an HR activity supported through Emplaza generated costs savings, he perceived it as valuable. However, it was not the goal to measure the benefits of Emplaza at this stage, but to measure the strategic value of the e-HRM activities provided through Emplaza. Moreover, the HR professional had difficulties to assess the uniqueness of the HR activities as he had no idea what the possibilities for providing these activities where, or what other organisations provide to their employees and managers. Although the components are expected to capture the essence of the strategic value of e-HRM activities, the process of data gathering by means of a semi-strunctured interview was very time consuming and boring. For a lot of questions the same answers were applicable. The structure of the interview protocol was also not satisfying, as for every e-HRM activity provided through Emplaza, it was required to ask if the e-HRM activity belonged to a specific set of e-HRM activities and if so, is this set unique for the specific organisation. For every HR activity that did, or did not belong to a set of HR activities, the value had to be assessed. Then the uniqueness of the following HR activity had to be assessed although sometimes that activity belonged to the same set of e-HRM activities. This made data gathering very time consuming and boring.

The interview protocol of appendix 3 was perceived as unusable for the research in its current structure. The components on the other hand might be useful when another research strategy is adopted. The following recommendations are made for future researchers:

- Make a list of the HR activities provided through e-HRM to employees, managers, and HR professionals
- Look together with a high placed HR manager for clusters of e-HRM activities that are unique for the specific organisation and determine the uniqueness of the remaining individual e-HRM activitie, but also for the identified clusters of e-HRM activities (with the support of appendix 15)
- Make a new list of e-HRM activities. This list should contain the clusters of e-HRM activities and the remaining e-HRM activities
- Conduct a questionnaire (appendix 16) for the high placed HR manager
- Analyse the results. Look for differences between the activities performed by employees, managers and HR professionals

Summary (the strategic value of HR activities)

Although the strategic value is not a determinant for the HR architecture, the research into the strategic value of e-HRM activities delivered some interesting results. Moreover,

combining end-user behaviour and end-user acceptance of e-HRM technology with the results of the research into the strategic value of e-HRM activities might give interesting results. Therefore the research into the strategic value of e-HRM activities should be continued.

The research instrument should however be modified as it proved not be useful in its current structure. Data gathering was boring and time consuming and can be realised in a more efficient manner. The following procedure is recommended.

- Identify together with a HR manager, sets of e-HRM activities
- These sets, but also the remaining individual e-HRM activities, should be assessed on their uniqueness by the HR manager (use of interview protocol of appendix 15)
- Then the researchers should adapt the questionnaire on the value of e-HRM activities (appendix 16) according the interview results of the interview with the HR manager.
- This questionnaire has to be filled in by the HR manager
- The researchers categorise the e-HRM activities according the results of the interview and the questionnaire

To be sure that data is gathered that is representative for the specific situation, it is important that the HR manager has knowledge of the environment of the organisation. This enables the HR manager to asses the uniqueness of the e-HRM activities properly.

5.4 Time spent on HR activities

The theoretical framework elaborated on the changes expected in time spent on certain HR activities by HR professionals. It was expected that there would be changes in the amount of time spent on:

- Strategic activities
- IT activities
- Administration activities
- Supporting managers
- Supporting employees

Although, the Dutch MIA did not allow the distribution of a questionnaire within a representative population, some interesting points were observed during the presence of the researchers within the MIA. This will be elaborated below.

5.4.1 Research findings (time spent on HR activities)

During conversations with HR professionals within the Dutch MIA and the project leader of Emplaza, but also during the observations of the researchers within the Dutch MIA, some

prove was found for the changes in time spent on HR activities for HR professionals. The following points were mentioned within the MIA:

- Employees and managers prepare, with the support of Emplaza, mutations and these only have the be controlled and archived by HR professionals, while formerly the HR professionals had to perform the procedures themselves
- Paper forms and bureaucratic procedures are replaced by computer technology
- The tasks of the remaining HR professionals are more sophisticated than the tasks the replaced HR professionals were responsible for
- The retrieval and archiving of personal data for HR professionals is partially automated by Emplaza

Although these observations are indications of changes in time spent on certain HR activities, it also became clear during the conversations with the project managers of Emplaza, that not all HR professionals were confronted with these changes. Besides this, it was mentioned that some HR professionals received IT responsibilities while others received the responsibility for supporting employees and managers.

The researchers also conducted some observations within the Dutch MIA themselves. The following points were noticed:

- The existence of a support department within the HR department, for end-users of Emplaza facing difficulties during the performing of e-HRM activities through Emplaza
- The existence of a project team under the responsibility of HRM, which had responsibility for the implementation and development of Emplaza
- Employees and especially managers have a lot of responsibilities for performing e-HRM activities

It seems that there may be some shifts in time spent by HR professionals. However, these statements could not be confirmed with a questionnaire. More interesting however is that it seems that there are some radical changes for employees, but especially managers as well. As Emplaza is an ESS and MSS web-based tool, some significant changes can be identified for the employees' and managers' role within the HR function. The employees and managers are given the facilities and the responsibilities for their own HRM. It is therefore interesting to research the amount of time spent by employees and managers on HR activities.

Summary (time spent on HR activities)

Although not confirmed with quantitative research, it seems that there were indeed some changes in the time spent on HR activities by the HR professionals. Moreover, there were significant changes for employees and managers observed as well, as they receive responsibility to perform HR activities through Emplaza.

5.4.2 Reflection on the research instruments (time spent on HR activities)

The original theoretical framework elaborated only about the time spent on HR activities by HR professionals. However, to be able to create a detailed picture of the responsibilities divided between employees, managers, and HR professionals, it is also necessary to research the time spent on HR activities by employees and managers. Therefore, it is recommended to include questions on the time spent on e-HRM activities by the employees and managers. The amount of time spent on e-HRM activities might have an effect on the perceived effectiveness of the HR system. Future research could give insights in this relation. The questions for employees and managers can be found in appendix 17.

Summary (time spent on HR activities)

To be able to create a picture of the changes for the HR function as a whole, after the adoption of e-HRM, it is necessary to include the time spent on HR activities by employees and managers within the research framework.

5.5 E-HRM support for Emplaza

For this research it was necessary to analyse the type of e-HRM support Emplaza offers for the different e-HRM activities. As described in paragraph 3.2.2, e-HRM technology can support HR activities on an informational, relational, and transformational manner. Appendix 5 was used for the comparison of the support Emplaza offers for the specific e-HRM activities with the characteristics of informational, relational, and transformation e-HRM support identified during the literature study. This comparison was made for all the e-HRM activities supported by Emplaza. The application of the matrix of appendix 5 on Emplaza also gives insights in the usefulness of the framework for research into e-HRM effectiveness and the usability of the framework. The results of the analysis of the technology made by the researchers, were discussed with the project leader of Emplaza. This discussion will also be considered in this section.

5.5.1 Research findings (e-HRM support)

The results of the analysis of the support Emplaza offers for a specific HR activity can be presented in the format of appendix 5. Every HR activity supported by Emplaza was analysed. Therefore, every HR activity supported by Emplaza can be presented in its own figure. To demonstrate the use of the framework, some of the results of the analyses of HR activities supported by Emplaza, will be presented in the format of appendix 5. The dark green colour represents a total match between the support Emplaza offers for the specific HR activity and the description in that specific box of the framework. A partial match is coloured light green, and when there is no match the box is white.

The IKAP request through Emplaza

Ikap is the abbreviation for “Individuele Keuzen in het Arbeidsvoorwaardenpakket”, which means “individual choices in the terms of the employment package”. At the Dutch MIA, employees can use specific parts of their wage constituents on a fiscal friendly manner for specific spending, such as a bicycle. Emplaza supports the employees for making an Ikap request. The Emplaza function for an Ikap request contains all the constraints that exist for an Ikap request. There are legislative constraints, but also constraints based on the specific situation of the employee such as the wage of the employee, or the amount of over-time hours. The Ikap request, submitted by the employee, is automatically send to the manager of the employee, which approves or disapproves the request. After approval, the request is send to the HR department, which formalises and archives the request. The “Ikap request” functionality is therefore supported on a relational manner by Emplaza.

IKAP request

Varies over \ Type of e-HRM support		Informational e-HRM technolgy	Relational e-HRM technolgy	Transformational e-HRM technolgy
Intended impact of the IT	Target	HR department	HR function	Organisation
	The impact of the technology	Reducing administrative and informing pressure on the HR professionals	Optimising the workflow between employees, management and HR professionals	Creation of a flexible organisation
	Means	Provision of HR data through web-based channels	Automation of HR actvities and workflow support of the HR activities	Supporting the execution of HR activties adjusted to the specific situation
Role of IT in supporting an HR activity	IT capabilities	Digitilising HR data and making this HR data available for its stakeholders	Steering and recording of the interactions and mutations made when an HR activity is performed	Bypassing organisational hierarchy and freeing up procces from bureaucracy
	Technology ..... HR data	provides and records	supports the flow and recording of	analyses, processes and distributes

Fully applicable Partial applicable Not applicable

Figure 23, Type of support for the "IKAP request"

The HR function role authorisation through Emplaza

With the “HR function role authorisation” functionality of Emplaza, the employees and managers of the Dutch MIA can be authorised to execute tasks, which are formal, the responsibility of another person. Manager A could for example be authorised to execute temporarily the tasks of Manager B. In this specific situation, the authorisation function of Emplaza positions Manager A in the workflow of the HR activities, which are normally the responsibility of Manager B. The workflow of the HR activities is redirected without the loss of e-HRM support functions for the HR activities to be performed. The substitute manager however, is restricted to see the personal information of the replaced manager. This is the first step to transformational e-HRM support. The role authorisation function of Emplaza

namely, scores partial transformational at several criteria of the informational, relational and transformational e-HRM characteristics figure (see figure 24). The e-HRM technology enables the continuation of the execution of HR activities when the work environment is changed. Total transformational e-HRM support in not applicable, because the technology still works according formalised process workflows, which are temporarily redirected for the specific (temporarily changed) situation. However, the functionality enables the organisation to get around temporarily bottlenecks without the bureaucratic consequences changes often involve. The technology enables the continuous execution of HR tasks without the organisation loosing control and monitoring capacity. The “role authorisation” functionality can be characterised as relational e-HRM support with some transformational characteristics.

HR function role authorisation

Type of e-HRM support / Varies over		Informational e-HRM technolgy	Relational e-HRM technolgy	Transformational e-HRM technolgy
Intended impact of the IT	Target	HR department	HR function	Organisation
	The impact of the technology	Reducing administrative and informing pressure on the HR professionals	Optimising the workflow between employees, management and HR professionals	Creation of a flexible organisation
	Means	Provision of HR data through web-based channels	Automation of HR actvities and workflow support of the HR activities	Supporting the execution of HR activties adjusted to the specific situation
Role of IT in supporting an HR activity	IT capabilities	Digitilising HR data and making this HR data available for its stakeholders	Steering and recording of the interactions and mutations made when an HR activity is performed	Bypassing organisational hierarchy and freeing up procces from bureaucracy
	Technology …… HR data	provides and records	supports the flow and recording of	analyses, processes and distributes

Fully applicable Partial applicable Not applicable

Figure 24, Type of support for the "HR function role authorisation"

Relieve request through Emplaza

An employee of the MIA is enabled to submit his, or her relieve requests through Emplaza. Emplaza provides the employee the possibility to check if a relieve request is possible and enables preferred configuration of the request. The manager of the employee receives the request through Emplaza in his personal manager cockpit and can make the decision to approve, or disapprove the request based on the division information that is also provided by Emplaza. After approval of the request, the relieve request is archived by the HR department. This also has the consequence that the formation calculations are adapted to the new situation and these calculations on their turn can be requested by the managers through Emplaza. The entire process of the relieve request is supported by Emplaza. Of course, the manager and the employee still can consult face-to-face about the suitability of

the relieve request. Emplaza however, provides full support of the relieve request cycle, which means no paperwork or face-to-face consideration is necessary. All the information needed to approve or disapprove the relieve request and the workflow of the relieve request cycle is provided and supported by Emplaza. Therefore, the relieve request functionality of Emplaza can characterised as relation e-HRM support.

Relieve request

Type of e-HRM support / Varies over		Informational e-HRM technolgy	Relational e-HRM technolgy	Transformational e-HRM technolgy
Intended impact of the IT	Target	HR department	HR function	Organisation
	The impact of the technology	Reducing administrative and informing pressure on the HR professionals	Optimising the workflow between employees, management and HR professionals	Creation of a flexible organisation
	Means	Provision of HR data through web-based channels	Automation of HR actvities and workflow support of the HR activities	Supporting the execution of HR activties adjusted to the specific situation
Role of IT in supporting an HR activity	IT capabilities	Digitilising HR data and making this HR data available for its stakeholders	Steering and recording of the interactions and mutations made when an HR activity is performed	Bypassing organisational hierarchy and freeing up procces from bureaucracy
	Technology ..... HR data	provides and records	supports the flow and recording of	analyses, processes and distributes

Fully applicable Partial applicable Not applicable

Figure 25, Type of support for the "Relieve request"

HRM information through Emplaza

The “HRM information” function of Emplaza provides the managers of the MIA with actual formation information. Besides the actual formation information, managers can request the formation history of their division, compare these numbers with other divisions and consult the composition of their and other divisions. The “HRM information” function does not support any form of workflow. However, this is probably not possible for this HR activity, because no interaction with other end-users is required. The “HR information” function of Emplaza is categorised as informational e-HRM.

HRM information

Varies over \ Type of e-HRM support		Informational e-HRM technolgy	Relational e-HRM technolgy	Transformational e-HRM technolgy
Intended impact of the IT	Target	HR department	HR function	Organisation
	The impact of the technology	Reducing administrative and informing pressure on the HR professionals	Optimising the workflow between employees, management and HR professionals	Creation of a flexible organisation
	Means	Provision of HR data through web-based channels	Automation of HR actvities and workflow support of the HR activities	Supporting the execution of HR activties adjusted to the specific situation
Role of IT in supporting an HR activity	IT capabilities	Digitilising HR data and making this HR data available for its stakeholders	Steering and recording of the interactions and mutations made when an HR activity is performed	Bypassing organisational hierarchy and freeing up procces from bureaucracy
	Technology ..... HR data	provides and records	supports the flow and recording of	analyses, processes and distributes

Fully applicable Partial applicable Not applicable

Figure 26, Type of support for "HRM information"

The functioning conversation cycle through Emplaza

Emplaza supports the functioning conversation cycle. The technology plays an important role in the functioning conversation cycle, although the actual conversations are held face-to-face. All the appraisals and appointments made in previous conversations with the employee, can be requested through Emplaza during the conversation. After the conversation, the appraisal and new appointments made can be archived in Emplaza. However, before these appraisals and appointments are archived, there needs to be an agreement between the employee and the manager on the content of the appraisals and appointments made. The process of reaching agreement on the appraisals and appointments to be archived is supported by Emplaza. The employee and the manager can modify the appraisal and appointments made and send them to their conversation partner. This process continues till both parties agree on the content. When both parties agree on the content, Emplaza allows the archiving of the functioning conversation. The “functioning conversation cycle” function of Emplaza supports the activity on a relational manner, although it is not supported fully relational. The functioning conversation itself has to conducted face-to-face

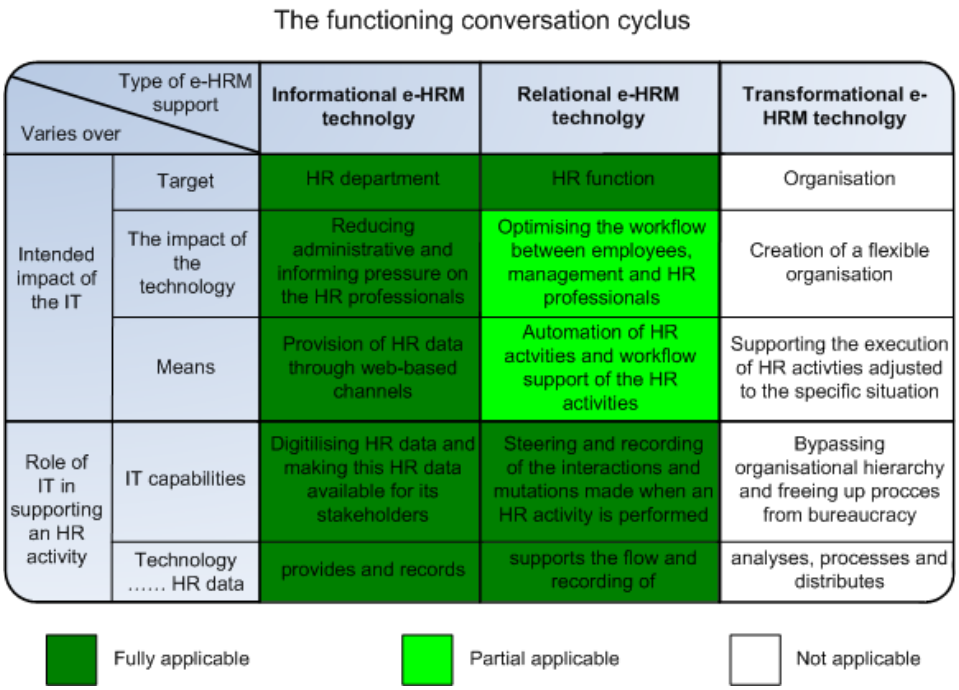

Figure 27, Type of support for the "Functioning conversation cycle"

Consulting and changing personal information through Emplaza

The Employees of the MIA are enabled to change their personal information, such as for example their home address, through Emplaza. The “consulting and changing personal information” functionality is a very straightforward functionality. The employees can consult all their personal information, but the technology restricts employees, for obvious reasons, to change information that is related to the employment contract. This functionality is a typical functionality to reduce the administrative and informative pressure on the HR department. It does not support any form of workflow and therefore can be characterised as informational e-HRM support.

Consulting and changing personal information

Varies over \ Type of e-HRM support		Informational e-HRM technolgy	Relational e-HRM technolgy	Transformational e-HRM technolgy
Intended impact of the IT	Target	HR department	HR function	Organisation
	The impact of the technology	Reducing administrative and informing pressure on the HR professionals	Optimising the workflow between employees, management and HR professionals	Creation of a flexible organisation
	Means	Provision of HR data through web-based channels	Automation of HR actvities and workflow support of the HR activities	Supporting the execution of HR activties adjusted to the specific situation
Role of IT in supporting an HR activity	IT capabilities	Digitilising HR data and making this HR data available for its stakeholders	Steering and recording of the interactions and mutations made when an HR activity is performed	Bypassing organisational hierarchy and freeing up procces from bureaucracy
	Technology ..... HR data	provides and records	supports the flow and recording of	analyses, processes and distributes

Fully applicable Partial applicable Not applicable

Figure 28, Type of support for "Consulting and changing personal information"

Employee mutations through Emplaza

During the employment of an employee, a lot can change in the labour agreement of the specific employee. The function, the wage, etc. of the employee can change. All these changes have to be recorded in the personnel systems of the MIA. These employee mutations have an effect on the formation and/or budget of the divisions of the managers. The process of recording these employee mutations is therefore initiated by the manager, often after consulting with the specific employee. This part of the process however, is not supported by Emplaza. The technology supports the managers, for some of the mutations, in filling in the right information and making calculations. However, for a large part of the employee mutations, the manager has to trust on his instinct to complete the employee mutation. Emplaza however, does support the process of approving and archiving these mutations by HR professionals. However, the workflow is not made transparent and employees are therefore not able to see the status of their mutations. It seems therefore that managers are not triggered to perform the activities on time. The “employee mutations” functionality of Emplaza, therefore can be characterised as relational e-HRM, but with lacking workflow and transparency.

Employee mutations

Varies over \ Type of e-HRM support		Informational e-HRM technolgy	Relational e-HRM technolgy	Transformational e-HRM technolgy
Intended impact of the IT	Target	HR department	HR function	Organisation
	The impact of the technology	Reducing administrative and informing pressure on the HR professionals	Optimising the workflow between employees, management and HR professionals	Creation of a flexible organisation
	Means	Provision of HR data through web-based channels	Automation of HR actvities and workflow support of the HR activities	Supporting the execution of HR activties adjusted to the specific situation
Role of IT in supporting an HR activity	IT capabilities	Digitilising HR data and making this HR data available for its stakeholders	Steering and recording of the interactions and mutations made when an HR activity is performed	Bypassing organisational hierarchy and freeing up procces from bureaucracy
	Technology ..... HR data	provides and records	supports the flow and recording of	analyses, processes and distributes

Fully applicable Partial applicable Not applicable

Figure 29, Type of support for the "Employee mutations" processing

Travel expenses declaration through Emplaza

Emplaza supports the employees submitting their travel expenses declarations. The technology encompasses the Dutch regulations on travel expenses and regulations on standard compensations for lunch etc. used by the Ministry. The technology is also equipped with links to other applications and databases, which calculate distances between different locations and contain prices for train tickets. This makes the travel expenses declaration functionality of Emplaza very useful. The employees of the Ministry do not have to calculate anything. A great disadvantage of the functionality however, is that an employee still has to handover the tickets received during the journey. Emplaza does not support the submitting of tickets and therefore the functionality of the travel expenses declaration cannot be characterised as fully relational e-HRM support. However, as long as the Dutch constitution does not allow the submitting of copied or scanned tickets, the travel expenses declaration through Emplaza cannot be supported fully relational. The function however, is a good example of e-HRM technology supporting the employee with the right tools to make a correct transaction.

Travel expenses declaration

Varies over \ Type of e-HRM support		Informational e-HRM technolgy	Relational e-HRM technolgy	Transformational e-HRM technolgy
Intended impact of the IT	Target	HR department	HR function	Organisation
	The impact of the technology	Reducing administrative and informing pressure on the HR professionals	Optimising the workflow between employees, management and HR professionals	Creation of a flexible organisation
	Means	Provision of HR data through web-based channels	Automation of HR actvities and workflow support of the HR activities	Supporting the execution of HR activties adjusted to the specific situation
Role of IT in supporting an HR activity	IT capabilities	Digitilising HR data and making this HR data available for its stakeholders	Steering and recording of the interactions and mutations made when an HR activity is performed	Bypassing organisational hierarchy and freeing up procces from bureaucracy
	Technology ..... HR data	provides and records	supports the flow and recording of	analyses, processes and distributes

Fully applicable Partial applicable Not applicable

Figure 30, Type of support for the "Travel expenses declaration"

Result of the technological characterisation of all the activities

For the analysis of the type of support Emplaza provides, the matrix of appendix 5 was used. It became clear at once, that the type of support Emplaza provides differs among the different e-HRM activities supported by Emplaza. Therefore, it was necessary to analyse all the e-HRM activities supported by Emplaza (summed up in table 2). Some of the e-HRM activities were mentioned in two or three clusters (employees, managers, and HR professionals) of e-HRM activities. This was at least the case for the HR activities which needed workflow support of Emplaza. Other e-HRM activities could be consulted by the users in the different roles of employee, manager, or HR professional such as for example requesting employee information. During the analysis of the type of support Emplaza offers, there were some points, considering the content of Emplaza, which needed clarification. A meeting was held with the project manager to get some insights in these points. Table 4 gives an overview of the e-HRM activities, grouped by cluster, which are supported on an informational manner.

Table 4, HR activities supported on an informational manner

Personal	Management	HRM
Cockpit	**Cockpit**	**Cockpit**
Employee files	**Employee files**	**Employee files**
-consult your files	-consult employee files and make notes	-consult employee files make notes
Personal information	**Reports**	**About Emplaza**
-consult / change personal information	-consult budgets and prognoses	-consult welcome page
-consult your function	-consult formation info	-consult release information
-consult / change résumé	-consult illness oversight	-consult security information
-consult employers costs		-consult authorisation

-consult salary strip -consult conversation overview -consult your availability **Forms** -overview of forms **Relieve** -consult your relieve -consult relieve of your department -change your working schedule **Competencies** -consult competencies **360° feedback** -consult content **Functioning conversation** -consult information on the functioning cycle **Employability scan** -consult the employability questionnaire **Introduction square** -for new employees -guiding in your work -central introduction -checklists -after introduction -links -brochures and forms	-consult mobility -consult demographics of your department -consult functioning conversation reports -consult pay levels of your department **Reports on name** -consult prognoses on name -notepad personnel costs -consult formation on name -consult formation on name function -sick leave on name -functioning conversation info on name -mobility on name **Reports on history** -consult sick leave -consult formation and availability -consult functioning conversation info **Forms** -overview of forms **Recruitment & selection** -make a checklist for recruitment and selection **Employability scan** -consult the employability questionnaire	Information -consult messages **Forms** -employee mutations after layoff

Table 5 gives an overview of the e-HRM activities, grouped by cluster, which are supported on a relation manner.

Table 5, HR activities supported on a relational manner

Personal	Management	HRM
Forms -request functioning conversation -submit IKAP request -submit IKAP declaration -employee development -other forms **Travel expenses** -submit travel expenses declaration **Relieve** -submit relieve request -request for work beyond your schedule -change your working schedule **360° feedback** -request feedback -consult archive	**Forms** -fill in functioning conversation -approve relieve request -approve IKAP requests -make employee mutations -approve travel expenses declarations -make reward advice -approve work beyond schedule -approve schedule changes -send standard letters -employee development -other forms	**Forms** -approve IKAP requests -approve / make / archive employee mutations -consult / archive functioning conversations -approve / archive relieve requests -send standard letters -employee development -other forms

-give colleague feedback		

Table 6 gives an overview of the e-HRM activities, grouped by cluster, which are supported on a relational manner but with some transformational characteristics.

Table 6, HR activities supported on a relational manner but with transformational characteristics

Personal	Management	HRM
	Authorisation -become other manager -authorise other manager	**View employees** -become employee

Table 6, gives an overview of relational supported HR activities were some of the characteristics of the support, matched the characteristics of transformational e-HRM support. However, the support did not match the description of transformational support in such a degree, that the support of these e-HRM activities could be categorised as transformational support. On the other hand, there were also found some e-HRM activities which were not totally supported by Emplaza, but the parts which were supported by Emplaza resembled relational e-HRM support. The support of these activities was characterised as relational e-HRM supported. An example of such an e-HRM activity was the earlier described travel expenses declaration activity, where tickets received during a journey had to be handed over to the HR department. The reason for not supporting the handing over of for example tickets received during journeys, had nothing to do with constraints of IT, but was caused by Dutch regulations. Other examples of these activities are, employees mutations, Ikap declarations, and the functioning conversation cycle.

Table 4 till 6 are results on their own. They were however subjected to further analysis and these results will be summed up now. Table 7 gives an overview of the general results of this part of the research.

Table 7, Amount of informational, relational, and partially transformational supported HR activities grouped by cluster

	# of informational supported activities	# of relational supported activities	# of partially transformational supported activities
Personal	**23**	**12**	**0**
Management	**21**	**11**	**2**
HRM	**7**	**7**	**1**
Total	**51**	**30**	**3**

The amount of HR activities supported on an informational, relation and partially transformational manner differ a lot (see table 7). This does however not imply that the use of informational, relational and transformational supported activities also differs. The actual

usage will be analysed later on. Although Emplaza offers informational and relational e-HRM support, total transformational e-HRM support was not found (see table 7). This could be caused by the following:

- The MIA is not ready for transformational e-HRM support as they are still developing a good informational and relational basis
- The vendors of Emplaza are not yet able to offer transformational e-HRM support
- It is not the goal of the Ministry to develop difficult functionalities as the developments around the SSC HRM for all the Ministries are uncertain
- The research framework is not composed properly, or the description of transformational e-HRM is not good (will be discussed later on)

Another point that caught the attention was the fact that Emplaza does not provide many activities within the HRM cluster (see table 7). It seems therefore, that the role of the HR professional within Emplaza is small. The project manager of Emplaza states that the reason for that is, that the focus of Emplaza is to facilitate ESS and MSS to relieve the HR department in performing time consuming and costly administrative activities. The role within Emplaza that remains for the HR professionals is to check and archive the results of the execution of the HR activities performed by employees and managers, or to pick-up requests received through Emplaza and perform the necessary steps to fulfil a request. This is a small role within Emplaza. The HR professionals do however initiate the “employee development analysis” activity.

Table 4 till 7 gave a general picture of the type of support Emplaza offers. An analysis on a more detailed level was therefore conducted. The results were also discussed with the project manager of Emplaza and a HR professional. This gave the following results:

- The e-HRM activities which are supported on a relational manner are the HR activities which before the adoption of Emplaza were subjected to bureaucratic procedures
- The largest proportion of the e-HRM activities supported on a relational manner are initiated by employees and finished by managers and HR professionals
- The improving of the service quality to employees is realised with the facilitation of e-HRM activities supported on a relational manner
- The facilitation of managers is realised with HR activities supported on a informational manner
- Relational supported HR activities are also supported on an information manner
- Parts of an HR activity that are not supported on a informational manner are also not supported on a relational manner
- The informational support component of relational supported HR activities, increases the easiness of performing the HR activity (makes calculations, contains difficult regulations, and leads the end-user through the process)

- Specific types of HR activities seem not suitable for a specific kind of e-HRM support

This last point may need some clarification. Some of the HR activities provided by Emplaza are just to inform users of Emplaza on certain policies (changes) or just give personal information. These activities have the sole goal to inform users. It is therefore not possible to support these activities on a relational manner as no further actions are necessary.

The results found during the analysis of the type of support Emplaza provides were discussed with the project managers of Emplaza and a HR professional. A very interesting point mentioned during the conversations with the project leader of Emplaza and the HR professional is, that both the project manager as well as the HR professional state that it is important to have a solid informational basis, before relational e-HRM support can be adopted. The HR professional even stressed the fact that the Emplaza project team focuses too much on the development of new "fancy" functionalities, while they first should solve the problems of and complaints on the current version of Emplaza. The HR professional mentions the e-HRM activities concerning employee development as an example of e-HRM activities that are supported on a weak manner. Although the claim can be made that these HR activities are supported by Emplaza, the HR professional did not acknowledged the usefulness of the provision of these activities through Emplaza in the way they are supported now. The HR professional was also dissatisfied with the provision of employee mutations through Emplaza. Although in his opinion the intention of providing this HR activity through Emplaza to managers is good, the support the technology offers is very weak. The informational component of the support does not contain the regulations and procedures of the Dutch MIA and therefore a lot of employee mutations are not submitted correctly. Besides this, the workflow of this HR activity is not made transparent and therefore employees cannot check the status of the mutations concerning their situation.

The HR professional stressed the importance of well supported e-HRM activities. He stated that if e-HRM activities are not supported well, but they are anyway devolved to managers, the danger exists that the provision of MSS, instead of saving costs, only shifts costs from the HR department to the line. He stated that when managers are every time confronted with difficulties and time consuming e-HRM activities, they incline to devolve these activities further to their assistants. In his opinion this meant that the objective of a centrally located HR department will not be achieved, as every manager hires his own (not qualified) "HR professional" to support him in performing the HR activities he is responsible for. The further devolving of e-HRM activities to assistants is supported by the authorisation function of Emplaza.

On the other hand, if the support the technology offers is designed properly, e-HRM technology seems to enable the performing of sophisticated HR activities by employees and

managers. A good example of such an e-HRM activity is the management information functionality of Emplaza (discussed in the strategic value of e-HRM activities paragraph)

Summary (e-HRM support)

Every single e-HRM activity had to be analysed as every e-HRM activity is supported differently. Some of the activities are performed by all the three clusters of end-users. Emplaza supports fifty-one HR activities on an informational manner, thirty on a relational manner, and three on a partially transformational manner. No transformational supported e-HRM activities were found. This could be caused by:

- The MIA itself, or the vendors of the technology not being ready for the developments, or not having the intention to adopt transformational e-HRM support
- The characteristics of transformational e-HRM support of the framework might not be composed properly

Other interesting points found were:

- The role of the HR professionals within Emplaza is small
- The relational supported HR activities were formerly subjected to bureaucratic procedures
- The improvement of service quality to employees is realised by the provsion of relational e-HRM activities
- The facilitation of managers is realised by informational supported HR activities
- The relational supported activities are mainly initiated by employees
- Parts of an HR activity that are not supported on an informational manner are also not supported on a relational manner
- The informational support components of the activities that are also supported on a relational manner increase the easiness of performing an e-HRM activity. It is important to have a good informational basis for these e-HRM activities
- Specific e-HRM activities are not suitable for all the types of support
- E-HRM supports employees and managers to perform sophisticated HR activities, but only when they are properly supported
- The danger of the further devolving of e-HRM activities by managers to not qualified assistants

5.5.2 Reflection on the research instruments (e-HRM support)

The matrix was very useful during the categorisation of the type of support Emplaza offers. No problems were encountered. The description of informational and relational support, but also the characteristics used for the categorisation of informational and relational support seem to be chosen well. However, there were no transformational supported e-HRM activities found. In the research findings paragraph, some reasons were mentioned for this. One of the reasons mentioned was that this part of the matrix might need some future attention. The following remarks therefore should be considered:

- Does transformational e-HRM support actually exist?
- Is the characterisation of transformational e-HRM correct?

The literature of Ruël e. al (2004), Snell et al. (1996), Lepak & Snell (1998), and Lengnick-Hall & Moritz (2003) is also not specific on transformational e-HRM. There exists however, the convincement that transformational e-HRM support does exist. Recruitment and selection for example, could be an e-HRM activity where transformational e-HRM support could be of use. Technology could support the process of for example, the selection of proper candidates for a job, compose an education program and allocate candidates to the most suited vacancy. However, this is speculating and beyond the scope of his research. Although this research gives some insights in the type of support e-HRM provides, the content of transformational e-HRM support, still remains unclear. This does however not mean that the framework developed for this research is useless.

The framework is expected to have scientific value. This became clear during the first international workshop on e-HRM (25 & 26 October 2006, University of Twente, The Netherlands) where the difficulties faced, during e-HRM research, where discussed. Some of the points discussed where:

- What exactly is the scope of e-HRM?
- What are the possibilities of e-HRM?
- What is the usefulness of the existing theory?

The expectation is that the framework developed for this research is useful in researching the technology aspect of e-HRM. It could therefore give insights in what e-HRM is, and what the technological possibilities are. The framework is a useful tool to characterise the use of technology for supporting HR activities. It is expected that the way technology supports the HR activities affects the user acceptance of the technology and the effectiveness of the HR system.

Besides the scientific value, the framework is also expected to have practical value. During the conversations with the project manager of Emplaza at the MIA, it became clear that he was also struggling with the existing literature on e-HRM. He mentioned he had faced the same difficulties as the researchers have mentioned within the theoretical chapter of this report. He also stated that he felt the need for having a framework for judging the position of Emplaza within e-HRM. Although he had seen a lot of different e-HRM technologies (or actually, what the users of the technology claimed to be e-HRM technologies), he was often disappointed in what he saw. He needed therefore, a framework to categorise e-HRM technologies for benchmarking Emplaza with other e-HRM technologies. This framework therefore is useful.

Moreover, some of the results of the analysis could be combined with the data of the research into the e-HRM goals. This resulted in some insights in how technology facilitates the achievement of some the e-HRM goals. It gave insights in how cost reduction and efficiency improvements can be achieved and how employees and managers can be facilitated. Other results could be compared with the results obtained during the research into the strategic value of the e-HRM activities. The HR professional mentioned during the interview that, although employee development is very important for the Ministry, the support Emplaza provides for these activities is very weak. This also stresses the importance of this matrix. While, according the existing literature (used for the development of the framework for analysing the type of support), all the HR activities related to employee development might be categorised as relational or even transformational HR activities, the framework developed for this research categorises these strategic valuable HR activities within the MIA as HR activities supported on an informational manner. This is an example of weak support for a sophisticated HR activity.

In general the framework for categorising e-HRM support does not need much modification. However, to guarantee effortlessly future usage, it must be as comprehensible as possible. It seemed that some of the descriptions of the characteristics were not clear. Therefore the framework could be modified. The suggested modifications are:

- The label “Target” might be changed in “Scope of the technology”
- The label “Impact of the technology” might be changed in “Technology facilitates”
- The label “Means” might be changed in “Means to achieve the intended impact”

Besides the changes in the labels of the criteria, one modification to the content of one of the criteria for transformational e-HRM support should be made.

- The term “Creation of a flexible organisation” could be changed in “Reducing bureaucratic formalities”

The expectation is that these modifications make the framework more comprehensible and intuitive. However, the terms of informational, relational and transformation could however still be some confusing. These were however not adopted because:

- No better terms were found
- The terms refer to the origin of the theory

Summary (e-HRM support)

The framework for analysing the type of support was useful in getting insights in how e-HRM technology is used to support HR activities. The framework is expected to have scientific and practical value. The framework enables scientists and practitioners to:

- Research the possibilities of e-HRM in general
- Benchmark different technologies

- Determine the status and the possibilities of the developments within a specific organisation

Other interesting applications of the framework might be the combination of the results found during the technological analysis of the type of support with the content of the e-HRM goals, and the results of the research into the strategic value of the e-HRM activities provided.

As there were no transformational supported e-HRM activities found within the MIA, it is difficult to make any remarks on transformational e-HRM support. It could be that the characteristics of transformational e-HRM support are not chosen well, but it is also possible that Emplaza does not yet provides transformational e-HRM support. Future research therefore, should confirm or disconfirm the existence of transformational e-HRM support.

Some minor modifications were recommended which were expected to make the framework more intuitive and comprehensible. The modifications recommended were:

- The label “Target” might be changed in “Scope of the technology”
- The label “Impact of the technology” might be changed in “Technology facilitates”
- The label “Means” might be changed in “Means to achieve the intended impact”
- The term “Creation of a flexible organisation” could be changed in “Reducing bureaucratic formalities”

The modified framework can be found in appendix 18.

5.6 The user acceptance of Emplaza at the MIA

For this part of the research, some documents were analysed on results of former questionnaires on end-user acceptance and end-user satisfaction. Besides this an overview of Emplaza usage by end-users was used. The analysis was aimed to identifying aspects that were not covered but the questionnaire of Venkatesh et al. (2003), or identify other aspects that confirm or disconfirm the usefulness of the questionnaire of Venkatesh et al. (2003). At the same time it gave some insights in end-user acceptance of Emplaza, end-user usage of Emplaza, and the end-user satisfaction of Emplaza. Some of the results found were discussed with the project leader of Emplaza. The results of these conversations are also mentioned within this paragraph.

For this part of the research, three documents and a presentation of the project leader of Emplaza were analysed. The following documents were analysed:

- Master Thesis of Pasveer (Pasveer; 2005) on the appraisal of ESS and the effectiveness of the HR policy within the Dutch MIA (written in October 2005)
- An overview of hits on specific activities within Emplaza (overview from medio 2004 till 18 October 2006) by employees (2043), managers (244), and HR professionals

(75). Of course the employees include the managers and HR professionals, and some of the managers are also HR professional (see appendix 19)

- The results of a research by TNO (2006) into the culture of the MIA (written in April 2006)
- A presentation of the project manager of Emplaza (presented 28 November 2006)

5.6.1 Research findings (the user acceptance of Emplaza)

The master thesis on the appraisal of ESS and the effectiveness of the HR policy within the Dutch MIA contains a passage on the user acceptance and use of IT, end-user satisfaction with IT, and personal and organisational characteristics that together have an impact on the HR system of the MIA. The important conclusions, related to this research are summed up now (Pasveer; 2005):

- Gender, age, education and function do not have a significant effect on end-user satisfaction and the perceived efficiency of Emplaza
- HR professionals are more satisfied with Emplaza as employees and managers are
- There is no significant difference in the perceived efficiency of Emplaza between HR professionals, employees, and managers
- Understanding and knowledge of IT do not have a significant effect on user satisfaction
- Understanding and knowledge of IT has a significant positive effect on the perceived efficiency of Emplaza
- Effort expectancy of end-users has a significant positive effect on user satisfaction and the perceived efficiency of Emplaza
- Training in the use of Emplaza has a significant positive effect on user-satisfaction and the perceived efficiency of Emplaza
- The support and encouraging of end users has a significant positive effect on end-user satisfaction and the perceived efficiency of Emplaza
- Involvement and participation of end-users has a significant positive effect on user satisfaction and the perceived efficiency of Emplaza
- The amount of information available on Emplaza has a significant positive effect on the on user satisfaction and the perceived efficiency of Emplaza

In the years 2005 and 2006, employee satisfaction studies were conducted within the Dutch MIA related to the culture program Leo (TNO; 2006). The following results are interesting related to this research (TNO; 2006):

- The processing of travel expenses declarations through Emplaza
    - 4% of the employees was very unsatisfied
    - 13% was unsatisfied
    - 38% was not unsatisfied nor satisfied
    - 41% was satisfied

    - 4% was very satisfied
- On average there was an increase of 8% in satisfaction of the processing of travel expenses declarations (compared to 2005)
- The usability of Emplaza
    - 3% of the employees was very unsatisfied
    - 11% was unsatisfied
    - 23% was not unsatisfied nor satisfied
    - 57% was satisfied
    - 6% was very satisfied
- On average there was an increase of 9% in satisfaction of the usability of Emplaza (compared to 2005)
- There were differences in satisfaction between departments within the MIA but also between the Ministries

During a meeting with the project leader of Emplaza, these results were discussed and this discussion has lead to the following statements:

- The processing of travel expenses declarations through Emplaza, scores lower in satisfaction as the overall usability of Emplaza. This is probably caused by the fact that employees have to perform multiple steps within Emplaza to make a travel expenses declaration, while before the adoption of Emplaza they only had to handover their travel tickets.
- The average increase of usability might be caused by the improvement of Emplaza but also by the adaptation of end-users to Emplaza
- The fact that Emplaza scores higher within the MIA compared to other Ministries might be caused by the fact that the MIA has a leading position in the developments of Emplaza, or by the chosen implementation strategy
- The differences in satisfaction between different departments within the MIA might be caused by the different cultures between these departments. Another cause could be that among the different departments, there are differences in the relationship between employees and managers and the HR department

In a presentation made by the project manager of Emplaza (presented 28 November 2006) opinions of different end-users regarding Emplaza were summed up. The following opinions of end-users were mentioned:

- Employees:
    - Like the overviews of their personal information
    - Like the increased transparency of HR policies and HR data
    - Like single data entry
    - Like the decrease of cycle times of HR activities
    - Are concerned about privacy

- Managers:
    - Like the signals for as example birthdays, sickness etc.
    - Like the relieve overviews of the department
    - Like the possibility of benchmarking
    - Like the increased amount of control
    - Like the accessibility of management information
    - Are concerned about the decrease in personal contact; an expected side effect
    - Are disappointed by the absence of information on the presence of employees
- HR professionals:
    - Like the data controlling aspect of IT
    - Like the support of the processes by Emplaza
    - Like the fact that e-HRM made HRM important
    - Dislike the speed of the technology

As Emplaza is a web-based tool, it allows the counting of hits of the different sites. As every activity is performed within in a different "screen" the counting of hits on "screens" allows the analysis of how often every activity is opened. Although the amount of hits is precise, it is however possible that an HR activity is not as often performed as the sites has been hit. An employee for example may try to fill in some Ikap requests before actually submitting the request. In this way the transparency of HR policies is increased. However, this is a point for consideration later on. Although the amount of hits does not give exact data on how often a specific activity is performed, the overview does give the exact amount of hits for example the Ikap request site has had. Appendix 19 contains the overview of the amount of hits per site. Table 8 gives an overview of the amount of hits per site for the HR activities in the personal cluster.

Table 8, An overview of the amount of hits per activity of the personal cluster

Personal activities	# hits	Personal activities	# hits
Cockpit	**138.378**	**Competencies**	
Employee files		-consult	**7.057**
-consult your files	**60.331**	**360° feedback**	
Personal information		-consult content	**4.105**
-consult / change personal Information	**34.605**	-request feedback	**2.612**
		-consult archive	**572**
-consult your function	**10.883**	-give colleague feedback	**1.829**
-consult / change résumé	**14.413**	**Functioning conversation**	
-consult employers costs	**6.747**	-consult information on the functioning cycle	**18.964**
-consult salary strip	**37.426**		
-consult conversation overview	**7.389**	**Employability scan**	
		-consult the employability questionnaire	**346**
-consult your availability	**8.740**		
Forms		**Introduction square**	
-overview of forms	**34.467**	-for new employees	**No data**

-request functioning conversation	**21.718**	-guiding in your work	**No data**
		-central introduction	**No data**
-submit IKAP request	**33.500**	-checklists	**No data**
-submit IKAP declaration	**6.677**	-after introduction	**No data**
-employee development	**9.944**	-links	**No data**
-other forms	**32.302**	-brochures and forms	**No data**
Travel expenses			
-submit travel expenses declarations	**37.218**		
Relieve			
-submit relieve request	**303.971**		
-consult your relieve	**125.745**		
-consult relieve of your Department	**33.236**		
-request for work beyond your schedule	**5.843**		
-change your working schedule	**5.778**		
		Total	**796.976**

Submitting relieve requests is obviously the most “hit” activity within Emplaza. Consulting the personal relieve overview is also hit often. Although, the amount of hits is not representative for the amount of performed activities, providing the submitting of relieve request and consulting relieve data, seem to be interesting for the employees. The personal cockpit is also hit often. In the cockpit employees can see for example, the birthdays of colleagues, but also an overview of the forms to be filled in and submitted, and the forms send and approved. Other sites that are hit often, are the consulting and changing of personal information and especially consulting the salary strip. A last activity that is hit often is the Ikap functionality of Emplaza. On the other hand, it seems that employees do not make that often use of the activities concerning their competencies or development, such as for example, 360° degrees feedback, the employability scan, the competencies overview, and employee development. Although, not hit that often, it might be logical that employees do not use these functionalities as often as they use for example the relieve request, because there is no sense in using these activities that often. Another reason might be that as the HR professional stated, there are no good HR policies for these activities and the support Emplaza provides for these activities is poor.

Table 9 gives an overview of the amount of hits per site for the HR activities in the management cluster.

Table 9, An overview of the amount of hits per activity of the management cluster

Management activities	# hits	Management activities	# hits
Cockpit	**91.199**	**Forms**	
Employee files		-overview of forms	**9.771**
-consult employee files and make notes	**18.990**	-approve relieve request	**118.314**
		-fill in functioning conversation	**19.326**
Reports			
-consult budgets and prognoses	**22.127**	-approve IKAP requests	**4.665**
		-make employee mutations	**31.533**
-consult formation info	**8.562**	-approve travel expenses	**11.780**

-consult illness oversight	**7.100**	declarations	
-consult demographics of your department	**2.183**	-make reward advice	**7.778**
		-approve work beyond schedule	**2.049**
-consult mobility	**2.215**		
-consult functioning conversation reports		-approve schedule changes	**1.454**
		-send standard letters	
-consult pay levels of your department	**2.865**	-employee development	**6.380**
		-other forms	**10.647**
-consult recruitment and selection information		**Authorisation**	
		-become other manager	**1.791**
Reports on name		-authorise other manager	**539**
-consult prognoses on name	**3.600**	**Recruitment & selection**	
-notepad personnel costs	**417**	-make a checklist for recruitment and selection	**497**
-consult formation on function	**1.396**	**Employability scan**	
-consult formation on name	**2.759**	-consult the employability questionnaire	**50**
-sick leave on name	**3.704**		
-functioning conversation info on name	**1.856**		
-mobility on name	**982**		
Reports on history			
-consult sick leave	**2.782**		
-consult formation and availability	**636**		
-consult functioning conversation info	**1.668**	**Total**	**401.615**

The total amount of hits by managers is lower as the total amount of hits by employees. This may be caused by the fact that there are fewer managers as employees. However, considering the fact that there are fewer managers as employees (2043 : 244), the data gives the impression that Emplaza is used intensively by managers. As employees submit relieve requests through Emplaza, the most of these requests have to be approved by their managers. It is therefore logical that these HR activities are hit that often. The managers, just as the employees, consult their management cockpit often. They seem to use their cockpit as a daily overview of the status of their department and the employees of the department. Further, there was no surprising data found.

Table 10 gives an overview of the amount of hits per site for the HR activities in the HRM cluster.

Table 10, An overview of the amount of hits per activity of the HRM cluster

HRM activities	# hits	HRM activities	# hits
Cockpit	**21.459**	**Forms**	
Employee files		-approve IKAP requests	**9.269**
-consult employee files make notes	**28.648**	-approve / make / archive employee mutations	**53.799**
About Emplaza		-consult / archive functioning conversations	**1.609**
-consult welcome page	**No data**		
-consult release information	**No data**	-employee mutations after layoff	**299**
-consult security information	**No data**		
-consult authorisation Information	**No data**	-approve / archive relieve requests	**211.913**

-consult messages	**No data**	-send standard letters	**97**
View employee		-employee development	**9.625**
-become employee	**1.216**	-other forms	**6.079**
		Total	**344.013**

As mentioned before, the HR professionals are less involved in performing different kind of activities through Emplaza. They have a check and archiving role within Emplaza. One might expect that they would use the technology the most as it concerns their speciality. However, when you look at the average hits per person of the different clusters this is confirmed. On average, an employee has used the technology (over a period of two and a half year) 390 times, a manager 1.645 times, but an HR professional 4.586 times. Although these differences are big, it seems however that employees and managers have great responsibility for performing HR activities through Emplaza. If all the hits made by employees and managers are summed up (796.976+401.615=1.198.591) and this amount is compared with the amount of hits by HR professionals (344.013), it seems that for every 3,48 hits by employees and managers, the HR professionals make just 1 hit within Emplaza. The employees and managers themselves are given the opportunity to perform much of the activities themselves as they do not need for every hit they make, a hit of an HR professional. Or in other words, they do not need the services of HR professionals for every HR activity they perform.

During a conversation with the project manager of Emplaza and a conversation with an HR professional of the department HR support, the following remarks were made related to the amount of hits per activity:

- Employees, managers, and HR professionals are stimulated to start their working day by consulting their cockpit
- The project managers was initially surprised by the amount of hits the “consult salary strip” received
- The amount of Ikap declarations increased enormously after the adoption of Emplaza. This was caused, according the project manager, by the easiness of use experienced during the submitting of an Ikap request through Emplaza
- Management information was consulted very often, because managers were not dependant anymore on the HR professionals for requiring the information
- Not all the Ikap requests and all the types of relieve requests have to be approved by the manager of the employee. These requests are send automatically to the HR professional. On the other hand, some of the requests only need the approval of managers.

The data on the actual use of the technology can also be combined with the results of the strategic value of HR activities and the type of technological support provided for the HR activities. Table 11 gives an overview of the amount of hits per cluster of end-users, divided over the different types of technological support.

Table 11, The amount of hits per cluster, per type of technological support

	# of hits on informational supported activities	# of hits on relational supported activities	# of hits on partially transformational supported activities
Personal	**524.440**	**480.356**	**0**
Management	**185.359**	**213.926**	**2.330**
HRM	**50.107**	**292.690**	**1.216**
Total	**759.906**	**986.972**	**3.546**

Looking at the total amount of hits on informational, relational and partially transformational supported e-HRM activities, it seems that within the Dutch MIA, e-HRM technology is most often used for the relational supported e-HRM activities. However, for the employees, as well as for the HR professionals, there was no data available on the amount of hits on some of the informational supported e-HRM activities. Considering this, and taking a second look at table 11, the use of informational and relational e-HRM supported activities seems not to differ that much. The proportion of usage, between informational and relational e-HRM supported activities differs also not much between employees and managers (1 : 0,91 for employees against 1 : 1,15 for managers). However, HR professionals seem to make more use of the relational supported e-HRM activities (1 : 5,84). This might be caused by the fact that HR professionals use other information systems as well to retrieve data, and that HR professionals are more experienced in performing HR activities, and therefore they do not need to search for support information while performing HR activities.

Table 12 gives an overview of the amount of hits per cluster of end-users, divided over peripheral, traditional, idiosyncratic, and core HR activities

Table 12, The amount of hits per cluster combined with the strategic value of the HR activities

	# of hits on peripheral activities	# of hits on traditional activities	# of hits on idiosyncratic activities	# of hits on core activities
Personal	**675.127**	**143.108**	**0**	**186.561**
Management	**144.418**	**66.968**	**0**	**190.229**
HRM	**218.089**	**103.249**	**0**	**22.675**
Total	**1.037.634**	**313.325**	**0**	**399.365**

The results displayed in table 12 are obvious. The peripheral activities are performed most often within Emplaza. These, activities are also the activities were the Ministry expected the largest reduction of costs and the greatest efficiency improvements. Of course, the amount of hits cannot be used to make conclusions about the HR activities performed by HR professionals, because a lot of the activities they perform are not adopted within Emplaza, as Emplaza was developed for ESS and MSS. However, employees and managers for a large part, perform the HR activities they have responsibility for through Emplaza. Therefore, it is

interesting to see that employees perform mostly peripheral activities and managers perform almost as much core activities as traditional and peripheral activities together. Research into the strategic value of the HR activities has led to the conclusion that the strategic value of e-HRM activities is not useful for making conclusions on the HR architecture based on idiosyncratic, traditional, peripheral, and core HR activities. This part of the research confirms that employees and managers are also involved in the performance of core activities, although employees mainly perform peripheral activities. No interesting results were found for the performance of traditional HR activities. They are performed by all the three clusters.

Summary of research findings (the user acceptance of Emplaza)

This part of the research generated many findings. The most important findings on end-user satisfaction and perceived efficiency of Emplaza will be summed up now:

- The master thesis of Pasveer (2005) gave insights in which aspects affect end-user satisfaction and perceived efficiency of Emplaza
- HR professionals were more satisfied with Emplaza as employees and managers were
- The travel expenses declaration activity scored lower in end-user satisfaction as Emplaza in general does. This was caused by the fact that with the adoption of Emplaza the workforce is given responsibility themselves to submit an entire declaration (formerly the only had to handover their tickets)
- Overall, end-users were satisfied with the usability of Emplaza
- The overall perceived usability of Emplaza increased with 9% compared to 2005. This might be caused by improvements of Emplaza and / or the adaptation of end-users to Emplaza
- There were differences in satisfaction between the Ministries, but also between departments within the MIA. The MIA might score higher compared to other Ministries because the MIA has a leading position in the adoption of Emplaza, by the implementation strategy chosen by the MIA, or by culture differences. The differences between the departments within the MIA might be caused by differences in culture within these departments
- Employees, managers, and HR professionals seem to have different reasons for liking, or disliking Emplaza

The following section sums up the most important findings of the research into the actual usage of Emplaza, combined with the results of the research into the type of support Emplaza provides for the e-HRM activities:

- Providing HR activities through Emplaza increases the transparency of HR policies and HR data
- On average, an employee has used Emplaza 390 times, a manager 1.645 times, and HR professionals 4.586 times.

- For every 3,48 hits employees and managers make within Emplaza, HR professionals make 1 hit
- The technology stimulated the submitting of the Ikap requests, consulting the salary strip, and consulting management information
- There are no significant differences between the amount of hits between informational and relational supported e-HRM activities
- The partially transformational supported activities are not used that often. This is caused by the fact that there are not that much partially transformational activities
- HR professionals perform mostly relational supported activities.
- Employees and managers perform almost as much informational as relational e-HRM activities

The following section sums up the most important findings of the research into the actual usage of Emplaza, combined with the results of the research into the strategic value of e-HRM activities:

- Peripheral activities are performed the most with the support of Emplaza
- The peripheral activities are the activities where the largest cost reductions and biggest efficiency improvements were expected by the MIA
- No conclusion can be made for HR professionals as they use other systems as well for performing their HR activities
- Managers perform, in proportion, a lot of core HR activities

5.6.2 Reflection on the research instruments (the user acceptance of Emplaza)

Although the questionnaires were not conducted, some useful remarks could be made on the user acceptance of the technology component of the research framework. The research instruments, partially adopted from literature and partially developed for this research, were compared with the data available within the MIA. When the research instruments were compared with the conclusion made by Pasveer (2005), the following positive remarks could be made:

- Although gender and age have no significant effect on the end-user satisfaction and perceived effectiveness of Emplaza, they are covered by the model of Venkatesh et al. (2003)
- At the MIA there were differences in perception of employees, managers, and HR professionals. This is covered by setting out the questionnaire for the three groups of end-users of the technology
- Effort expectancy had a positive effect on the user satisfaction and the perceived efficiency of Emplaza and is covered by the questionnaire of Venkatesh et al. (2003)

- The support and encouraging of end-users had a positive effect on the end-user satisfaction and the perceived efficiency of Emplaza and is covered by the questionnaire of Venkatesh et al. (2003)

Besides the positive remarks, there are some negative remarks. These are summed up below.

- The understanding and knowledge of IT is covered by the questionnaire Venkatesh et al. (2003), although in a small degree,
- Training in the use of technology had a positive effect on end-user satisfaction and perceived efficiency of Emplaza, but is not covered by the research model (only for HR professionals)
- Involvement and participation of end-users during implementation had a positive effect on end-user satisfaction and perceived efficiency of Emplaza, but is not covered by the research model
- The amount of information available on Emplaza had a positive effect on user satisfaction and perceived efficiency of the technology, but is not covered by the research model

For the quantitative part of the research, the questionnaire of Venkatesh et al. (2003) is useful. However, the questionnaire could be complemented with questions based on the conclusion of Pasveer (2005) and the conversation with the project managers of Emplaza, related to the analysis of the employee satisfaction study. The following modifications are suggested:

- The facilitating conditions component of the Venkatesh et al. (2003) questionnaire might be expended with a question on available documentation of the technology. The adapted questionnaire can be found in appendix 20
- A dimension on the implementation trajectory of the technology might be added to the “use of e-HRM”. Future research should make clear if this component could be adopted within end-user acceptance of, and / or the end-user satisfaction questionnaire of the technology. The dimension might contain at least questions on the received training, and the involvement and participation of end-users during the implementation trajectory of the technology. The questions can be found in appendix 21 and 22. The questions on the involvement and participation of end-users during the implementation trajectory of the technology where adopted from Pasveer (2005)

The last points need some elaboration. Before the model of Venkatesh et al. (2003) is expanded with a component, research should give insight in the role of the implementation trajectory. Does the component affect behavioural intention of end-users, or directly the use behaviour of end-users? A last possibility is that the component is a moderating factor for the relationships between, effort expectancy, performance expectancy, social influence and the behavioural intention, or between facilitating conditions and actual use behaviour. It is

however expected that the implementation trajectory directly affects behavioural intention of end-users. This is based on the conclusion of the master thesis, but also on the conversation with the project manager of Emplaza.

As the focus of the “use of e-HRM” construct is now also on the implementation trajectory and the choices made during the development of the technology, the question arises to modify the name of the construct “use of e-HRM” into the “adoption of e-HRM”. This might be a more representative name for the content of the construct.

Another negative point of the research model used for this research is the incapability of the model to test end-user satisfaction of the e-HRM technologies adopted. The questionnaire of Venkatesh et al. (2003) gives some insights in the causes of the use behaviour of end-users. However, for the organisation, which has invested in e-HRM technology, it might be interesting to measure end-user satisfaction. This might also be interesting for research into e-HRM effectiveness, as it is expected that end-user satisfaction of e-HRM might affect the perceived the effectiveness of the HR function. The research model developed for this research however, does not cover all the components which according Doll & Torkzadeh (1988) determine end-user satisfaction.

Within the master thesis (Pasveer; 2005), an elaboration on the end-user satisfaction of end-users is made. The model of Doll & Torkzadeh (1988) is introduced as the model that can be used to measure the end-user computing satisfaction. The model can be used in situations were end-users interact with computer systems and databases through interactive software, or an interface. Emplaza is such an interface and therefore this model could be used to test the end-user satisfaction. According Doll & Torkzadeh (1988) end-user satisfaction is determined by:

- The content provided by the technology
- The accuracy of the technology
- The format of the output of the technology
- Te ease of use of the technology
- The timeliness of the technology

Figure 31 depicts the factors determining end-user satisfaction.

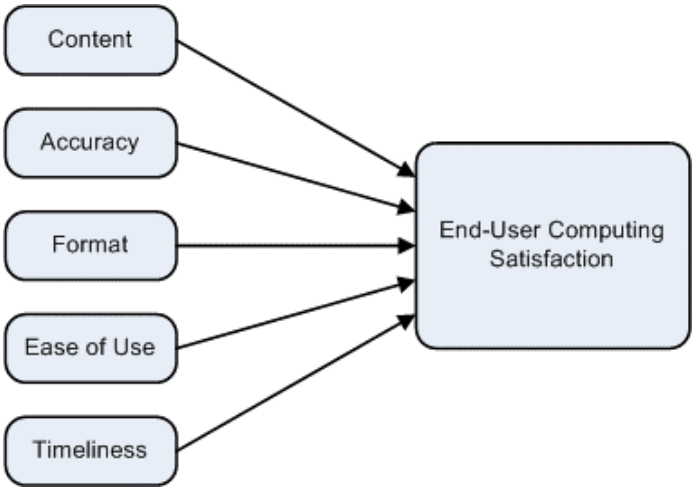

Figure 31, The factors that determine end-user computing satisfaction (adapted from Doll & Torkzadeh; 1988)

The research model used for this research could also adopt the questions of Doll & Torkzadeh (1988). This enables the measurement of end-user satisfaction. The following modifications to the questionnaire are suggested according the theory of Doll & Torkzadeh (1988) (see appendix 23):

- Four questions on the content of the technology that are related to the performance expectancy component of the Venkatesh et al. (2003) questionnaire
- Two questions on the accuracy of the technology that are related to the performance expectancy component of the Venkatesh et al. (2003) questionnaire
- Two questions on the format of the output of the technology that are related to the performance expectancy component of the Venkatesh et al. (2003) questionnaire
- Two questions on timeliness of the technology that are related to the performance expectancy component of the Venkatesh et al. (2003) questionnaire
- Two question on the ease of use of the technology that are related to the effort expectancy component of the Venkatesh et al. (2003) questionnaire

The questions look like some of the questions of the adapted questionnaire of Venkatesh et al. (2003). Future research should make clear what the relation is between end-user satisfaction and IT acceptance of end-users.

Although the research model contains question on the actual usage, it does not provides as much detailed data on use behaviour, as the overview of the amount of hits per activities provided. Although the overview does not give information on how often the activity is actually performed, it gives detailed insights in the use behaviour of the end-users of the technology. An interesting characteristic of web-based technologies is that it is not difficult to record this data and therefore these web-based tools offer valuable opportunities for data gathering. Moreover, this data can be combined with the data gathered during the analysis of

the strategic value of e-HRM activities and the type of technological support for the e-HRM activities. Future research is necessary to analyse if conclusions can be made on:

- The differences in user acceptance of HR activities provided through Emplaza, supported on an informational, relational, or transformational manner
- The differences in user acceptance of HR activities provided through Emplaza with different strategic value

For the quantitative part of this research the questionnaire of Venkatesh et al. (2003) when modified is useful for the research into e-HRM technologies usage. To get some insight in the actual use behaviour of end-users, the web-based characteristics of e-HRM technology offer interesting opportunities. Therefore, when available, overviews of the amount of hits per activity should be studied for the research into e-HRM.

Summary (the user acceptance of Emplaza)

For his part of the research, available data within the MIA was compared with the adapted questionnaire of Venkatesh et al. (2003). The following remarks were made:

- The researchers found some components that were covered by the Venkatesh et al. (2003) questionnaire:
  - Gender / age / education
  - Differences between employees, managers, and HR professionals
  - Effort expectancy
  - Supporting and encouraging end-users
- The researcher found some aspects that were not covered or covered in a small degree, by the Venkatesh et al. (2003) questionnaire:
  - Tasks performed by the employees
  - Understanding and knowledge of IT
  - Training in the use of the technology for all the end-users
  - Involvement and participation by end-user during the development of the technology and its implementation
  - Documentation on the technology

The Venkatesh et al. (2003) questionnaire is recommended to be completed with a question on:

- Documentation on the e-HRM technology (appendix 20)

Besides this, the “use of e-HRM” construct should be completed with a dimension that focuses on the implementation trajectory of e-HRM. This dimension should contain components on:

- Training received (appendix 21)

- Involvement and participation of end-users during the development of the technology and its implementation (adopted from Pasveer (2005) and can be found in appendix 22)

Future research should make clear what the actual position of the implementation trajectory dimension within the research model is. However, as the focus of the "use of e-HRM" construct moves to the choices made during the development of the technology, the name for this construct might be changed into the "adoption of e-HRM".

It was also recommended to complete the questionnaire with questions on end-user satisfaction of the technology. This is expected to have scientific as well as practical value. Therefore the research framework might be completed with five components:

- Content of the technology
- The accuracy of the technology
- The format of the output of the technology
- The ease of use of the technology
- The timeliness of the technology

The questions for these components can be found in appendix 23. A last recommendation was to make use of the opportunities web-based technologies offer. During this research interesting data was found during the analysis of the amount of hits per activity. Therefore, it is recommended to complete the research with an analysis of the actual hits per activity.

5.7 Additional skills

The original theoretical framework elaborated on the additional skills required from HR professionals. During the application of the research framework within the MIA no intense research was conducted on this. However, during the presence of the researchers within the MIA some observations were made besides the results of discussions with the project manager of Emplaza and three HR professionals, which justify the modification of the research instrument developed after the literature study.

5.7.1 Research Findings (additional skills)

The original intention after the literature study was to focus on the additional skills required for every individual HR professional. However, it seems that not all the HR professionals have to deal with the e-HRM technologies as much as others. Besides this, the adoption of e-HRM did not seem to free-up much time for individual HR professionals. The few HR professional which became excessive after the adoption of Emplaza were given other HR related jobs or left the organisation.

During conversation with the three HR professionals and the project manager of Emplaza it became obvious that one of the problems faced after the adoption of e-HRM is that there are still employees and managers that require additional IT skills. Moreover, the managers made errors in the employee mutation forms. This was partially explained by the poor support of Emplaza for this activity, but mainly because of the lack of HR knowledge of the managers.

5.7.2 Reflection on the research instrument (additional skills)

The focus of research framework for the additional skills is not good. It focuses on the individual, but it is expected that it is better to focus on the HR department as a whole. The questions in the questionnaire should therefore not be focussed on individual HR professionals, but at the HR department as a whole. The questions for the additional skills can be found in appendix 24.

Another modification, which is recommended, is to complete the questionnaire of employees and managers with questions concerning the additional skills required in performing HR activities and skills acquired for the use of IT. In this way a complete picture can be made of the HR function. The question recommended for this research can be found in appendix 24.

5.8 Training received

The need for additional skills for employees and managers can also be translated to the need of training. Although no quantitative research was conducted, some remarks on and some recommendation to the original framework could be made.

5.8.1 Research Findings (training received)

Within the MIA, there actually was need of training in the use of Emplaza. Although there was some documentation available on the use of Emplaza, some of the employees and managers of the MIA still felt the need for training at the moment of this research. The researchers themselves were involved in the development of the training material, which had the aim to teach employees and managers of the MIA to perform HR activities through Emplaza. The involvement of the researches in the development of the training material gave them the opportunity to observe the difficulties faced by the employees and managers of the MIA performing HR activities.

5.8.2 Reflection on the research instrument (training received)

It became clear that the necessity of training in the use of e-HRM technology should not be underestimated, especially for managers. Therefore, some questions are recommended that focus on the received training for employees and managers. These questions can be found in appendix 21.

The importance of training for end-users of the technology was already mentioned in the IT acceptance part of this research as a recommendation for future research. As this training might affect IT acceptance and use behaviour, and user satisfaction, it is recommended to move the received training dimension to the “use of e-HRM” construct. This is also recommended for the received training by HR professionals.

6 Discussion

The chapter elaborates on the research findings and the reflection on the research methods of chapter 5. The chapter is divided in two paragraphs. Paragraph 6.1 elaborates on the research findings, and paragraph 6.2 elaborates on the reflection of the research framework and the research instruments.

6.1 Discussion on the research findings

The application of the research framework within the Dutch MIA generated some interesting findings, although not the entire framework could be applied. This paragraph discusses the research findings generated by the application of the research framework within the Dutch MIA.

In the year of 2002, the Dutch MIA discovered Emplaza. Emplaza was adopted by the Dutch MEA and enabled the employees of the Ministry to take responsibility themselves for their own development. Besides this, the tool supported the employees in submitting their request to use specific parts of their wage constituents on a fiscal friendly manner for specific spending. The “top” of the Dutch MIA acknowledged the opportunities of Emplaza in facing the pressures placed on contemporary HRM and created the space for the development of Emplaza. In the following years the functionality of Emplaza expanded from time to time.

Instead of making large paper documents on what and how Emplaza should be developed, the project team of Emplaza focused on getting things done. It enabled the project team to be flexible, and cope with the changing context of the project and pressures the HR department of the Dutch MIA faced. Instead of protecting the project against this changing context and pressures, the project team used these changing context and pressures as a basis for the project. In this way the project evolved with the changing context and the pressures faced by the HR department within the MIA. Although this made data gathering on the e-HRM goals of Emplaza for this research difficult, it was also an important factor in the development of Emplaza as it now exists, and may even be the strength of the project. It was acknowledged within the Dutch MIA that this was probably unique for the MIA, as the MIA is a relatively small organisation.

During the data gathering process for the content of e-HRM goals of Emplaza, it seemed that no specific goals were set and only some targets were mentioned to be achieved with the adoption of Emplaza. During the interviews and document analysis, the researchers were however able to translate the pressures mentioned and the context of the Emplaza project into e-HRM goals. The following e-HRM goals for the adoption of Emplaza were found:

- Cost reduction and efficiency improvements
- Client service improvements / facilitating managers and employees

- Allowing integration of HR functions

It was necessary for the Dutch MIA to standardise their HR activities as there existed a plan to establish a SSC HRM. It was expected that standardising the HR activities would enable a smooth transition into the SSC HRM and it was therefore an important point to consider during the development of Emplaza.

Not the strategic value of HR activities, but the two remaining e-HRM goals (cost reduction and efficiency improvements, and client service improvements / facilitating managers and employees) affected the choices for the e-HRM activities to be provided through Emplaza. It was expected that, as e-HRM devolves some of the HR responsibilities to employees and managers, there would be resistance to the adoption of Emplaza. Therefore, the project team searched for HR activities that would make the use of Emplaza attractive for employees and managers. In this way, the facilitation of employees and managers was actually used as a mean instead of a goal. However, the project team acknowledged that with the adoption of Emplaza, the quality of the service delivery perceived by employees and managers, should be at least as good as before the adoption of Emplaza. Therefore, the service quality was also considered as very important during the development of Emplaza.

To achieve the goal of cost reductions and efficiency improvements, the project team searched for HR activities that were subjected to intensive bureaucratic and administrative procedures. It was expected that the provision of these HR activities through web-based channels would generate cost reductions and efficiency improvements. It is interesting to see that the HR activities that were expected to reduce costs and improve efficiency belonged to the peripheral activities of the Dutch MIA, and that a large part of these activities were supported on a relational manner, were the initiative for performing these activities was devolved to the employees. It seems therefore that cost reduction was to be achieved by devolving administrative responsibilities to employees. They have to prepare mutations in such a way that managers and HR professionals only have to approve and archive these mutations. Therefore, the role of the HR professionals is very small within Emplaza. Managers were also given increased responsibility with the adoption of Emplaza. They are responsible for monitoring their management information. In this way, the “facilitation of managers” goal was to be achieved by the provision of informational supported core e-HRM activities. The “facilitation of employees” goal was to be achieved by the provision of peripheral activities supported on an informational and relational manner.

Another interesting point to mention is that it seemed to be important to have a solid informational basis before relational support should be adopted. The provision of relational supported e-HRM activities, with a solid informational basis enabled the performing of sophisticated HR activities by employees and managers within the Dutch MIA. However, when sophisticated HR activities are not provided well through Emplaza, this is reflected in

the use-behaviour of end-users. That seemed to be the case for the employee mutation activities which were often not performed correctly by managers, by the employee development activities which are almost never performed, and the travel expenses declaration activity which is not liked as much as Emplaza in general. It seems that the adoption of Emplaza enables employees and managers to perform core HR activities, but with the constraint that the activities are provided and supported well. Especially managers perform, in proportion, a lot of core HR activities. Besides this, the adoption of Emplaza enables employees and managers to perform HR activities that are subjected to regulations and bureaucratic procedures, but with the same constraint, that the activities are provided and supported well. The proper support of e-HRM activities is especially important as this could prevent the shifting of costs savings of the HR department, realised by the adoption of e-HRM, to the line as managers who face difficulties hire assistants to perform the HR activities. Technological support seems however not to be the only determinant for e-HRM activities to be performed correctly. It is also very important to have good transparent HR polices.

During the analysis of the promotion material for the research into the clarity of the e-HRM goals, the same e-HRM goals were found as during the research into the content of the e-HRM goals. However, there were some differences in:

- How Emplaza was justified
- The importance of goals within the promotion material compared to the importance of goals identified during the interviews and the document analysis of formal documents

These differences were caused by the communication strategy chosen by the MIA. It seemed that the project team of Emplaza communicated deliberately other goals of Emplaza towards the end-users. This strategy was chosen to stimulate the right attitude towards, and the desired use behaviour of the technology. The goals that were communicated met the needs of the end-users of the technology. It was expected that this would enable the MIA to adopt some functionalities that were not in favour of the employees and managers of the MIA, as they received responsibility they might rather not have. During observations by the researchers, it became clear that there were indeed significant changes for employees and managers as they receive responsibility to perform HR activities through Emplaza. This was something that was not considered initially for the research framework. Besides the indication that employees and managers spent more time on HR activities, it seemed that there were indeed some changes in the time spent on HR activities by the HR professionals, although not confirmed with quantitative research.

Within the Dutch MIA, the HR professionals are more satisfied with Emplaza as employees and managers are. Overall, the end-users are satisfied with Emplaza, although the different groups of end-users have different reasons for liking, or disliking Emplaza. This might be

caused be the fact that the different groups of end-users have to deal with different kinds of HR activities, but also by the fact that the different groups of end-users gained different (degrees of) responsibilities for performing HR activities through Emplaza. Employees like the increased transparency of the HR function, as the managers like the signals they receive form Emplaza. HR professionals like the build in data controlling function. But, there are also some negative signals on Emplaza. Employees feel their privacy is threatened, managers fear that the personal contact gets lost, and HR professionals dislike the speed of the technology. The overall satisfaction however increased in the year 2006 compared to the year 2005 and was probably caused by the improvement of Emplaza and / or the adaptation of end-users to Emplaza. Emplaza could even be held responsible for the increases in the amount of Ikap requests submitted, salary strips consulted, and how often the management information was consulted. The differences in satisfaction between the Ministries might be caused by the fact that the MIA has a leading position and / or might indicate that culture differences play a role. The differences in satisfaction between the departments within the MIA, might be caused by differences in culture.

During the presence of the researchers within the Dutch MIA it became obvious that there was need for additional IT skills. This especially seemed to be the case for employees and managers. Besides this, the managers within the Dutch MIA seem to lack the capability to perform as people managers, as they have not enough skills to perform some of the e-HRM activities. However, this could also be caused by the poor support Emplaza offers managers for some of these activities. For the HR professionals it was not that easy to identify needs for additional skills, or needs for training. Not all the HR professionals for example have to deal with the e-HRM technologies as much as others. Besides this, the increasing of the strategic orientation of HRM was not an e-HRM goal and this could be the reason that there was no need for additional strategic skills for HR professionals within the MIA. The e-HRM technology did also not seem to free-up much time of individual HR professionals and therefore the jobs probably did not change that much. The few HR professional which became excessive after the adoption of Emplaza were given other HR related jobs or left the organisation. However, the researchers were not able to gather quantitative data on these aspects with the developed research instruments. Future research should therefore give more insights in the additional skills and training needed, but the focus should not only be on the HR professionals, but also on the employees and the managers.

6.2 Discussion on the reflection of the research framework and its instruments

For the research into e-HRM, a research framework was developed. For some of the parts of the research framework, research instruments were developed by the researchers. Besides the research instruments developed by the researchers, some existing research instruments were adopted and sometimes adapted, and some of the research instruments were used to

gather data to complete other research instruments. There were however, also some research instruments that could not be applied within the Dutch MIA as there was no permission for a full-scale study. This paragraph summarises the modifications mentioned within chapter 5, but is also aimed to discuss the relations within the research framework and the opportunities for the instruments.

- Interview protocol for the content of e-HRM goals
    - Was useful during data gathering
    - Some components were added
    - The new version can be found within appendix 13
- Questions for the clarity of e-HRM goals
    - The questions should be focussed on the communicated goals
    - The communicated goals can be found in the promotion material on the e-HRM technology and communication plans
    - The new version of this part of the questionnaire can be found within appendix 14
- Interview protocol for the strategic value of e-HRM activities
    - Was not useful in the original structure
    - A new interview protocol was developed for the uniqueness of the HR activities provided
    - The new protocol can be found within appendix 15
    - A questionnaire for HR managers was developed which should be adopted to the result found during the research into the uniqueness of the HR activities provided
    - The questionnaire can be found within appendix 16
- The time spent on activities
    - Seems to be an important point to consider
    - The focus should be broadened to employees and managers
    - The new version of this part of the questionnaire can be found within appendix 17
- The type of technological support matrix
    - Was useful
    - Some small modification were made to make the instrument more comprehensible
    - The new version of the matrix can be found within appendix 18
- The user acceptance of the technology
    - Was useful but needs to be expanded
    - Some minor modifications to the original questions were made
    - The new version for this part of the research can be found within 20
    - This part of the research should be expanded with
        - An analysis on the actual use of, or “hits” on the e-HRM activities

        - Questions on the involvement and participation of end-users during development and implementation of the e-HRM technology (see appendix 22)
        - Questions on the end-user satisfaction (see appendix 23)
        - Questions on the training received by employees, managers and HR professionals (see appendix 21)
- Additional skills
    - Seems to be an important point to consider
    - The focus should be broadened to employees and managers
    - The new version of this part of the questionnaire can be found within appendix 24

During the research into the content of the e-HRM goals, it became clear that the goals affected the choices made for specific HR activities to be provided by the e-HRM technology. This was interesting as it was expected that the strategic value of the HR activities would de the determinant for the choices made for the HR activities to be provided through e-HRM. When the results of the type of e-HRM support and the actual usage were also included in the analysis the following observations could be made:

- Cost reduction and efficiency improvements, but also the facilitation of employees was realised by the provision of peripheral HR activities to employees supported on an informational and relational manner
- The facilitation of managers was realised by the provision of core HR activities supported on a relational manner
- The HR professionals have a very small role within the e-HRM technologies

It seems that the type of support plays an important role in the user acceptance and the user satisfaction of the technology. This might on its turn affect the effectiveness of the HR system. It is important to choose the right type of support for every activity. The provision of sophisticated e-HRM activities is useless when no good policies exist and the support for the e-HRM activity is poor. It seems therefore that it is not only important important what you provide through e-HRM, but how you provide it. For e-HRM activities were workflow is involved, relational support is only useful if there is also sufficient informational support. Future research with the support of the research instruments can give more insights in these relations. Besides this, the matrix for the type of e-HRM support, also provides a tool for benchmarking the e-HRM technology. Unfortunately, the researchers were not able to study (the role of) transformational support. Future research should also focus on this.

Another interesting relation found within the framework was the relation between the clarity of the e-HRM goals and the user acceptance and use behaviour of, and the user satisfaction of the technology. It seems to be the case that a well chosen communication strategy on the e-HRM goals, in combination with a good mix of HR activities that facilitate employees and

managers, and HR activities that devolve responsibility to employees and managers, can lead to the user acceptance and use behaviour of, and the user satisfaction of the e-HRM technology. However, sufficient training, involvement and participation of end-users during the development, and the support of the organisation provided to end-users also seems to affect the user acceptance and use behaviour of, and the user satisfaction of the e-HRM technology. These aspects were not considered in the original theoretical framework and are therefore adopted. Future research should identify the importance of these aspects and the position within the research framework.

The original theoretical framework focused on the changes for the HR professional. During the research within the Dutch MIA, it seemed that this was an underestimation of the impact of e-HRM on the employees and managers. Therefore, it was recommended to adopt the changes for employees and managers also within the framework.

In chapter 5, the recommended modifications to the framework and the research instruments were already mentioned. With these modifications it is expected that a valuable research framework with useable research instruments is created. Future research should give insights in the impact of e-HRM on the HR system. Unfortunately, this was not possible within the Dutch MIA at this moment.

A full overview of the components uncovering the construct of the modified research framework and the research instruments to gather data on these components can be found in figure 32.

Constructs	Sub constructs	Dimensions	Components	Research methods / sample
e-HRM goals	Content of e-HRM goals	Cost reduction / Efficiency gains	FTE's of HR department	Interviews, with project managers, or the support manager / document analysis
			Costs of performing activities	
			Productivity of HR Professionals	
			Cycle time of HR activities	
			Decrease the amount of errors made during activities	
			Decrease the bureaucracy within activities	
			Increase the integration within the HR function	
		Client service improvements	Interface between clients of the HR department and the HR department	
			Needs of services of clients of the HR function	
			Introduction of ESS and MSS	
		Improving the strategic orientation	Time spent on HR planning	
			Time spent on organisational development	
			Time spent on strategic planning	
			Time spent on organisational design	
		Allowing integration of the HR function	Harmonising the HR function	
			Standardising the HR function	
			Setting the standards for future developments	Analysis of promotion material
	Clarity of e-HRM goals		E-HRM goal knowledge	
			Presence of specific e-HRM goals	
Use of e-HRM, or adoption of e-HRM	E-HRM activities	Strategic value of HR activities	Uniquness of an HR activity	Combination of interviews and a questionnaire for HR professionals Questionnaire for employees, managers, and HR professionals
			Value of an HR activity	
		Time spent on activities	Time spent on strategic activities by HR professionals	
			Time spent on administration by HR professionals	
			Time spent on IT activities by HR professionals	
			Time spent on supporting employees by HR professionals	
			Time spent on supporting managers by HR professionals	
			Time spent on HR activities by employees, managers	
	Type of technological support	Intended impact of the technology	Scope of the technology	Technlogy analysis by the researchers
			Technology facilitates	
			Means to achieve the intended impact	
		Role of IT in supporting an HR activity	IT capabilities	
			Technology ..... HR data	
	Implementation	Received training	Strategic training for HR professional	Questionnaire for employees, managers and HR professionals
			Functional training for employees, managers, and HR professionals	
			IT training for employees, managers, and HR professionals	
		Organisational support	Involvement of end-users	
			Participation of end-users	
	User acceptance of the technology	Unified theory of acceptance and use of technology	Performance expectancy of the technology	
			Effort expectancy of the technology	
			Social influence of the technology	
			Facilitating conditions	
			Behavioural intention of the technology	
			Use of behaviour	
		End-user satisfaction	Content	
			Accuracy	
			Format	
			Ease of use	
			Timeliness	
Effectiveness of the HR system	HR performance indicators	HR efficiency	ROI of the technology	Documet analysis or alternative strategy
			Productivity of the HR professionals	
			Cycle times of the HR activities	
		Perceived effectiveness of the HR philosophy	Fit between business strategy and HR strategy	Questionnaire for employees and managers
		Perceived effectiveness of the HR policies	Distinctiveness of HR policies	
			Consistency of HR policies	
			Concensus of HR policies	
		Perceived effectiveness of the HR services	Efficiency of HR services	
			Quality of HR services	
			Helpfulness of HR services	
	Job concent of the HR professional	Roles of HR professional	Strategic role	Questionnaire for HR professionals
			Administrative role	
			Employee champion role	
			Change agent role	
		Additional skills	Strategic HRM skills for HR professionals	Questionnaire for employees, managers and HR professionals
			Functional skills for employees, managers, and HR professionals	
			IT skills for employees, managers, and HR professionals	

Figure 32, Overview of all the components and their research instruments

Although figure 32 covers the content of the constructs of the theoretical framework, it is not very useful for setting a research path. With the experiences and results gathered within the Dutch MIA a research path for future research into e-HRM was developed. Figure 33 gives an overview of the recommended research sequence and the role of some of the dimensions

within the research framework. A textual version of figure 33 can be found within appendix 28. Interesting to mention however is, that when the opportunity arises to measure the effectiveness of the HR system before and after the adoption of e-HRM, this opportunity should be used.

As mentioned before, some relations within the research framework were identified as other still have to be proven. The large blue arrows represent the possibilities of hypothesis testing.

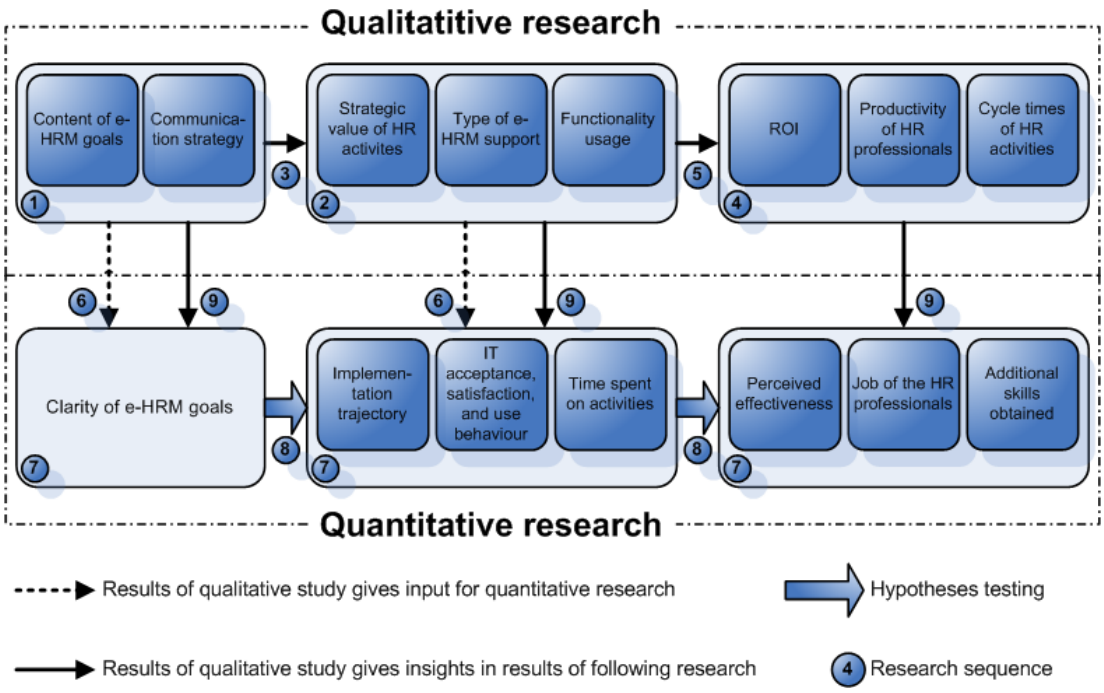

Figure 33, Research path for the research framework

The modified research instruments for the qualitative research can be found within the appendixes ((2) indicates that it is the modified version). The questionnaires to be conducted for the employees, managers, and HR professionals can be found within appendix 25, 26, and 27.

7 Conclusion and recommendations

The objective of this research was the development of a framework for measuring the effectiveness of e-HRM, and the application of the framework within the MIA.

Unfortunately, the researchers were not able to achieve the objective of the research entirely. As mentioned before, the Dutch MIA did not allow the application of the total research framework with its research instruments. However, some conclusions can be made on the results found during the application of parts of the research framework and the developed research instruments. Besides this, this chapter elaborates on the recommendations for the Dutch MIA, and recommendations for future research. Paragraph 7.1 focuses on the research finding generated during the application of the research framework within the Dutch MIA. Paragraph 7.2 focuses on the research framework.

7.1 Research findings conclusions

As Emplaza is still under development, the researchers confirm the statement of the Dutch MIA that it is still too early to measure the effectiveness of Emplaza. This however, does not mean that research into the Emplaza project at this moment is useless.

The Emplaza project has in recent years ever been able to cope with the changes of the context of the project and the pressures faced by the HR department. The project even has become more important as it is acknowledged as the solution for providing ESS and MSS for the SSC HRM. This SSC HRM is dependant on ESS and MSS, and therefore was always considered during the development of Emplaza by the Dutch MIA. There are several reasons that enabled the development of Emplaza into its current existence.

The first reason is the strong commitment to the Emplaza project of the “top” of the Dutch Ministry. The “top” of the Ministry was aware of the pressures faced by the HR department and the project team was able to convince the “top” of the opportunities Emplaza provided to cope with these pressures. This created the space for the project team to engage into the development of Emplaza.

The second reason is that the project team focused on getting things done. In a short period of time, they were able to offer a working solution for some HR activities. This increased the commitment at the “top” of the Ministry as they saw something working, instead of receiving large reports on what should be achieved and how it could be achieved. Although, this seemed to work for the relatively small MIA, this might not work as well for larger Ministries. Therefore it seems that the MIA is the ideal test environment for new e-HRM developments, which also concern the other Ministries. The commitment of the employees was realised by

the provision of the Ikap request through Emplaza, as this increased the transparency of difficult procedures and enabled to employees to make use of attractive opportunities.

The third reason is that the project team acknowledged the fact that there were some disadvantages for the end-user of the technology. Employees and managers gained responsibility for performing some of the activities that were formerly performed by HR professionals. This meant that employees and managers themselves had to spend time on these activities. Therefore, the project team chose besides the activities that were not in the advantage for employees and managers, some activities that would be liked by the employees and managers. Besides this, the project team chose a communication strategy that focussed on these advantages and the fulfilment of the needs of the employees and managers. This strategy was aimed to create the right use behaviour of, user acceptance of, and the user satisfaction on the technology.

The fourth and last reason the researchers identified was that the project team made deliberate choices for the activities to be provided through e-HRM. The project team chose HR activities that would lead to immediate results. In this way the commitment of the "top" of the Dutch MIA was again strengthened and future developments were in this way guaranteed.

Some early results were achieved with for example the adoption of the Ikap request functionality of Emplaza. The Dutch regulations for the Ikap requests were confusing for the employees who normally do not have the HR knowledge necessary for completely filling in and submitting a request. This resulted formerly in a lot of administrative activities for the HR department. Besides these difficult regulations, the personal situation of the employee needs also to be taken into account for submitting an Ikap request. With the adoption of Emplaza employees were enabled to submit a fully calculated request to the manager or HR professional. The Ikap functionality of Emplaza contains the difficult Dutch regulations, but also automatically takes into account the personal information of the employee filling in the request. The relational support Emplaza provides for this e-HRM activity enables the employee to submit the request to his / her manager, or to an HR professional from behind his / her desk.

The Ikap request functionality of Emplaza is an example of an e-HRM activity that is supported well through Emplaza. The entire process of filling in a request, but also the workflow of the process is supported. The support Emplaza provides for this HR activity is well chosen and developed. There are more examples of e-HRM activities that are provided well. Some of those activities are only supported on an informational manner, but for some of the e-HRM activities this is the only possible, or the best way to support that specific HR activity.

There are however also e-HRM activities that are supported poorly by Emplaza. Examples of such poorly supported e-HRM activities are the activities related to the development of employees. The HR professionals stated on these activities that there is lack of well through thought policies within the Dutch MIA, and therefore the support Emplaza provides for these activities is poor. Another reason could be that these activities a very sophisticated and for this moment to difficult to implement. The poor support of Emplaza for these activities might be the cause for the end-users hardly using these activities. Another reason could be that it is not logical for the end-users to perform these activities that often. If this is the reason for not performing the e-HRM activities, the MIA should consider if the investments to be made for developing and providing such e-HRM activities are justified. Future research should give insights in why some of the activities are not performed that much.

Another example of an e-HRM activity that is poorly supported is the employee mutation activity that is initiated by the manager when the data in the employment contract of one of his employees changes for whatever reason. The manager is however not supported in the actions he has to take to fill in the employee mutation form through Emplaza. The lack of HR knowledge of the managers is not covered by Emplaza. Therefore, a lot of these employee mutation requests are not filled in correctly. A reason for the fact that Emplaza not covers the "HR knowledge" necessary for making such a request could be that the digital form is a copy of the paper form. However, an HR professional within the Dutch Ministry stated that there is even no congruency on how to perform the activities related to employee mutations within the HR department. Although the training of managers in additional HR skills could be a solution to this problem, the support the technology provides should also be improved. This also reduces the chance that managers devolve their responsibilities further to their assistants, which means that the costs savings realised by the HR departments after the adoption of e-HRM shift to the line where not qualified personnel performs the HR activities.

Although in general the end-users of Emplaza are satisfied with Emplaza and the overall satisfaction increased in the year 2006 compared to the year 2005, some recommendations are made. These recommendations are summed up in the next section.

Recommendations for the Dutch MIA

- Provide HR training for the managers to enable them to be people managers
- Intensify the training on the use of Emplaza, especially for managers and on the e-HRM activities where proper support of the technology at this moment is lacking
- Create congruency among HR professionals on how to perform the existing e-HRM activities (especially important for the employee mutations)
- Improve the support Emplaza provides for the existing e-HRM activities where proper support is lacking. It is therefore important to listen to the problems and suggestions of the end-users of Emplaza

- Prevent managers in devolving their responsibilities to assistants, as this only results in the shifting of costs instead of realising costs savings
- Before new e-HRM activities are adopted, the HR policies and processes of these activities should be considered, improved, documented, and congruency among HR professionals should be created on the HR policies and processes
- New e-HRM activities should only be adopted if proper technological support can be developed and provided, which is necessary for the devolution of the responsibility for these activities. Besides this, the MIA should consider if the investments to be made for providing the specific new activities are justified
- To guarantee future developments without drowning in bureaucratic procedures, the Dutch MIA should remain the pilot position it now has, especially when the responsibility of future developments are placed within the SSC HRM
- Stay involved in the scientific research into e-HRM, as this could give some insights and offer solutions to the problems faced
- Keep exploring the (new) technological possibilities, as this enables the Dutch MIA to make the step towards transformational e-HRM support in the future

7.2 Research framework conclusions

This paragraph elaborates on the strengths and weaknesses of the original framework and the modifications made to the research framework. Besides this, some recommendations for future research into the effectiveness of e-HRM are made.

The theoretical chapter of this report has uncovered the constructs of the theoretical framework as far as possible. At the most detailed level of the construct, the components were identified and described. Together, these components are expected to be a valid representation of the constructs. Every component is chosen in such a way that with the operationalisation of these components research instruments could be developed. The operationalisation of the components was described in the first sub paragraph of the methodology chapter. The expectation was that through accurate operationalisation of specific components related to e-HRM and the HR system, it is possible to create a research framework for measuring the effectiveness of e-HRM.

During the application of the framework within the Dutch MIA some first results were found on the completeness of the research framework, the structure of the research framework, some relations within the research framework, the usefulness of some of the research instruments, and the research framework in general. According the first results, some modifications were made to the research framework and instruments and these will be discussed now.

Completeness of the research framework

The original theoretical framework was expected to capture the essential aspects for measuring e-HRM effectiveness. However, during the research into the effectiveness of Emplaza some aspects were identified that were not covered by the original theoretical framework. These aspects were added to the research framework.

During the interviews with the project manager and the head of the "personnel policy, support and monitoring" department of the MIA, but also during the document analysis, it became clear that the e-HRM goals components could be completed with some more goals. These goals however could be categorised over the existing four goals identified in the literature study.

The analysis of the documents available within the Ministry made clear that the research framework missed a component on the documentation available for supporting end-users in the usage of e-HRM. Therefore, an item was included in the user-acceptance of IT questionnaire. Besides this, the researchers were confronted with the opportunities e-HRM technology provides. Web-based technologies enable the registration of the use of specific e-HRM activities. The data has proven to deliver some interesting findings during the application of the research framework within the MIA.

The original framework did also not consider the end-user satisfaction of e-HRM technologies, but former research within the Dutch MIA indicated that this would generate some interesting results. Therefore, the "use of e-HRM" construct of the research framework was completed with a questionnaire developed by Doll & Torkzadeh (1998) on the end-user computing satisfaction.

During the presence of the researchers within the MIA, it became clear to the researchers that the research framework focused too much on the changes for the HR professionals. The changes for the time spent on HR activities, additional skills and training received components focused in the original research framework not on the employees and managers. However, the researchers observed that the changes for them are as least as significant as for HR professionals. Therefore this was modified within the research framework.

During the analysis of the documents available within the Ministry, and the conversation with the project manager and the head of the "personnel policy, support and monitoring" department of the MIA, it became clear that the original theoretical framework missed research instruments for gathering data on the implementation trajectory of e-HRM. The involvement and participation, and training of end-users was proven to have a significant positive effect on the user satisfaction of, and the perceived efficiency of e-HRM and were therefore added to the "use of e-HRM" construct of the research framework.

A blank spot of the research framework remains the measuring of the HR efficiency. This research has not focussed on the HR efficiency after the adoption of e-HRM. This research however, does recommend some metrics that can be used to measure the HR efficiency. Future researchers should however develop a strategy themselves for the data gathering on these metrics.

The structure of the research framework

The overall structure of the research framework was also good. However, some small modifications were made. The first change made was to move training received to the "use of e-HRM" construct, as the training received by employees, managers, and HR professionals was according Pasveer (2005) an important factor in determining the user satisfaction of, and the perceived efficiency of e-HRM. Therefore it was expected that the position within the "use of e-HRM" construct was more convenient. A second suggestion was the altering of the term "use of e-HRM" into "adoption of e-HRM" as with the completion of the construct the focus shifts also towards the implementation phase of e-HRM.

Relations within the theoretical framework

The arrows within the preliminary theoretical framework indicated the expected (direction of) dependencies between the constructs. Unfortunately, the researchers were not able to compose and test hypotheses with the support of the developed research framework and its research instruments. However, some indications for relations were found during the application of the theoretical framework within the MIA, and these will be summed up now:

- The content of the e-HRM goals chosen seems to affect the choices made for the type of HR activities to be provided through e-HRM
- The communication strategy chosen that affects the clarity of the e-HRM goals of end-users, seems to affect the use behaviour of and user satisfaction of the e-HRM technology
- The implementation trajectory seems to affect the use behaviour of and user satisfaction of the e-HRM technology, but also the perceived efficiency of e-HRM
- The type of support for the e-HRM activities provided, but also the choices made for specific e-HRM activities seem to affect the use behaviour of and user satisfaction of the e-HRM technology
- The use, or adoption of e-HRM seems to affect the required skills of employees, managers, and HR professionals

Usefulness of the research instruments

Unfortunately, the questionnaires developed by the researchers could not be applied on a full scale within the Dutch MIA for this research. Some of the other research instruments could however be tested. The semi-structured interview with the support of the interview protocol for the content of the e-HRM goals was useful. By conducting a semi-structured interview the researchers were enabled to focus on some of the components were intensive

attention was necessary. It also gave a detailed picture of the precise goals for the adoption of e-HRM. The interview protocol for the strategic value of e-HRM activities was however not useful in its original structure. Therefore, the research instrument for the strategic value of e-HRM activities was modified. The matrix method for the type of e-HRM support was easy to apply and the results gathered were interesting as mentioned in the relations within the theoretical framework section made clear. During the research into the clarity of e-HRM goals it became clear that the questions should be modified according the communication strategy chosen by the Dutch MIA.

Research framework in general

Although not all the research instruments of the research framework could be applied within the Dutch MIA at this moment. The researchers were enabled to test the most of the components identified during the literature study. Alternative research methods were used to gather data, but also to test the components on their completeness.

Although the researchers were not able to apply the recommended research strategy proposed in the methodological chapter, the researchers do expect that the multiple method approach, with the questionnaires as mainresearch method is the best approach for the research into the effectiveness of e-HRM. During the application of the theoretical framework within the Dutch MIA, it became clear that the qualitative research instruments do provide in-depth insights in the constructs of the research framework. Besides this, the questionnaires sometimes have to be adapted according the results found during the qualitative research.

Recommendations for future research

- Apply the research framework with its research instruments for measuring the effectiveness of e-HRM
- Try to measure the effectiveness of the HR system, before and after the adoption of e-HRM
- Develop a suitable strategy for the measuring of the HR efficiency after the adoption of e-HRM
- Apply the framework in as much as different kinds of organisations and countries
- Adopt a multi method approach with the questionnaires as the main method
- Develop and test hypotheses for the arrows of the theoretical research framework
- Research other relations within the theoretical framework (especially interesting are the relations between type of support, strategic value of e-HRM activities, and the IT acceptance of, use behaviour of, and end-user satisfaction of the technology, but also what the role of the communication strategy and the implementation trajectory is)
- Benchmark the type of support the technology offers with different organisations
- Try to find and test the characteristics of transformational e-HRM support
- Use when possible documentation on the amount of hits per e-HRM activity

8 Research limitations

This research had the objective to develop a framework for the effectiveness of e-HRM, and the application of the framework within the MIA. Although a framework was developed for measuring the effectiveness of e-HRM, this framework could not fully be applied within the Dutch MIA. Therefore it was not possible to measure the effectiveness of Emplaza. Some research instruments of the research framework could however be applied, although sometimes alternative methods had to be found for applying the research instruments. Although some interesting results were found during the application of the framework within the Dutch MIA, it is dangerous to make any conclusion about the research framework in general as it could not be fully applied as originally intended, especially for the parts of the research framework that could not be applied within the Ministry. It is also hard to make any conclusions on the research findings, for the same reasons as it is hard to make any conclusion on the research framework.

Another research limitation is that the framework is only applied within one organisation, and therefore it is hard to make any generalisations on the research framework as well as on the research findings. Besides this, the research framework was applied within a Ministry which cannot be compared to private organisations. There are a lot of factors that can affect the research findings, but also the usability of the research framework in general, like for example, the size of the organisation, the sector the organisation operates in, the country the organisation is located in, and the relations the organisations has with unions. The research into the Dutch MIA did not consider these factors. Future research should therefore be conducted to test the framework and to be able to measure the effectiveness of e-HRM.

9 Appendixes

9.1 Interview protocol for the content of e-HRM goals (1)

Cost reduction / efficiency gains

FTE's of the HR department

- Was reducing the amount of FTE's a goal?
- Were there targets for specific HR functions?
- What were the targets?

Costs of performing the HR processes

- Was the reduction of the use and / or distribution of paper a goal?
- What were the targets?
- Was the reduction of the costs for performing the HR transactions an e-HRM goal
- Which transactions were target for cost reduction?
- What were the targets for the reduction of HR transaction costs and how is it measured?

Productivity of HR professionals

- Was productivity improvement of HR professionals an e-HRM goal?
- Were there different targets for different HR specialities?
- What were the targets and how is it measured?

Cycle time of HR processes

- Was the reduction of cycle times of HR processes an e-HRM goal?
- Were there different targets for different HR processes?
- What were the targets and how were they measured?

Client service improvement / facilitating management and employees

Interface between clients of the HR department and the HR department

- Was user friendliness for line managers and employees for performing HR activities a goal for the adoption of e-HRM technologies
- In what degree and how were the user friendliness targets set and measured?

Needs for services of clients of the HR function

- Was providing useful HR activities, for line managers and employees, through web-based-channels an e-HRM goal?
- In what degree was this considered important?
- Was there an e-HRM goal to improve service to line managers and employees by providing services through web-based channels with a personal character?
- In what degree this was considered important?

- Was providing service to line managers and employees whenever and wherever they want an e-HRM goal?
- In what degree was this considered important?
- Was the improvement of the timeliness of HR services an e-HRM goal?
- In what degree was this considered important?

Improving the strategic orientation of HRM

Time spent on HR planning

- Was the adoption of e-HRM technology driven by the need of HR professionals spending more time on HR planning activities?
- In what degree was this considered important?

Time spent on organisational development

- Was the adoption of e-HRM technology driven by the need of HR professionals spending more time HR organisational development activities?
- In what degree was this considered important?

Time spent on organisational design

- Was the adoption of e-HRM technology driven by the need of HR professionals spending more time on organisational design activities?
- In what degree was this considered important?

Time spent on strategic planning

- Was the adoption of e-HRM technology driven by the need of HR professionals spending more time on strategic planning activities?
- In what degree was this considered important?

Allowing integration of HR functions

Standardising the HR function

- Was the adoption of e-HRM technology driven by the need to standardise HR processes across dispersed HR functions (public and / or private)?
- In what degree was this considered important?

Harmonising the HR function

- Was the adoption of e-HRM technology driven by the need of cooperation between different dispersed HR functions?
- In what degree was this considered important?

9.2 Questions for the clarity of e-HRM goals (1)

Clarity of e-HRM goals

- The goals of the use of e-HRM technology are clear
- I know thought behind e-HRM technology
- I know were effective use of e-HRM technology should lead to

To what extent are the following issues important goals of e-HRM technology?

- Cost reduction and / or efficiency gains
- Client service improvement / facilitating managers and employees
- Improving the strategic orientation of HRM
- Allowing integration of dispersed HR functions

9.3 Interview protocol for the strategic value of e-HRM activities (1)

Value of HR activities

- In what degree does the execution of this HR activity contributes to fulfilling the needs of the clients (civilians and organisations) of the organisations as a whole?
- In what degree does the execution of this HR activity affects the efficiency or productivity of the organisation?
- In what degree does the execution of this HR activity affects the quality of products/services offered by the organisation?
- In what degree does the execution of this HR activity affects the costs of production, service, or delivery of the organisation?
- In what degree does the execution of this HR activity affects the ability to develop new markets/products/services of the organisation?
- What are the strategic benefits derived from this activity relative to the costs with its deployment?

Uniqueness of HR activities

- In what degree is this HR activity is specific for this organisation?
- In what degree is this HR activity customised to the organisation?
- In what degree is there scarcity of external providers for the performing of this HR activity?
- Does the provision of this HR activity distinguishes your organisation form other organisations
- In what degree are there difficulties to be expected when this HR activity is replaced?
- In what degree is this HR activity inimitable?
- Does this HR activity belongs to a set organisation-specific of HR activities and which ones?

9.4 Time spent on activities by HR professionals(1)

Time spent on strategic activities by HR professionals

Since the implementation of e-HRM technology the HR department is increasingly involved in …

- strategic HR activities
- forecasting of HR needs
- matching of individuals with expected job vacancies
- developing long-term HR policies
- applying long-term HR policies to improve organisational performance
- aligning HR policies with the organisation its strategy

Time spent on IT activities by HR professionals

Since the implementation of e-HRM technology the HR department …

- works increasingly with web-based HRM technologies
- gains responsibilities on maintaining web-based HRM technologies
- gains responsibilities on developing other web-based HRM technologies

Time spent on administration by HR professionals

Since the implementation of e-HRM technology …

- the HR department spends less time on administrative tasks
- administrative HR processes are automated
- administrative HR tasks are performed by managers of the organisation
- administrative HR tasks are performed by employees

Time spent by HR professionals on supporting managers

Since the introduction of e-HRM technology …

- managers do not need help from the HRM department when they are performing their HR responsibilities
- the HR department spends less time on advising managers

Time spent by HR professionals on supporting employees

Since the introduction of e-HRM technology …

- Employees perform HR tasks through the e-HRM technology without help from the HRM department
- The HR department spends less time on helping employees to perform HR tasks

9.5 The types of technological support (1)

Varies over \ Type of e-HRM support		Informational e-HRM technolgy	Relational e-HRM technolgy	Transformational e-HRM technolgy
Intended impact of the IT	Target	HR department	HR function	Organisation
	The impact of the technology	Reducing administrative and informing pressure on the HR professionals	Optimising the workflow between employees, management and HR professionals	Creating of a flexible organisation
	Means	Provision of HR data through web-based channels	Automation of HR actvities and workflow support of the HR activities	Supporting the execution of HR activties adjusted to the specific situation
Role of IT in supporting an HR activity	IT capabilities	Digitilising HR data and making this HR data available for its stakeholders	Steering and recording of the interactions and mutations made when an HR activity is performed	Bypassing organisational hierarchy and freeing up HR decission-making from bureaucracy
	Technology ..... HR data	provides and records	supports the flow and recording of	analyses, processes and distributes

9.6 IT acceptance and use behaviour adapted from Venkatesh et al. (2003) (1)

Performance expectancy

- I find e-HRM technology useful in performing my P&O tasks/activities
- Using e-HRM technology enables me to accomplish P&O tasks more quickly.
- Using e-HRM technology increases my productivity when performing my P&O tasks.
- If I use e-HRM technology, I will increase my chance of getting a raise

Effort expectancy

- Working with e-HRM technology is clear and understandable.
- It is easy for me to become skilful at using e-HRM technology.
- I find e-HRM technology easy to use.
- Learning to operate e-HRM technology is easy for me.

Social influence

- People who influence my behaviour think that I should use e-HRM technology
- People who are important to me think that I should use the e-HRM technology.
- The senior management of this business has been helpful in the use of the e-HRM technology.
- In general, the organisation has supported the use of e-HRM technology.

Facilitating conditions

- I have the resources necessary to use e-HRM technology.
- I have the knowledge necessary to use e-HRM technology.
- E-HRM technology is not compatible with other systems I use.
- A specific person (or group) is available for assistance with e-HRM technology difficulties.

Behavioural intention

- I intend to use e-HRM technology further.
- I predict I would use e-HRM technology in the future
- I plan to use e-HRM technology

Use of e-HRM (not within the original questionnaire)

- *I use e-HRM technology*
- *I use e-HRM technology for … years*

For the last question intervals could be used

I appreciate that the following HR activities are provided through e-HRM technology

- *Activity 1*
- *Activity 2*
- *Etc.*

I always use e-HRM technology for performing the following activities:

- *Activity 1*
- *Activity 2*
- *Etc.*

For this last question the researcher should make a list of all the HR activities provided through e-HRM. Adapt this for the questionnaire for employee, managers and HR professionals as the might perform different activities. Use for this question a five liker point scale: always, often, sometimes yes/sometimes no, seldom, never

9.7 The perceived effectiveness of the HR function

Questionnaire for all the end-users of the technology. Use five point liker scales (form totally agree till totally disagree)

Perceived effectiveness at the philosophy level

Integration between business strategy and HR strategy

- There is a clear fit between business and HR strategy.
- HR and business strategy are complementary
- Managers are involved in decision making in HR area's

Perceived effectiveness of the HR policies and programmes

Distinctiveness of HR policies

- The policies of the HR department are clear
- The policies of the HR department are easy to comprehend
- The policies of the HR department are credible

Consistency of HR policies

- The consequences of my HR actions are clearly visible on a timely schedule
- The HR department does what it says it does
- The HR department is consequent in their operations

Consensus about HR policies

- There is agreement about HR policies among HRM decision makers
- The HR department treats all employees equally

Perceived effectiveness of the HR practices and processes

Responsiveness

- I am updated about HR transactions immediately when they are important for me
- When I need advise on HR issues the HR department helps me quickly
- When I am in need of HR services I receive prompt service from the HR department

Service quality

- The HR services are performed right the first time
- The HR department is willing and ready to provide service
- The HR service is easy accessible.

Helpfulness

- HRM staff are a help to managers in dealing with HR matters
- HRM staff are a help to employees in regard to their rights, entitlements and needs

9.8 The roles of the HR professional adopted from Sanders& Van der Ven (2004)

Questionnaire for all the end-users of the technology. Use five point liker scales (form totally agree till totally disagree)

Strategic activities

- HRM helps to realise organisational goals
- HRM participates in the formulisation of the organisational strategy
- HRM spent its time on long-term planning
- HRM actively participates in making plans for the organisations

Administrative activities

- HRM helps to increase productivity
- HRM participates in the development of HRM processes
- HRM spends its time on operational HRM activities
- HRM actively participates in the implementation of HRM processes

Employee champion activities

- HRM helps to satisfy employees in their personal needs
- HRM participates in increasing employee commitment with the organisation
- HRM spends its time on listening to and anticipate on the needs of employees
- HRM actively participates on listening an anticipating on employees

Change agent activities

- HRM helps the organisation to adapt to changes
- HRM participates in realising culture changes within the organisation
- HRM spends its time on encouraging new desired behaviour within the organisation
- HRM actively participates in changing the organisation

9.9 Additional skills and training received for HR professionals (1)

Additional strategic skills for HR professionals

Since the implementation of e-HRM technology…

- HR professionals need additional strategic HRM skills
- the Ministry requests more strategic HRM skills from HR professionals

Functional skills for HR professionals

Since the implementation of e-HRM technology…

- HR professionals need additional functional HRM skills
- the Ministry requests more functional skills from HR professionals

IT skills for HR professionals

Since the implementation of e-HRM technology …

- HR professionals need additional IT skills
- the organisation requests more IT skills from HR professionals

Received training

Received strategic training by HR professionals

Since the implementation of e-HRM technology…

- HR professionals received special training for strategic HRM skills
- HR professionals attained additional strategic skills on-the-job

Received functional training by HR professionals

Since the implementation of e-HRM technology…

- HR professionals received special training in functional delivery
- HR professionals attained additional functional skills on-the-job

Received IT training by HR professionals

Since the implementation of e-HRM technology…

- HR professionals received training and / or education for general IT skills
- HR professionals attained additional general IT skills on-the-job
- HR professionals received training and / or education for the use of e-HRM
- HR professionals attained additional e-HRM skills on-the-job

9.10 Questionnaire for employees (1)

Clarity of e-HRM goals

- The goals of the use of e-HRM technology are clear
- I know thought behind e-HRM technology
- I know were effective use of e-HRM technology should lead to

To what extent are the following issues important goals of e-HRM technology?

- Cost reduction and / or efficiency gains
- Client service improvement / facilitating managers and employees
- Improving the strategic orientation of HRM
- Allowing integration of dispersed HR functions

Time spent on supporting employees by HR professionals

Since the introduction of Emplaza …

- I help myself when I perform my HR tasks via Emplaza
- I spend less time on consulting with the HR department

Performance expectancy

- I find e-HRM technology useful in performing my P&O tasks/activities
- Using e-HRM technology enables me to accomplish P&O tasks more quickly.
- Using e-HRM technology increases my productivity when performing my P&O tasks.
- If I use e-HRM technology, I will increase my chance of getting a raise

Effort expectancy

- Working with e-HRM technology is clear and understandable.
- It is easy for me to become skilful at using e-HRM technology.
- I find e-HRM technology easy to use.
- Learning to operate e-HRM technology is easy for me.

Social influence

- People who influence my behaviour think that I should use e-HRM technology
- People who are important to me think that I should use the e-HRM technology.
- The senior management of this business has been helpful in the use of the e-HRM technology.
- In general, the organisation has supported the use of e-HRM technology.

Facilitating conditions

- I have the resources necessary to use e-HRM technology.
- I have the knowledge necessary to use e-HRM technology.
- E-HRM technology is not compatible with other systems I use.

- A specific person (or group) is available for assistance with e-HRM technology difficulties.

Behavioural intention

- I intend to use e-HRM technology further.
- I predict I would use e-HRM technology in the future
- I plan to use e-HRM technology

Use of e-HRM

- I use e-HRM technology
- I use e-HRM technology for … years

For the last question intervals could be used

I appreciate that the following HR activities are provided through e-HRM technology

- Activity 1
- Activity 2
- Etc.

I always use e-HRM technology for performing the following activities:

- Activity 1
- Activity 2
- Etc.

For this last question the researcher should make a list of all the HR activities provided through e-HRM. Adapt this for the questionnaire for employee, managers and HR professionals as the might perform different activities. Use for this question a five liker point scale: always, often, sometimes yes/sometimes no, seldom, never

Perceived effectiveness at the philosophy level

Integration between business strategy and HR strategy

- There is a clear fit between business and HR strategy.
- HR and business strategy are complementary
- Managers are involved in decision making in HR area's

Perceived effectiveness of the HR policies and programmes

Distinctiveness of HR policies

- The policies of the HR department are clear
- The policies of the HR department are easy to comprehend
- The policies of the HR department are credible

Consistency of HR policies

- The consequences of my HR actions are clearly visible on a timely schedule
- The HR department does what it says it does
- The HR department is consequent in their operations

Consensus about HR policies

- There is agreement about HR policies among HRM decision makers
- The HR department treats all employees equally

Perceived effectiveness of the HR practices and processes

Responsiveness

- I am updated about HR transactions immediately when they are important for me
- When I need advise on HR issues the HR department helps me quickly
- When I am in need of HR services I receive prompt service from the HR department

Service quality

- The HR services are performed right the first time
- The HR department is willing and ready to provide service
- The HR service is easy accessible.

Helpfulness

- HRM staff are a help to managers in dealing with HR matters
- HRM staff are a help to employees in regard to their rights, entitlements and needs

Strategic activities

- HRM helps to realise organisational goals
- HRM participates in the formulisation of the organisational strategy
- HRM spent its time on long-term planning
- HRM actively participates in making plans for the organisations

Administrative activities

- HRM helps to increase productivity
- HRM participates in the development of HRM processes
- HRM spends its time on operational HRM activities
- HRM actively participates in the implementation of HRM processes

Employee champion activities

- HRM helps to satisfy employees in their personal needs
- HRM participates in increasing employee commitment with the organisation
- HRM spends its time on listening to and anticipate on the needs of employees
- HRM actively participates on listening an anticipating on employees

Change agent activities

- HRM helps the organisation to adapt to changes
- HRM participates in realising culture changes within the organisation
- HRM spends its time on encouraging new desired behaviour within the organisation
- HRM actively participates in changing the organisation

9.11 Questionnaire for managers (1)

Clarity of e-HRM goals

- The goals of the use of e-HRM technology are clear
- I know thought behind e-HRM technology
- I know were effective use of e-HRM technology should lead to

To what extent are the following issues important goals of e-HRM technology?

- Cost reduction and / or efficiency gains
- Client service improvement / facilitating managers and employees
- Improving the strategic orientation of HRM
- Allowing integration of dispersed HR functions

Time spent on supporting managers by HR professionals

Since the introduction of Emplaza …

- I help myself when I perform my HR tasks via Emplaza
- I spend less time on consulting with the HR department

Performance expectancy

- I find e-HRM technology useful in performing my P&O tasks/activities
- Using e-HRM technology enables me to accomplish P&O tasks more quickly.
- Using e-HRM technology increases my productivity when performing my P&O tasks.
- If I use e-HRM technology, I will increase my chance of getting a raise

Effort expectancy

- Working with e-HRM technology is clear and understandable.
- It is easy for me to become skilful at using e-HRM technology.
- I find e-HRM technology easy to use.
- Learning to operate e-HRM technology is easy for me.

Social influence

- People who influence my behaviour think that I should use e-HRM technology
- People who are important to me think that I should use the e-HRM technology.
- The senior management of this business has been helpful in the use of the e-HRM technology.
- In general, the organisation has supported the use of e-HRM technology.

Facilitating conditions

- I have the resources necessary to use e-HRM technology.
- I have the knowledge necessary to use e-HRM technology.
- E-HRM technology is not compatible with other systems I use.

- A specific person (or group) is available for assistance with e-HRM technology difficulties.

Behavioural intention

- I intend to use e-HRM technology further.
- I predict I would use e-HRM technology in the future
- I plan to use e-HRM technology

Use of e-HRM

- I use e-HRM technology
- I use e-HRM technology for … years

For the last question intervals could be used

I appreciate that the following HR activities are provided through e-HRM technology

- Activity 1
- Activity 2
- Etc.

I always use e-HRM technology for performing the following activities:

- Activity 1
- Activity 2
- Etc.

For this last question the researcher should make a list of all the HR activities provided through e-HRM. Adapt this for the questionnaire for employee, managers and HR professionals as the might perform different activities. Use for this question a five liker point scale: always, often, sometimes yes/sometimes no, seldom, never

Perceived effectiveness at the philosophy level

Integration between business strategy and HR strategy

- There is a clear fit between business and HR strategy.
- HR and business strategy are complementary
- Managers are involved in decision making in HR area's

Perceived effectiveness of the HR policies and programmes

Distinctiveness of HR policies

- The policies of the HR department are clear
- The policies of the HR department are easy to comprehend
- The policies of the HR department are credible

Consistency of HR policies

- The consequences of my HR actions are clearly visible on a timely schedule
- The HR department does what it says it does
- The HR department is consequent in their operations

Consensus about HR policies

- There is agreement about HR policies among HRM decision makers
- The HR department treats all employees equally

Perceived effectiveness of the HR practices and processes

Responsiveness

- I am updated about HR transactions immediately when they are important for me
- When I need advise on HR issues the HR department helps me quickly
- When I am in need of HR services I receive prompt service from the HR department

Service quality

- The HR services are performed right the first time
- The HR department is willing and ready to provide service
- The HR service is easy accessible.

Helpfulness

- HRM staff are a help to managers in dealing with HR matters
- HRM staff are a help to employees in regard to their rights, entitlements and needs

Strategic activities

- HRM helps to realise organisational goals
- HRM participates in the formulisation of the organisational strategy
- HRM spent its time on long-term planning
- HRM actively participates in making plans for the organisations

Administrative activities

- HRM helps to increase productivity
- HRM participates in the development of HRM processes
- HRM spends its time on operational HRM activities
- HRM actively participates in the implementation of HRM processes

Employee champion activities

- HRM helps to satisfy employees in their personal needs
- HRM participates in increasing employee commitment with the organisation
- HRM spends its time on listening to and anticipate on the needs of employees
- HRM actively participates on listening an anticipating on employees

Change agent activities

- HRM helps the organisation to adapt to changes
- HRM participates in realising culture changes within the organisation
- HRM spends its time on encouraging new desired behaviour within the organisation
- HRM actively participates in changing the organisation

9.12 Questionnaire for HR professionals (1)

Clarity of e-HRM goals

- The goals of the use of e-HRM technology are clear
- I know thought behind e-HRM technology
- I know were effective use of e-HRM technology should lead to

To what extent are the following issues important goals of e-HRM technology?

- Cost reduction and / or efficiency gains
- Client service improvement / facilitating managers and employees
- Improving the strategic orientation of HRM
- Allowing integration of dispersed HR functions

Time spent on strategic activities by HR professionals

Since the implementation of e-HRM technology the HR department is increasingly involved in …

- strategic HR activities
- forecasting of HR needs
- matching of individuals with expected job vacancies
- developing long-term HR policies
- applying long-term HR policies to improve organisational performance
- aligning HR policies with the organisation its strategy

Time spent on IT activities by HR professionals

Since the implementation of e-HRM technology the HR department …

- works increasingly with web-based HRM technologies
- gains responsibilities on maintaining web-based HRM technologies
- gains responsibilities on developing other web-based HRM technologies

Time spent on administration by HR professionals

Since the implementation of e-HRM technology …

- the HR department spends less time on administrative tasks
- administrative HR processes are automated
- administrative HR tasks are performed by managers of the organisation
- administrative HR tasks are performed by employees

Time spent by HR professionals on supporting managers

Since the introduction of e-HRM technology …

- managers do not need help from the HRM department when they are performing their HR responsibilities

- the HR department spends less time on advising managers

Time spent by HR professionals on supporting employees

Since the introduction of e-HRM technology …

- Employees perform HR tasks through the e-HRM technology without help from the HRM department
- The HR department spends less time on helping employees to perform HR tasks

Performance expectancy

- I find e-HRM technology useful in performing my P&O tasks/activities
- Using e-HRM technology enables me to accomplish P&O tasks more quickly.
- Using e-HRM technology increases my productivity when performing my P&O tasks.
- If I use e-HRM technology, I will increase my chance of getting a raise

Effort expectancy

- Working with e-HRM technology is clear and understandable.
- It is easy for me to become skilful at using e-HRM technology.
- I find e-HRM technology easy to use.
- Learning to operate e-HRM technology is easy for me.

Social influence

- People who influence my behaviour think that I should use e-HRM technology
- People who are important to me think that I should use the e-HRM technology.
- The senior management of this business has been helpful in the use of the e-HRM technology.
- In general, the organisation has supported the use of e-HRM technology.

Facilitating conditions

- I have the resources necessary to use e-HRM technology.
- I have the knowledge necessary to use e-HRM technology.
- E-HRM technology is not compatible with other systems I use.
- A specific person (or group) is available for assistance with e-HRM technology difficulties.

Behavioural intention

- I intend to use e-HRM technology further.
- I predict I would use e-HRM technology in the future
- I plan to use e-HRM technology

Use of e-HRM (not within the original questionnaire)

- I use e-HRM technology
- I use e-HRM technology for … years

For the last question intervals could be used

I appreciate that the following HR activities are provided through e-HRM technology

- Activity 1
- Activity 2
- Etc.

I always use e-HRM technology for performing the following activities:

- Activity 1
- Activity 2
- Etc.

For this last question the researcher should make a list of all the HR activities provided through e-HRM. Adapt this for the questionnaire for employee, managers and HR professionals as the might perform different activities. Use for this question a five liker point scale: always, often, sometimes yes/sometimes no, seldom, never

Strategic activities

- HRM helps to realise organisational goals
- HRM participates in the formulisation of the organisational strategy
- HRM spent its time on long-term planning
- HRM actively participates in making plans for the organisations

Administrative activities

- HRM helps to increase productivity
- HRM participates in the development of HRM processes
- HRM spends its time on operational HRM activities
- HRM actively participates in the implementation of HRM processes

Employee champion activities

- HRM helps to satisfy employees in their personal needs
- HRM participates in increasing employee commitment with the organisation
- HRM spends its time on listening to and anticipate on the needs of employees
- HRM actively participates on listening an anticipating on employees

Change agent activities

- HRM helps the organisation to adapt to changes
- HRM participates in realising culture changes within the organisation
- HRM spends its time on encouraging new desired behaviour within the organisation
- HRM actively participates in changing the organisation

Additional strategic skills for HR professionals

Since the implementation of e-HRM technology…

- HR professionals need additional strategic HRM skills
- the Ministry requests more strategic HRM skills from HR professionals

Functional skills for HR professionals

Since the implementation of e-HRM technology…

- HR professionals need additional functional HRM skills
- the Ministry requests more functional skills from HR professionals

IT skills for HR professionals

Since the implementation of e-HRM technology …

- HR professionals need additional IT skills
- the organisation requests more IT skills from HR professionals

Received training

Received strategic training by HR professionals

Since the implementation of e-HRM technology…

- HR professionals received special training for strategic HRM skills
- HR professionals attained additional strategic skills on-the-job

Received functional training by HR professionals

Since the implementation of e-HRM technology…

- HR professionals received special training in functional delivery
- HR professionals attained additional functional skills on-the-job

Received IT training by HR professionals

Since the implementation of e-HRM technology…

- HR professionals received training and / or education for general IT skills
- HR professionals attained additional general IT skills on-the-job
- HR professionals received training and / or education for the use of e-HRM
- HR professionals attained additional e-HRM skills on-the-job

9.13 Modified interview protocol for the e-HRM goals (2)

Cost reduction / efficiency gains

FTE's of the HR department

- Was reducing the amount of FTE's a goal?
- Were there targets for specific HR functions?
- What were the targets?

Costs of performing the HR processes

- Was the reduction of the use and / or distribution of paper a goal?
- What were the targets?
- Was the reduction of the costs for performing the HR transactions an e-HRM goal
- Which transactions were target for cost reduction?
- What were the targets for the reduction of HR transaction costs and how is it measured?

Productivity of HR professionals

- Were productivity improvements of HR professionals an e-HRM goal?
- Were there different targets for different HR specialities?
- What were the targets and how is it measured?

Cycle time of HR processes

- Was the reduction of cycle times of HR activities an e-HRM goal?
- Were there different targets for different HR activities?
- What were the targets and how were they measured?

Reduction of the amount of errors

- Was the reduction of the amount of errors made during the performing of HR activities an e-HRM goal?
- Were there different targets for different HR activities?
- What were the targets and how were they measured?

Reduction of bureaucracy

- Was the reduction of bureaucratic procedures an e-HRM goal?
- Were there different targets for different HR activities?
- What were the targets and how were they measured?

Increase of integration within the HR function

- Was the increase of integration within the HR function an e-HRM goal?
- Were there different targets for different HR activities?

- What were the targets and how were they measured?

Client service improvement / facilitating management and employees

Interface between clients of the HR department and the HR department

- Was user friendliness for line managers and employees for performing HR activities a goal for the adoption of e-HRM technologies
- In what degree and how were the user friendliness targets set and measured?

Needs for services of clients of the HR function

- Was providing useful HR activities, for line managers and employees, through web-based-channels an e-HRM goal?
- In what degree was this considered important?
- Was there an e-HRM goal to improve service to line managers and employees by providing services through web-based channels with a personal character?
- In what degree this was considered important?
- Was providing service to line managers and employees whenever and wherever they want an e-HRM goal?
- In what degree was this considered important?
- Was the improvement of the timeliness of HR services an e-HRM goal?
- In what degree was this considered important?
- Was the introduction of ESS and MSS to employees and managers an e-HRM goal?
- In what degree was this considered important?

Improving the strategic orientation of HRM

Time spent on HR planning

- Was the adoption of e-HRM technology driven by the need of HR professionals spending more time on HR planning activities?
- In what degree was this considered important?

Time spent on organisational development

- Was the adoption of e-HRM technology driven by the need of HR professionals spending more time HR organisational development activities?
- In what degree was this considered important?

Time spent on organisational design

- Was the adoption of e-HRM technology driven by the need of HR professionals spending more time on organisational design activities?
- In what degree was this considered important?

Time spent on strategic planning

- Was the adoption of e-HRM technology driven by the need of HR professionals spending more time on strategic planning activities?
- In what degree was this considered important?

Allowing integration of HR functions

Standardising the HR function

- Was the adoption of e-HRM technology driven by the need to standardise HR processes across dispersed HR functions (public and / or private)?
- In what degree was this considered important?

Harmonising the HR function

- Was the adoption of e-HRM technology driven by the need of cooperation between different dispersed HR functions?
- In what degree was this considered important?

Harmonising the HR function

- Was becoming an example for other organisational parts an e-HRM goal?
- In what degree was this considered important?

9.14 Questions for the clarity of e-HRM goals (2)

Adapt the questionnaire according the results found during the analysis of the promotion material. These questions are for all the end-users of the technology. Make them score on a five point liker scales (I totally agree till I totally disagree).

Clarity of e-HRM goals

- The goals of the use of e-HRM technology are clear
- I know thought behind e-HRM technology
- I know were effective use of e-HRM technology should lead to

To what extent are the following issues important goals of e-HRM technology

- identifies goal 1
- identified goal 2
- identified goal 3
- identified goal 4
- etc.

9.15 Modified interview protocol for determining the uniqueness of (sets of) HR activities (2)

Interview protocol for determining the uniqueness of (sets of) e-HRM activities. Conduct an interview with a HR manager. Try first to identify organisational specific sets and determine together their uniqueness. Then, determine the uniqueness of the remaining HR activities.

Uniqueness of HR activities (sets)

- Does this HR activity belongs to a set organisation-specific of HR activities and which ones?
- In what degree is this set of HR activities is specific for this organisation?
- In what degree is this set of HR activities customised to the organisation?
- In what degree is there scarcity of external providers for the performing of is this set of HR activities?
- Does the provision of is this set of HR activities distinguishes your organisation form other organisations
- In what degree are there difficulties to be expected when this set of HR activities is replaced?
- In what degree is this HR activity inimitable?

Uniqueness of HR activities (remaining HR activities not belong to specific set)

- In what degree is this HR activity customised to the organisation?
- In what degree is there scarcity of external providers for the performing of this HR activity?
- Does the provision of this HR activity distinguishes your organisation form other organisations
- In what degree are there difficulties to be expected when this HR activity is replaced?
- In what degree is this HR activity inimitable?

9.16 Questionnaire for determining the value of (sets of) HR activities (2)

Questionnaire to determine the value of (sets of) HR activities. The HR manager has to score all the items of the list of HR activities the researchers have provided. This list contains the organisation specific sets of e-HRM activities and the remaining e-HRM activities. Use five point liker scales (form very high degree till very low degree)

Value of HR activities

- In what degree does the execution of this HR activity (or set of HR activities) contributes to fulfilling the needs of the clients (civilians and organisations) of the organisations as a whole?
- In what degree does the execution of this HR activity affects the efficiency or productivity of the organisation?
- In what degree does the execution of this HR activity affects the quality of products/services offered by the organisation?
- In what degree does the execution of this HR activity affects the costs of production, service, or delivery of the organisation?
- In what degree does the execution of this HR activity affects the ability to develop new markets/products/services of the organisation?
- What are the strategic benefits derived from this activity relative to the costs with its deployment?

9.17 Time spent on activities (2)

Conduct a questionnaire for all the end-users of the technology. Use a five point liker scale (from totally agree till totally disagree). Notice, there are different questions for employees, managers and HR professionals.

Time spent on HR activities by employees:

Since the introduction of e-HRM technology …

- employees help themselves when they perform their HR tasks through e-HRM technology
- employees spent less time on consulting with the HR department

Time spent on HR activities by managers

Since the introduction of e-HRM technology …

- managers help themselves when they perform their HR tasks through e-HRM technology
- managers spent less time on consulting with the HR department

Time spent on strategic activities by HR professionals

Since the implementation of e-HRM technology the HR department is increasingly involved in …

- strategic HR activities
- forecasting of HR needs
- matching of individuals with expected job vacancies
- developing long-term HR policies
- applying long-term HR policies to improve organisational performance
- aligning HR policies with the organisation its strategy

Time spent on IT activities by HR professionals

Since the implementation of e-HRM technology the HR department …

- works increasingly with web-based HRM technologies
- gains responsibilities on maintaining web-based HRM technologies
- gains responsibilities on developing other web-based HRM technologies

Time spent on administration by HR professionals

Since the implementation of e-HRM technology …

- the HR department spends less time on administrative tasks
- administrative HR processes are automated
- administrative HR tasks are performed by managers of the organisation
- administrative HR tasks are performed by employees

Time spent by HR professionals on supporting managers

Since the introduction of e-HRM technology …

- managers do not need help from the HRM department when they are performing their HR responsibilities
- the HR department spends less time on advising managers

Time spent by HR professionals on supporting employees

Since the introduction of e-HRM technology …

- Employees perform HR tasks through the e-HRM technology without help from the HRM department

The HR department spends less time on helping employees to perform HR tasks

9.18 The types technological support (2)

Determine the horizontal position of all the HR activities provided. Analyse of the text within the box is totally applicable, partially applicable, or not applicable at all. Use colours to make things obvious.

Type of e-HRM support / Varies over		**Informational e-HRM technolgy**	**Relational e-HRM technolgy**	**Transformational e-HRM technolgy**
Intended impact of the IT	Scope of the technology	HR department	HR function	Organisation
	Technology facilitates	Reducing administrative and informing pressure on the HR professionals	Optimising the workflow between employees, management and HR professionals	Reducing bureaucratic formalities
	Means to achieve the intended impact	Provision of HR data through web-based channels	Automation of HR actvities and workflow support of the HR activities	Supporting the execution of HR activties adjusted to the specific situation
Role of IT in supporting an HR activity	IT capabilities	Digitilising HR data and making this HR data available for its stakeholders	Steering and recording of the interactions and mutations made when an HR activity is performed	Bypassing organisational hierarchy and freeing up HR decission-making from bureaucracy
	Technology ..... HR data	provides and records	supports the flow and recording of	analyses, processes and distributes

9.19 Amount of hits per functionality

Amount of hits	Site
423.984	start emplaza
401.377	session einde
303.971	/hrds/persoonlijk/verlof/verlofaanvraag.aspx
211.913	/hrds/formulieren/verlof/verlof.aspx
138.378	/hrds/persoonlijk/actueel/info.aspx
125.745	/hrds/persoonlijk/verlof/verlofkaart.aspx
118.314	/hrds/management/formulieren/verlof.aspx
91.199	/hrds/management/actueel/info.aspx
73.105	/hrds/formulieren/reiskosten/reiskostendetail.aspx
70.701	/hrds/formulieren/pgf/pgfform.aspx
69.567	/hrds/persoonlijk/personeelskaart/ivoppopup.aspx
60.331	/hrds/persoonlijk/dossier/medewerkerdossier.aspx
53.799	/hrds/organisatie/formulieren/pgfinfo.aspx
37.426	/hrds/persoonlijk/personeelskaart/ivop.aspx
37.218	/hrds/persoonlijk/reiskosten/declaratieoverzicht.a
37.053	/hrds/organisatie/dossier/medewerkerdossier.aspx
36.932	/hrds/persoonlijk/reiskosten/reisoverzicht.aspx
36.685	/hrds/formulieren/verlof/verlofmaandoverzicht.aspx
36.147	/hrds/formulieren/verlof/verlofman.aspx
34.605	/hrds/persoonlijk/personeelskaart/algemeen.aspx
34.467	/hrds/persoonlijk/formulieren/overzicht.aspx
33.500	/hrds/persoonlijk/formulieren/ikapinfo.aspx
33.236	/hrds/persoonlijk/verlof/verlofmaandoverzichtdoork
32.302	/hrds/persoonlijk/formulieren/template.aspx
31.533	/hrds/management/formulieren/pgfform.aspx
30.586	/hrds/formulieren/fg/fg2005.aspx
28.648	/hrds/organisatie/dossier/afdeling.aspx
28.632	/hrds/formulieren/reiskosten/reiskostendeclaratie.
25.735	/hrds/formulieren/fg/vt.aspx
24.060	/hrds/formulieren/template/templateform.aspx
22.462	/hrds/management/dossier/medewerkerdossier.aspx
22.127	/hrds/management/rapporten/webfocus.aspx
21.718	/hrds/persoonlijk/formulieren/fginfo2005.aspx
21.459	/hrds/organisatie/actueel/info.aspx
19.580	/hrds/formulieren/pschouw/pschouw.aspx
19.446	/hrds/management/formulieren/fginfo2004.aspx
19.326	/hrds/management/formulieren/fginfo2005.aspx
18.990	/hrds/management/dossier/afdeling.aspx
18.964	/hrds/persoonlijk/fginfo/fginfotemplate.aspx
15.099	/hrds/management/autorisatie/scopelgstart.aspx
14.413	/hrds/persoonlijk/cv/cv.aspx
13.844	/hrds/persoonlijk/ikap/stappen/puzzelen.aspx
13.834	/hrds/persoonlijk/ikap/stappen/placeholder.aspx
13.389	/hrds/persoonlijk/formulieren/fginfo2004.aspx
11.780	/hrds/management/formulieren/reiskosten.aspx
11.777	/hrds/persoonlijk/ikap/stappen/redirect_naar_juist

11.697	/hrds/organisatie/formulieren/reiskosteninfo.aspx
10.883	/hrds/persoonlijk/personeelskaart/functies.aspx
10.647	/hrds/management/formulieren/template.aspx
10.385	/hrds/persoonlijk/intro/introtemplate.aspx
9.944	/hrds/persoonlijk/formulieren/pschouw.aspx
9.771	/hrds/management/formulieren/overzicht.aspx
9.625	/hrds/organisatie/formulieren/pschouw.aspx
9.269	/hrds/organisatie/formulieren/ikapinfo.aspx
8.980	/hrds/persoonlijk/ikap/stappen/weergeven.aspx
8.740	/hrds/persoonlijk/personeelskaart/ziektenonactief.
8.562	/hrds/management/rapporten/olapfb.aspx
8.388	/hrds/formulieren/fg/ba.aspx
7.778	/hrds/management/formulieren/bainfo2004.aspx
7.389	/hrds/persoonlijk/personeelskaart/gesprekken.aspx
7.100	/hrds/management/rapporten/olapvrz.aspx
7.069	/hrds/persoonlijk/ikap/stappen/doorrekenen.aspx
7.057	/hrds/persoonlijk/competentie/groepstart.aspx
6.965	/hrds/formulieren/reiskosten/reiskostenprinten.asp
6.747	/hrds/persoonlijk/personeelskaart/financieeloverzi
6.677	/hrds/persoonlijk/formulieren/ikapdeclaratie.aspx
6.380	/hrds/management/formulieren/pschouwman.aspx
6.169	/hrds/formulieren/pgfbelonen/pgfbelonen.aspx
6.131	/hrds/formulieren/pgf/wijzigingsoverzicht.aspx
6.090	/hrds/persoonlijk/competentie/competentiewoordenbo
6.079	/hrds/organisatie/formulieren/template.aspx
5.845	/hrds/persoonlijk/autorisatie/scopemdwstart.aspx
5.843	/hrds/persoonlijk/verlof/meerwerk.aspx
5.778	/hrds/persoonlijk/verlof/rooster.aspx
5.657	/hrds/persoonlijk/personeelskaart/pschouwoud/pscho
5.217	/hrds/persoonlijk/cv/cvoverzicht.aspx
4.863	/hrds/formulieren/template/templateprint.aspx
4.790	/hrds/organisatie/dossier/pdossier.aspx
4.665	/hrds/management/formulieren/ikapinfo.aspx
4.651	/hrds/management/rapporten/olapvrzt.aspx
4.424	/hrds/management/rapporten/olapfg.aspx
4.353	/hrds/management/verlof/overzicht.aspx
4.125	/hrds/admin/autorisatie/rolleidinggevendepo.aspx
4.105	/hrds/persoonlijk/talentenscan/faq.aspx
4.049	/hrds/persoonlijk/formulieren/bainfo2004.aspx
4.024	/hrds/formulieren/verlof/meerwerk.aspx
4.015	/hrds/admin/actueel/info.aspx
3.917	/hrds/organisatie/formulieren/fginfo2004.aspx
3.704	/hrds/management/rapporten/olapvrzp.aspx
3.600	/hrds/management/rapporten/olaprpp.aspx
3.105	/hrds/persoonlijk/personeelskaart/ivoppopupjaaropg
2.865	/hrds/management/rapporten/olapbbraart8.aspx
2.851	/hrds/management/rapporten/olapbbraart22.aspx
2.782	/hrds/management/rapporten/verzuim.aspx
2.759	/hrds/management/rapporten/olapfbp.aspx
2.659	/hrds/organisatie/formulieren/bainfo2004.aspx

2.612	/hrds/persoonlijk/talentenscan/scancomp.aspx
2.435	/hrds/persoonlijk/dossier/pdossier.aspx
2.312	/hrds/persoonlijk/ikap/ikap_index.aspx
2.268	/hrds/persoonlijk/ikap/animatie.aspx
2.226	/hrds/formulieren/verlof/rooster.aspx
2.215	/hrds/management/rapporten/olapmob.aspx
2.183	/hrds/management/rapporten/olapdemog.aspx
2.064	/hrds/persoonlijk/ikap/wat_is_ikap.aspx
2.049	/hrds/management/formulieren/meerwerk.aspx
2.021	/hrds/persoonlijk/talentenscan/scanfeedback.aspx
1.970	/hrds/admin/autorisatie/mgrscope.aspx
1.921	/hrds/formulieren/verlof/verlofprint.aspx
1.856	/hrds/management/rapporten/olapfgp.aspx
1.835	/hrds/persoonlijk/reiskosten/reiskopieren.aspx
1.831	/hrds/admin/autorisatie/ntaccount.aspx
1.829	/hrds/persoonlijk/talentenscan/scancollega.aspx
1.791	/hrds/management/autorisatie/scopemdwstart.aspx
1.772	/hrds/persoonlijk/ikap/rekenvoorbeeld.aspx
1.668	/hrds/management/rapporten/functionering.aspx
1.654	/hrds/persoonlijk/competentie/ontwikkeltips.aspx
1.609	/hrds/organisatie/formulieren/fginfo2005.aspx
1.603	/hrds/persoonlijk/competentie/functieprofiel.aspx
1.599	/hrds/persoonlijk/talentenscan/scanedit.aspx
1.584	/hrds/admin/controle/sqlexe.aspx
1.454	/hrds/management/formulieren/rooster.aspx
1.402	/hrds/persoonlijk/ikap/aanvraagproces.aspx
1.396	/hrds/management/rapporten/olapfbf.aspx
1.393	/hrds/persoonlijk/talentenscan/scanresultaat.aspx
1.252	/hrds/organisatie/over/berichten.aspx
1.217	/hrds/management/dossier/pdossier.aspx
1.216	/hrds/organisatie/autorisatie/scopemdwstart.aspx
1.186	workflow data ophalen processdata start
1.185	workflow data ophalen processdata einde
1.185	save processdata start
1.185	xslt eavon transformatie processdata start
1.185	xslt eavon transformatie processdata einde
1.185	save processdata einde
1.144	/hrds/persoonlijk/competentie/ontwikkeltipsinfo.as
1.114	/hrds/persoonlijk/employabilityscan/info.aspx
995	/hrds/management/pschouwoud/pschouwselectie.aspx
982	/hrds/management/rapporten/olapmobp.aspx
873	/hrds/admin/inrichting/bedrijfsonderdeel.aspx
863	/hrds/admin/controle/viewpagehits.aspx
818	/hrds/persoonlijk/talentenscan/scanmdw.aspx
816	/hrds/admin/autorisatie/mgrscopeedit.aspx
799	/hrds/organisatie/formulieren/ikapdeclaratie.aspx
795	/hrds/admin/onderhoud/financieel.aspx
793	/hrds/management/pschouwoud/pschouwshow.aspx
758	/hrds/organisatie/formulieren/reiskostenarchief.as
677	/hrds/persoonlijk/reiskosten/wwverkeer.aspx

639	/hrds/persoonlijk/competentie/competentiegroep.asp
636	/hrds/management/rapporten/formatie.aspx
604	/hrds/admin/inrichting/bofunctieblok.aspx
572	/hrds/persoonlijk/talentenscan/scanarchief.aspx
559	/hrds/admin/inrichting/pagina.aspx
547	/hrds/organisatie/dossier/afdelingformulier.aspx
539	/hrds/management/autorisatie/afdselmdw.aspx
511	/hrds/persoonlijk/autorisatie/mdwscope.aspx
497	/hrds/management/werving/info.aspx
429	/hrds/persoonlijk/talentenscan/scanarchiveren.aspx
417	/hrds/management/rapporten/kladblok.aspx
390	/hrds/admin/autorisatie/mgrscopestatus.aspx
371	/hrds/admin/inrichting/rol.aspx
370	/hrds/admin/inrichting/mdwrol.aspx
346	/hrds/persoonlijk/employabilityscan/medewerker.asp
317	/hrds/persoonlijk/personeelskaart/printoverzicht.a
299	/hrds/organisatie/formulieren/pgfinfonaontslag.asp
289	/hrds/admin/autorisatie/email.aspx
282	/hrds/admin/inrichting/rolfunctieblok.aspx
276	/hrds/persoonlijk/employabilityscan/mdwresultaat.a
200	/hrds/persoonlijk/dossier/algemeen.aspx
199	/hrds/persoonlijk/personeelskaart/opleiding.aspx
184	/hrds/admin/controle/viewerror.aspx
181	/hrds/management/employabilityscan/info.aspx
168	/hrds/organisatie/beheer/export.aspx
157	/hrds/admin/inrichting/rolmdw.aspx
142	/hrds/admin/onderhoud/template.aspx
134	/hrds/formulieren/pgfnaontslag/pgfform.aspx
131	/hrds/management/rapporten/kladblokmutatie.aspx
121	/hrds/organisatie/formulieren/verlof.aspx
119	/hrds/management/werving/checklistwervsel.aspx
110	/hrds/admin/autorisatie/mgrscopeoverzicht.aspx
97	/hrds/formulieren/mailmerge/losstaandpeno.aspx
96	/hrds/persoonlijk/personeelskaart/persoonswijzigin
91	/hrds/admin/controle/ivopimport.aspx
84	/hrds/admin/inrichting/functieblok.aspx
76	/hrds/organisatie/beheer/competentiefunctiegroep.a
75	/hrds/organisatie/beheer/competentiefunctieprofiel
66	/hrds/admin/inrichting/rolpdossier.aspx
65	/hrds/persoonlijk/personeelskaart/info.aspx
64	/hrds/admin/onderhoud/formulierenstatuswijziging.a
63	/hrds/admin/inrichting/invalidatecache.aspx
59	/hrds/admin/onderhoud/mailmerge.aspx
58	/hrds/persoonlijk/dossier/persoonlijk.aspx
56	/hrds/admin/controle/viewautorisatielog.aspx
51	/hrds/admin/onderhoud/reiskosten.aspx
50	/hrds/management/employabilityscan/manager.aspx
47	/hrds/admin/controle/viewupdates.aspx
46	/hrds/formulieren/pgfbelonen/mailmerge/mailmerge.a
43	/hrds/formulieren/template/templateexport.aspx

40	/hrds/admin/onderhoud/bericht.aspx
38	/hrds/management/rapporten/info.aspx
35	/hrds/admin/onderhoud/ikap.aspx
29	/hrds/management/employabilityscan/mgrresultaat.as
23	/hrds/management/werving/checklistoverzicht.aspx
23	/hrds/admin/controle/viewdts.aspx
23	/hrds/organisatie/beheer/competentiewoordenboek.as
22	/hrds/admin/inrichting/menu.aspx
21	/hrds/admin/onderhoud/synchroniserenpegasus.aspx
19	/hrds/persoonlijk/talentenscan/scanresultaatprint.
17	/hrds/organisatie/wwverkeer/signaallijst.aspx
15	/hrds/formulieren/pgfnaontslag/wijzigingsoverzicht
14	/hrds/organisatie/beheer/competentiesrelaties.aspx
14	/hrds/organisatie/pschouwoud/pschouwselectie.aspx
14	/hrds/admin/onderhoud/pschouwadm.aspx
13	/hrds/admin/inrichting/infoblokpdossier.aspx
12	/hrds/organisatie/beheer/competentiegroep.aspx
11	/hrds/formulieren/mailmerge/losstaandlg.aspx
11	/hrds/formulieren/fg/algemeen.aspx
11	/hrds/admin/inrichting/empscanbeheer.aspx
10	/hrds/organisatie/beheer/gedragsbeschrijvingen.asp
9	/hrds/organisatie/wwverkeer/medewerkerlijst.aspx
8	/hrds/management/formulieren/pgfaanstellingontslag
8	/hrds/admin/onderhoud/mailmergeautoteksten.aspx
8	/hrds/persoonlijk/dossier/info.aspx
7	/hrds/organisatie/wwverkeer/muteren.aspx
7	/hrds/admin/onderhoud/verlof.aspx
6	/hrds/admin/inrichting/rolafdeling.aspx
6	/hrds/persoonlijk/formulieren/fginfo.aspx
6	/hrds/organisatie/pschouwoud/pschouwshow.aspx
5	/hrds/management/formulieren/pgfalgemeen.aspx
4	/hrds/formulieren/pgfalgemeen/pgfalgemeen.aspx
3	/hrds/admin/onderhoud/dataversiebeheer.aspx
3	/hrds/formulieren/pgfaanstellingontslag/pgfaanstel
2	/hrds/admin/onderhoud/urendeclaratie.aspx
2	/hrds/persoonlijk/applicatie/info.aspx
2	/hrds/organisatie/beheer/info.aspx
1	/hrds/diverse/import/dtsexe.aspx
1	/hrds/persoonlijk/autorisatie/info.aspx
1	/hrds/diverse/bo_converter/bo_converter.aspx
1	/hrds/persoonlijk

9.20 IT acceptance and use behaviour adapted from Venkatesh et al. (2003) (2)

Conduct a questionnaire for all the end-users of the technology. Let them score on a five point liker scale (from totally agree till totally disagree)

Performance expectancy

- I find e-HRM technology useful in performing my P&O tasks/activities
- Using e-HRM technology enables me to accomplish P&O tasks more quickly.
- Using e-HRM technology increases my productivity when performing my P&O tasks.
- If I use e-HRM technology, I will increase my chance of getting a raise

Effort expectancy

- Working with e-HRM technology is clear and understandable.
- It is easy for me to become skilful at using e-HRM technology.
- I find e-HRM technology easy to use.
- Learning to operate e-HRM technology is easy for me.

Social influence

- People who influence my behaviour think that I should use e-HRM technology
- People who are important to me think that I should use the e-HRM technology.
- The senior management of this business has been helpful in the use of the e-HRM technology.
- In general, the organisation has supported the use of e-HRM technology.

Facilitating conditions

- I have the resources necessary to use e-HRM technology.
- I have the knowledge necessary to use e-HRM technology.
- E-HRM technology is not compatible with other systems I use.
- A specific person (or group) is available for assistance with e-HRM technology difficulties.
- I can posses over the necessary documentation on e-HRM technology to use e-HRM technology (not within the original questionnaire)

Behavioural intention

- I intend to use e-HRM technology further.
- I predict I would use e-HRM technology in the future
- I plan to use e-HRM technology

Use of e-HRM (not within the original questionnaire)

- I use e-HRM technology

- I use e-HRM technology for … years

For the last question intervals could be used

I appreciate that the following HR activities are provided through e-HRM technology

- Activity 1
- Activity 2
- Etc.

I always use e-HRM technology for performing the following activities:

- Activity 1
- Activity 2
- Etc.

For this last question the researcher should make a list of all the HR activities provided through e-HRM. Adapt this for the questionnaire for employee, managers and HR professionals as the might perform different activities. Use for this question a five liker point scale: always, often, sometimes yes/sometimes no, seldom, never

9.21 Training received (2)

Conduct a questionnaire for all the end-users of the technology. Use a five point liker scale (from totally agree till totally disagree). Notice, there are different questions for employees, managers and HR professionals.

The questions for the employees

Received HR training by employees
Since the implementation of e-HRM technology…

- employees received special training for performing HR activities
- employees attained additional HR activity skills on-the-job

Received IT training by employees
Since the implementation of e-HRM technology…

- employees received training and / or education for the use of e-HRM
- employees attained additional e-HRM skills on-the-job

The questions for the managers

Received HR training by managers
Since the implementation of e-HRM technology…

- managers received special training for performing HR activities
- managers attained additional HR activity skills on-the-job

Received IT training by managers
Since the implementation of e-HRM technology…

- managers received training and / or education for the use of e-HRM
- managers attained additional e-HRM skills on-the-job

The questions for the HR professionals

Received strategic training by HR professionals
Since the implementation of e-HRM technology…

- HR professionals received special training for strategic HRM skills
- HR professionals attained additional strategic skills on-the-job

Received functional training by HR professionals
Since the implementation of e-HRM technology…

- HR professionals received special training in functional delivery
- HR professionals attained additional functional skills on-the-job

Received IT training by HR professionals

Since the implementation of e-HRM technology…

- HR professionals received training and / or education for general IT skills
- HR professionals attained additional general IT skills on-the-job
- HR professionals received training and / or education for the use of e-HRM
- HR professionals attained additional e-HRM skills on-the-job

9.22 Involvement and participation during implementation

Conduct a questionnaire for all the end-users of the technology. Let them score on a five point liker scale (from totally agree till totally disagree)

Involvement

- The end-users of the e-HRM technology were involved during the implementation of e-HRM technology
- The end-user of the e-HRM technology were involved in development of the e-HRM technology
- The end-users of the e-HRM technology are involved in future developments of the e-HRM technology

Participation

- The end-users of the e-HRM technology could participate during the implementation phase of the e-HRM technology
- The end-users of the technology could participate in development of the e-HRM technology
- The end-users of the e-HRM technology can participate in future developments of the e-HRM technology

9.23 Questionnaire end-user satisfaction (adopted from Doll & Torkzadeh; 1988)

Conduct a questionnaire for all the end-users of the technology. Let them score on a five point liker scale (from totally agree till totally disagree)

Content

- Does the system provide the precise information you need?
- Does the information content meet your needs?
- Does the system provide reports that seem to be just about exactly what you need?
- Does the system provide sufficient information?

Accuracy

- Is the system accurate?
- Are you satisfied with the accuracy of the system?

Format

- Do you think the output is presented in a useful format?
- Is the information clear?

Ease of use

- Is the system user friendly?
- Is the system easy to use?

Timeliness

- Do you get the information you need in time?
- Does the system provide up-to-date information?

9.24 Additional skills (2)

Conduct a questionnaire for all the end-users of the technology. Use a five point liker scale (from totally agree till totally disagree). Notice, there are different questions for employees, managers and HR professionals.

Additional skills for the employees

Additional HR skills for employees

Since the implementation of e-HRM technology…

- employees need additional HR skills
- the organisation requests more HR skills from employees

Additional IT skills for employees

Since the implementation of e-HRM technology…

- employees need additional IT skills for the use of e-HRM
- the organisation requests more IT skills from employees for the use of e-HRM

Additional skills for the managers

Additional HR skills for managers

Since the implementation of e-HRM technology…

- managers need additional HR skills
- the organisation requests more HR skills from managers

Additional IT skills for managers

Since the implementation of e-HRM technology…

- managers need additional IT skills for the use of e-HRM
- the organisation requests more IT skills from managers for the use of e-HRM

Additional skills for HR professionals

Since the implementation of e-HRM technology…

- HR professionals need additional strategic HRM skills
- the Ministry requests more strategic HRM skills from HR professionals

Functional skills for HR professionals

Since the implementation of e-HRM technology…

- HR professionals need additional functional HRM skills
- the Ministry requests more functional skills from HR professionals

IT skills for HR professionals

Since the implementation of e-HRM technology …

- HR professionals need additional IT skills

- the organisation requests more IT skills from HR professionals

9.25 Questionnaire for employees (2)

Clarity of e-HRM goals

- The goals of the use of e-HRM technology are clear
- I know thought behind e-HRM technology
- I know were effective use of e-HRM technology should lead to

To what extent are the following issues important goals of e-HRM technology

- identifies goal 1
- identified goal 2
- identified goal 3
- identified goal 4
- etc.

Time spent on HR activities by employees:

Since the introduction of e-HRM technology …

- employees help themselves when they perform their HR tasks through e-HRM technology
- employees spent less time on consulting with the HR department

Time spent by HR professionals on supporting employees

Since the introduction of e-HRM technology …

- Employees perform HR tasks through the e-HRM technology without help from the HRM department
- The HR department spends less time on helping employees to perform HR tasks

Performance expectancy

- I find e-HRM technology useful in performing my P&O tasks/activities
- Using e-HRM technology enables me to accomplish P&O tasks more quickly.
- Using e-HRM technology increases my productivity when performing my P&O tasks.
- If I use e-HRM technology, I will increase my chance of getting a raise

Effort expectancy

- Working with e-HRM technology is clear and understandable.
- It is easy for me to become skilful at using e-HRM technology.
- I find e-HRM technology easy to use.
- Learning to operate e-HRM technology is easy for me.

Social influence

- People who influence my behaviour think that I should use e-HRM technology
- People who are important to me think that I should use the e-HRM technology.

- The senior management of this business has been helpful in the use of the e-HRM technology.
- In general, the organisation has supported the use of e-HRM technology.

Facilitating conditions

- I have the resources necessary to use e-HRM technology.
- I have the knowledge necessary to use e-HRM technology.
- E-HRM technology is not compatible with other systems I use.
- A specific person (or group) is available for assistance with e-HRM technology difficulties.
- I can posses over the necessary documentation on e-HRM technology to use e-HRM technology (not within the original questionnaire)

Behavioural intention

- I intend to use e-HRM technology further.
- I predict I would use e-HRM technology in the future
- I plan to use e-HRM technology

Use of e-HRM (not within the original questionnaire)

- I use e-HRM technology
- I use e-HRM technology for … years

For the last question intervals could be used

I appreciate that the following HR activities are provided through e-HRM technology

- Activity 1
- Activity 2
- Etc.

I always use e-HRM technology for performing the following activities:

- Activity 1
- Activity 2
- Etc.

For this last question the researcher should make a list of all the HR activities provided through e-HRM. Adapt this for the questionnaire for employee, managers and HR professionals as the might perform different activities. Use for this question a five liker point scale: always, often, sometimes yes/sometimes no, seldom, never

The training questions for the employees

Received HR training by employees

Since the implementation of e-HRM technology…

- employees received special training for performing HR activities
- employees attained additional HR activity skills on-the-job

Received IT training by employees

Since the implementation of e-HRM technology…

- employees received training and / or education for the use of e-HRM
- employees attained additional e-HRM skills on-the-job

Involvement

- The end-users of the e-HRM technology were involved during the implementation of e-HRM technology
- The end-user of the e-HRM technology were involved in development of the e-HRM technology
- The end-users of the e-HRM technology are involved in future developments of the e-HRM technology

Participation

- The end-users of the e-HRM technology could participate during the implementation phase of the e-HRM technology
- The end-users of the technology could participate in development of the e-HRM technology
- The end-users of the e-HRM technology can participate in future developments of the e-HRM technology

Content

- Does the system provide the precise information you need?
- Does the information content meet your needs?
- Does the system provide reports that seem to be just about exactly what you need?
- Does the system provide sufficient information?

Accuracy

- Is the system accurate?
- Are you satisfied with the accuracy of the system?

Format

- Do you think the output is presented in a useful format?
- Is the information clear?

Ease of use

- Is the system user friendly?
- Is the system easy to use?

Timeliness

- Do you get the information you need in time?
- Does the system provide up-to-date information?

Perceived effectiveness at the philosophy level

Integration between business strategy and HR strategy

- There is a clear fit between business and HR strategy.
- HR and business strategy are complementary
- Managers are involved in decision making in HR area's

Perceived effectiveness of the HR policies and programmes

Distinctiveness of HR policies

- The policies of the HR department are clear
- The policies of the HR department are easy to comprehend
- The policies of the HR department are credible

Consistency of HR policies

- The consequences of my HR actions are clearly visible on a timely schedule
- The HR department does what it says it does
- The HR department is consequent in their operations

Consensus about HR policies

- There is agreement about HR policies among HRM decision makers
- The HR department treats all employees equally

Perceived effectiveness of the HR practices and processes

Responsiveness

- I am updated about HR transactions immediately when they are important for me
- When I need advise on HR issues the HR department helps me quickly
- When I am in need of HR services I receive prompt service from the HR department

Service quality

- The HR services are performed right the first time
- The HR department is willing and ready to provide service
- The HR service is easy accessible.

Helpfulness

- HRM staff are a help to managers in dealing with HR matters
- HRM staff are a help to employees in regard to their rights, entitlements and needs

Strategic activities

- HRM helps to realise organisational goals
- HRM participates in the formulisation of the organisational strategy
- HRM spent its time on long-term planning
- HRM actively participates in making plans for the organisations

Administrative activities

- HRM helps to increase productivity
- HRM participates in the development of HRM processes
- HRM spends its time on operational HRM activities
- HRM actively participates in the implementation of HRM processes

Employee champion

- HRM helps to satisfy employees in their personal needs
- HRM participates in increasing employee commitment with the organisation
- HRM spends its time on listening to and anticipate on the needs of employees
- HRM actively participates on listening an anticipating on employees

Change agent activities

- HRM helps the organisation to adapt to changes
- HRM participates in realising culture changes within the organisation
- HRM spends its time on encouraging new desired behaviour within the organisation
- HRM actively participates in changing the organisation

Additional skills for the employees

Additional HR skills for employees

Since the implementation of e-HRM technology…

- employees need additional HR skills
- the organisation requests more HR skills from employees

Additional IT skills for employees

Since the implementation of e-HRM technology…

- employees need additional IT skills for the use of e-HRM
- the organisation requests more IT skills from employees for the use of e-HRM

9.26 Questionnaire for managers (2)

Clarity of e-HRM goals

- The goals of the use of e-HRM technology are clear
- I know thought behind e-HRM technology
- I know were effective use of e-HRM technology should lead to

To what extent are the following issues important goals of e-HRM technology

- identifies goal 1
- identified goal 2
- identified goal 3
- identified goal 4
- etc.

Time spent on HR activities by managers

Since the introduction of e-HRM technology …

- managers help themselves when they perform their HR tasks through e-HRM technology
- managers spent less time on consulting with the HR department

Time spent by HR professionals on supporting managers

Since the introduction of e-HRM technology …

- managers do not need help from the HRM department when they are performing their HR responsibilities
- the HR department spends less time on advising managers

Performance expectancy

- I find e-HRM technology useful in performing my P&O tasks/activities
- Using e-HRM technology enables me to accomplish P&O tasks more quickly.
- Using e-HRM technology increases my productivity when performing my P&O tasks.
- If I use e-HRM technology, I will increase my chance of getting a raise

Effort expectancy

- Working with e-HRM technology is clear and understandable.
- It is easy for me to become skilful at using e-HRM technology.
- I find e-HRM technology easy to use.
- Learning to operate e-HRM technology is easy for me.

Social influence

- People who influence my behaviour think that I should use e-HRM technology
- People who are important to me think that I should use the e-HRM technology.

- The senior management of this business has been helpful in the use of the e-HRM technology.
- In general, the organisation has supported the use of e-HRM technology.

Facilitating conditions

- I have the resources necessary to use e-HRM technology.
- I have the knowledge necessary to use e-HRM technology.
- E-HRM technology is not compatible with other systems I use.
- A specific person (or group) is available for assistance with e-HRM technology difficulties.
- I can posses over the necessary documentation on e-HRM technology to use e-HRM technology (not within the original questionnaire)

Behavioural intention

- I intend to use e-HRM technology further.
- I predict I would use e-HRM technology in the future
- I plan to use e-HRM technology

Use of e-HRM (not within the original questionnaire)

- I use e-HRM technology
- I use e-HRM technology for … years

For the last question intervals could be used

I appreciate that the following HR activities are provided through e-HRM technology

- Activity 1
- Activity 2
- Etc.

I always use e-HRM technology for performing the following activities:

- Activity 1
- Activity 2
- Etc.

For this last question the researcher should make a list of all the HR activities provided through e-HRM. Adapt this for the questionnaire for employee, managers and HR professionals as the might perform different activities. Use for this question a five liker point scale: always, often, sometimes yes/sometimes no, seldom, never

The received training questions for the managers

Received HR training by managers

Since the implementation of e-HRM technology…

- managers received special training for performing HR activities
- managers attained additional HR activity skills on-the-job

Received IT training by managers

Since the implementation of e-HRM technology…

- managers received training and / or education for the use of e-HRM
- managers attained additional e-HRM skills on-the-job

Involvement

- The end-users of the e-HRM technology were involved during the implementation of e-HRM technology
- The end-user of the e-HRM technology were involved in development of the e-HRM technology
- The end-users of the e-HRM technology are involved in future developments of the e-HRM technology

Participation

- The end-users of the e-HRM technology could participate during the implementation phase of the e-HRM technology
- The end-users of the technology could participate in development of the e-HRM technology
- The end-users of the e-HRM technology can participate in future developments of the e-HRM technology

Content

- Does the system provide the precise information you need?
- Does the information content meet your needs?
- Does the system provide reports that seem to be just about exactly what you need?
- Does the system provide sufficient information?

Accuracy

- Is the system accurate?
- Are you satisfied with the accuracy of the system?

Format

- Do you think the output is presented in a useful format?
- Is the information clear?

Ease of use

- Is the system user friendly?
- Is the system easy to use?

Timeliness

- Do you get the information you need in time?
- Does the system provide up-to-date information?

Perceived effectiveness at the philosophy level

Integration between business strategy and HR strategy

- There is a clear fit between business and HR strategy.
- HR and business strategy are complementary
- Managers are involved in decision making in HR area's

Perceived effectiveness of the HR policies and programmes

Distinctiveness of HR policies

- The policies of the HR department are clear
- The policies of the HR department are easy to comprehend
- The policies of the HR department are credible

Consistency of HR policies

- The consequences of my HR actions are clearly visible on a timely schedule
- The HR department does what it says it does
- The HR department is consequent in their operations

Consensus about HR policies

- There is agreement about HR policies among HRM decision makers
- The HR department treats all employees equally

Perceived effectiveness of the HR practices and processes

Responsiveness

- I am updated about HR transactions immediately when they are important for me
- When I need advise on HR issues the HR department helps me quickly
- When I am in need of HR services I receive prompt service from the HR department

Service quality

- The HR services are performed right the first time
- The HR department is willing and ready to provide service
- The HR service is easy accessible.

Helpfulness

- HRM staff are a help to managers in dealing with HR matters
- HRM staff are a help to employees in regard to their rights, entitlements and needs

Strategic activities

- HRM helps to realise organisational goals
- HRM participates in the formulisation of the organisational strategy
- HRM spent its time on long-term planning
- HRM actively participates in making plans for the organisations

Administrative activities

- HRM helps to increase productivity
- HRM participates in the development of HRM processes
- HRM spends its time on operational HRM activities
- HRM actively participates in the implementation of HRM processes

Employee champion

- HRM helps to satisfy employees in their personal needs
- HRM participates in increasing employee commitment with the organisation
- HRM spends its time on listening to and anticipate on the needs of employees
- HRM actively participates on listening an anticipating on employees

Change agent activities

- HRM helps the organisation to adapt to changes
- HRM participates in realising culture changes within the organisation
- HRM spends its time on encouraging new desired behaviour within the organisation
- HRM actively participates in changing the organisation

Additional skills for the managers

Additional HR skills for managers

Since the implementation of e-HRM technology…

- managers need additional HR skills
- the organisation requests more HR skills from managers

Additional IT skills for managers

Since the implementation of e-HRM technology…

- managers need additional IT skills for the use of e-HRM
- the organisation requests more IT skills from managers for the use of e-HRM

9.27 Questionnaire for HR professionals (2)

Clarity of e-HRM goals

- The goals of the use of e-HRM technology are clear
- I know thought behind e-HRM technology
- I know were effective use of e-HRM technology should lead to

To what extent are the following issues important goals of e-HRM technology

- identifies goal 1
- identified goal 2
- identified goal 3
- identified goal 4
- etc.

Time spent on strategic activities by HR professionals

Since the implementation of e-HRM technology the HR department is increasingly involved in …

- strategic HR activities
- forecasting of HR needs
- matching of individuals with expected job vacancies
- developing long-term HR policies
- applying long-term HR policies to improve organisational performance
- aligning HR policies with the organisation its strategy

Time spent on IT activities by HR professionals

Since the implementation of e-HRM technology the HR department …

- works increasingly with web-based HRM technologies
- gains responsibilities on maintaining web-based HRM technologies
- gains responsibilities on developing other web-based HRM technologies

Time spent on administration by HR professionals

Since the implementation of e-HRM technology …

- the HR department spends less time on administrative tasks
- administrative HR processes are automated
- administrative HR tasks are performed by managers of the organisation
- administrative HR tasks are performed by employees

Time spent by HR professionals on supporting managers

Since the introduction of e-HRM technology …

- managers do not need help from the HRM department when they are performing their HR responsibilities

- the HR department spends less time on advising managers

Time spent by HR professionals on supporting employees

Since the introduction of e-HRM technology …

- Employees perform HR tasks through the e-HRM technology without help from the HRM department
- The HR department spends less time on helping employees to perform HR tasks

Performance expectancy

- I find e-HRM technology useful in performing my P&O tasks/activities
- Using e-HRM technology enables me to accomplish P&O tasks more quickly.
- Using e-HRM technology increases my productivity when performing my P&O tasks.
- If I use e-HRM technology, I will increase my chance of getting a raise

Effort expectancy

- Working with e-HRM technology is clear and understandable.
- It is easy for me to become skilful at using e-HRM technology.
- I find e-HRM technology easy to use.
- Learning to operate e-HRM technology is easy for me.

Social influence

- People who influence my behaviour think that I should use e-HRM technology
- People who are important to me think that I should use the e-HRM technology.
- The senior management of this business has been helpful in the use of the e-HRM technology.
- In general, the organisation has supported the use of e-HRM technology.

Facilitating conditions

- I have the resources necessary to use e-HRM technology.
- I have the knowledge necessary to use e-HRM technology.
- E-HRM technology is not compatible with other systems I use.
- A specific person (or group) is available for assistance with e-HRM technology difficulties.
- I can posses over the necessary documentation on e-HRM technology to use e-HRM technology (not within the original questionnaire)

Behavioural intention

- I intend to use e-HRM technology further.
- I predict I would use e-HRM technology in the future
- I plan to use e-HRM technology

Use of e-HRM (not within the original questionnaire)

- I use e-HRM technology
- I use e-HRM technology for … years

For the last question intervals could be used

I appreciate that the following HR activities are provided through e-HRM technology

- Activity 1
- Activity 2
- Etc.

I always use e-HRM technology for performing the following activities:

- Activity 1
- Activity 2
- Etc.

For this last question the researcher should make a list of all the HR activities provided through e-HRM. Adapt this for the questionnaire for employee, managers and HR professionals as the might perform different activities. Use for this question a five liker point scale: always, often, sometimes yes/sometimes no, seldom, never

The received training questions for the HR professionals

Received strategic training by HR professionals

Since the implementation of e-HRM technology…

- HR professionals received special training for strategic HRM skills
- HR professionals attained additional strategic skills on-the-job

Received functional training by HR professionals

Since the implementation of e-HRM technology…

- HR professionals received special training in functional delivery
- HR professionals attained additional functional skills on-the-job

Received IT training by HR professionals

Since the implementation of e-HRM technology…

- HR professionals received training and / or education for general IT skills
- HR professionals attained additional general IT skills on-the-job
- HR professionals received training and / or education for the use of e-HRM
- HR professionals attained additional e-HRM skills on-the-job

Involvement

- The end-users of the e-HRM technology were involved during the implementation of e-HRM technology
- The end-user of the e-HRM technology were involved in development of the e-HRM technology
- The end-users of the e-HRM technology are involved in future developments of the e-HRM technology

Participation

- The end-users of the e-HRM technology could participate during the implementation phase of the e-HRM technology
- The end-users of the technology could participate in development of the e-HRM technology
- The end-users of the e-HRM technology can participate in future developments of the e-HRM technology

Content

- Does the system provide the precise information you need?
- Does the information content meet your needs?
- Does the system provide reports that seem to be just about exactly what you need?
- Does the system provide sufficient information?

Accuracy

- Is the system accurate?
- Are you satisfied with the accuracy of the system?

Format

- Do you think the output is presented in a useful format?
- Is the information clear?

Ease of use

- Is the system user friendly?
- Is the system easy to use?

Timeliness

- Do you get the information you need in time?
- Does the system provide up-to-date information?

Strategic activities

- HRM helps to realise organisational goals
- HRM participates in the formulisation of the organisational strategy
- HRM spent its time on long-term planning

- HRM actively participates in making plans for the organisations

Administrative activities

- HRM helps to increase productivity
- HRM participates in the development of HRM processes
- HRM spends its time on operational HRM activities
- HRM actively participates in the implementation of HRM processes

Employee champion

- HRM helps to satisfy employees in their personal needs
- HRM participates in increasing employee commitment with the organisation
- HRM spends its time on listening to and anticipate on the needs of employees
- HRM actively participates on listening an anticipating on employees

Change agent activities

- HRM helps the organisation to adapt to changes
- HRM participates in realising culture changes within the organisation
- HRM spends its time on encouraging new desired behaviour within the organisation
- HRM actively participates in changing the organisation

Additional skills for HR professionals

Since the implementation of e-HRM technology…

- HR professionals need additional strategic HRM skills
- the Ministry requests more strategic HRM skills from HR professionals

Functional skills for HR professionals

Since the implementation of e-HRM technology…

- HR professionals need additional functional HRM skills
- the Ministry requests more functional skills from HR professionals

IT skills for HR professionals

Since the implementation of e-HRM technology …

- HR professionals need additional IT skills
- the organisation requests more IT skills from HR professionals

9.28 Recommended research strategy for future research

Research instruments for measuring the e-HRM goals

For measuring the "e-HRM goals" construct the following procedure is recommended when the research framework is used for research into e-HRM technologies:

- Analyse formal documents (business cases, project plans, etc.) on the content of e-HRM goals (with the support of appendix 13)
- Analyse promotion material on what is communicated to employees about the goals of the adoption of the e-HRM technology (with the support of appendix 13)
- Conduct interviews with a project manager of the e-HRM technology project or with a person within the organisation responsible for the adoption of the e-HRM technology
    - Use the interview protocol of appendix 13 to gather data on the content of the e-HRM goals
    - Discuss the results found during the document analysis of the promotion material, and try to get insights in why that specific communication strategy was chosen
- Adapt the clarity of e-HRM goals questionnaire for employees, managers and HR professionals
    - Adopt the questions on the content of the e-HRM goals in the questionnaire of appendix 14 in such a way that the respondents are able to match their perception on the content of the e-HRM goals with the four e-HRM goals of the research framework
    - Discuss the results found with a project manager. Try to find out why this specific communication strategy is chosen

Research instruments for measuring the use, or adoption of e-HRM

For measuring the "use of e-HRM technology" the following procedure is recommended when the research framework is used for research into e-HRM technologies:

- Make a list of all the HR activities provided through e-HRM for employees, managers, and HR professionals
- Analyse the type of technological support the e-HRM technology provides for all the supported HR activities with the use of the framework of appendix 18
- Determine the strategic value of the HR activities provided through Emplaza
    - Conduct interviews with HR managers to get insights in combinations of HR activities provided through e-HRM that are unique for the specific organisation and determine the uniqueness of the remaining HR activities provided through e-HRM (use the interview protocol of appendix 15)
    - Make a new list of HR activities. This list should contain the clusters of HR activities and the remaining HR activities

    - Conduct a questionnaire (appendix 16) with a high placed HR manager
    - Categorise the HR activities over peripheral, traditional, idiosyncratic and core HR activities and analyse the results. Look for differences between the activities performed by employees, managers and HR professionals
- Gather and analyse data on the actual use of the technology when available (for example overviews with the amount of hits per activity)
    - Analyse what activities are performed in what degree
        - Analyse the differences in usage between employees, managers and HR professionals
        - Analyse the differences between, informational, relational and transformational supported activities
        - Analyse the differences between peripheral, traditional, idiosyncratic and core activities
- Adapt the use behaviour questionnaire
    - Adopt the questionnaire of appendix 20 to the HR activities provided through e-HRM technologies within the organisation (so ask use questions on the HR activities provided; use different support activities and activities with different strategic values)
- Create a schematic representation of the HR architecture
    - Describe the responsibilities for the different HR activities
    - Describe the type of support of the support of the different activities

Research instruments for measuring the impact of e-HRM on the HR function

For measuring "the impact of e-HRM on the HR system" the following procedure is recommended when the research framework is used for research into e-HRM technologies:

- Develop and execute a strategy to measure the HR efficiency (ROI, the productivity of HR professionals, and the cycle time of HR activities). When possible, data should be gathered before the adoption of e-HRM technologies and after the adoption of e-HRM technologies
- Analyse the results of the HR efficiency research

Conduct the questionnaires

After all the questions are adapted the questionnaire for the employees, managers, and HR professionals should be conducted. The questionnaires (not adapted to the specific situation) can be found in appendix 25, 26, 27. The results of the questionnaire should be analysed combined with the earlier gathered research results.

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