
**IMPROVING HUMAN RESOURCES MANAGEMENT PROCESSES
THROUGH THE IMPLEMENTATION OF A CLOUD-BASED
SOFTWARE SOLUTION: A CASE STUDY IN A PORTUGUESE
PHARMACEUTICAL SUBSIDIARY**

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Abstract

Despite the existence of academic knowledge on how to introduce an electronic Human Resources Management (e-HRM), organizations still lack a clear understanding of the main outcomes and benefits that this concept can provide. The e-HRM in cloud-based environment is becoming more and more available and popular, despite the absence of academic knowledge. This dissertation, therefore, addresses this research gap through a case-study approach that provides a comparison between expected and achieved outcomes from a cloud-based HRM software implementation in a Portuguese pharmaceutical subsidiary. The research follows the implementation of a cloud-based HRM technology, and thus, examines the expected outcomes that were set before implementation and compares them with the actual outcomes that were achieved after the implementation of the software. The findings show that the goals for the introduction of e-HRM were oriented on increasing operational efficiency and flexibility of HRM processes, improving data security and transparency, standardizing HRM processes, offering 24/7 HRM self-service access to employees and creating one-global HRM system. The results demonstrate that the expected outcomes were mainly achieved, however, they also show that the creation of one-global HRM system had negative effects on HRM processes and that the improvement of people management skills of managers was one of the achieved outcomes. A discussion of the theoretical and practical implications from this case study is also sought.

Keywords: electronic human resources management, software, implementation, improvements, cloud, digitalisation

Resumo

Apesar da existência de conhecimento acadêmico sobre como introduzir o sistema de Gestão Eletrônica de Recursos Humanos – *Electronic Human Resources (e-HRM)*, às organizações ainda falta uma clarificação dos principais benefícios que esse conceito pode proporcionar. O e-HRM em tecnologia *cloud* torna-se cada vez mais disponível e popular, apesar da ausência de conhecimento acadêmico. Esta dissertação, portanto, aborda esta lacuna de pesquisa através de uma abordagem de estudo de caso que fornece uma comparação entre os resultados esperados e os resultados alcançados de uma implementação de software de gestão de recursos humanos (RH) baseado em cloud numa subsidiária farmacêutica portuguesa. A pesquisa segue a implementação de uma tecnologia de HRM baseada em cloud e, portanto, examina os resultados esperados que foram definidos antes da implementação e compara-os com os resultados reais que foram alcançados após a implementação do software. Os resultados mostram que os objetivos para a introdução do e-HRM foram orientados para aumentar a eficiência operacional e flexibilidade dos processos de RH, melhorar a segurança e transparência dos dados, uniformizar os processos de RH, oferecer acesso *self-service* aos funcionários e criar um sistema global de RH. A análise demonstra que os resultados esperados foram alcançados. No entanto, também mostra que a criação de um sistema global de RH teve efeitos negativos sobre os processos de RH e que a melhoria das competências de gestão de equipas foi um dos resultados alcançados. Uma discussão das implicações teóricas e práticas deste estudo de caso é também demonstrada.

Palavras-chave: gestão eletrônica de recursos humanos, software, implementação, melhorias, nuvem, digitalização

Contents

Abstract.....	i
Resumo.....	ii
List of Tables.....	v
List of Figures.....	vi
1. Introduction.....	1
2. Literature review.....	5
2.1. Main concepts and definitions.....	9
2.2. Similar studies.....	10
2.3. The outcomes of cloud-based HRM software implementation.....	12
2.3.1 Operational e-HRM outcomes.....	13
2.3.2 Relational e-HRM outcomes.....	13
2.3.3 Transformational e-HRM outcomes.....	13
3. Methodology.....	15
3.1. Sources and procedure of data collection.....	15
3.2. Participants.....	17
3.3. Interview guide.....	18
3.4. Data analysis.....	20
4. Results.....	21
4.1. The case-company: A Portuguese subsidiary within a multinational pharmaceutical group.....	21
4.1.1 Worldwide presence.....	21
4.1.2 A worldwide HRM strategy.....	21
4.1.3 The selection of a cloud-based HRM software.....	22
4.1.4 The Portuguese subsidiary.....	24

4.2. What are the expected outcomes from a cloud-based HRM software implementation?.....	25
4.3. What are the achieved outcomes from a cloud-based HRM software implementation?.....	28
4.3.1 Self-service functionalities	28
4.3.2 Standardisation and flexibility in the HRM processes.....	30
4.3.3 People management skills.....	31
4.3.4 HRM quality and efficiency	32
4.3.5 Unexpected outcomes.....	34
4.4. What factors can affect the achievement of the expected outcomes?	35
4.4.1 Design phase of software implementation.....	36
4.4.2 Training the users of the implemented software	37
4.4.3 Engagement of IT department	37
5. Discussion	39
5.1. Expected outcomes from cloud-based HRM software implementation ..	39
5.2. Achieved outcomes from cloud-based HRM software implementation ..	41
5.3. Factors affecting the achievement of the expected outcomes.....	45
6. Conclusion.....	47
6.1. Limitations and future research	48
6.2. Theoretical implications.....	49
6.3. Practical implications.....	50
References	51
Appendixes.....	60
Appendix 1. “Sign-off” project documentation	60

List of Tables

Table 1. Review of similar studies	11
Table 2. Three main groups of e-HRM outcomes	12
Table 3. Interview structure	19
Table 4. Group's cultural values.....	22
Table 5. Reasons for choosing the SAP Successfactors	24
Table 6. The expected outcomes from a cloud-based HRM software.....	27
Table 7. The achieved outcomes from a cloud-based HRM software.....	35
Table 8. The comparison between expected and achieved outcomes.....	41

List of Figures

Figure 1. Conceptual framework of this research	8
Figure 2. Terminology of digital HRM.....	9
Figure 3. Gartner's Magic Quadrant.....	23

1. Introduction

The benefits that technology provides to the HRM function is nothing new. In fact, the role, capabilities, and availability of technology have constantly been evolving and improving in the past decades. The development of HRM technology started simply by providing necessary information to HRM departments (DeSanctis, 1986), moved to the automation of HRM processes (Martinsons, 1997), and then to a complete transformation of the HRM roles and responsibilities in organizations (Lengnick-Hall & Moritz, 2003). One of the main benefits that HRM technology can offer to organizations is reduction in costs, along with improvements in services and reorientation of HRM departments with the focus on becoming more strategic (Ruel, Bondarouk, & Van der Velde, 2007). With the development of HRM technologies, more and more organizations started to use them in their management of human resources. According to Iwu, Eme-Ukandu & Allen-Ile (2016) the use of HRM technology has greatly increased over the recent years, and most large organizations are now using this technology to some extent in different HRM processes. All in all, researchers and organizations around the world are no longer surprised by e-HRM and are ready to further invest in it (Bondarouk & Ruel, 2009). Especially interesting is the latest cloud based HRM technology development which is recognised as one of the biggest challenges for HRM departments (Capelli & Tavis, 2018).

In parallel, HRM practitioners defined a new concept called electronic HRM (e-HRM) that covers all possible contents between Information Technologies (IT) and Human Resources Management (HRM), with the aim to create an additional value for different stakeholders inside and outside organizations (Bondarouk, Parry, & Furtmueller, 2017). Although e-HRM is relatively young field of research (Johnson, Lukaszewski, & Stone, 2016), different e-HRM definitions emerged in practice (e.g. digital, on-line, smart, web-based, cloud-based HRM). Drawing upon Strohmeier (2007) the e-HRM in this study is defined as the implementation and application of information technology for networking and supporting at least two individuals or groups performing HRM activities. The terms e-HRM and HRM cloud-based software are used interchangeably.

Previous research addressed a range of potential benefits from HRM software introduction such as enabling HRM function to become more strategically oriented, improving administrative efficiency and cost reduction of HRM departments (Marler, 2009; Ruel, Bondarouk, & Looise, 2004). However, few studies have empirically investigated if

organizations are really achieving the expected benefits from HRM software implementation (Strohmeier, 2007). Actually, it can be a mismatch between what vendors of software promise or what HRM specialist expect, and the real outcomes achieved through software implementation.

Although many scholars are optimistic about the possibilities of HRM digitalisation (Bondarouk & Ruel, 2009; Haines III & Lafleur, 2008; Kovach, Hughes, Fagan, & Maggitti, 2002; Ngai & Wat, 2004), the literature also shows that HRM software implementation does not always lead to improvements in HRM processes. Several empirical findings (Ruël & Van der Kaap, 2012; Stone, Deadrick, Lukaszewski, & Johnson, 2015; Tansley, Kirk, Williams, & Barton, 2014) indicated that software adoption does not always lead to improved HRM services. On the other hand, Gardner, Lepak & Bartol (2003) showed that the introduction of e-HRM does not lead to freeing up the time of HRM departments but rather leads to the replacement of administrative tasks by technology-related activities. In addition, it does not lead to any noteworthy improvement of HRM services. Some studies have also showed that HRM software was mainly used to support the standard administrative HRM processes (Hussain, Wallace, & Cornelius, 2007), while others reported that the information and data available from HRM software were not really used by HRM professionals (Dery & Wailes, 2005).

Fisher and Marler (2013) evidence-based review of 40 e-HRM studies concluded that a deeper investigation of e-HRM outcomes is required as the evidence that e-HRM predicts positive HRM outcomes is very variable. According to Harris and Spencer (2019) cloud-based HRM technology is gaining importance and cloud adoptions of HRM applications continue to increase. One of the key findings from the existing literature on the implementation and adoption of e-HRM in a cloud environment (Zebell, Albors-Garrigos, Schoeneberg, & Perello-Martin, 2019) is that in analysing the consequences of e-HRM, the core administrative HRM processes have been examined less than the talent HRM processes. This bias was more frequent when the digitalisation of core processes included personnel and organizational management, payroll, time management, compensation and benefits; while talent processes covered employer branding, talent relationship, performance management, learning, development, succession planning, recruiting, and analytics. These authors also conclude that further research in the field of e-HRM and cloud-based solutions is necessary as the one of the main challenges for academics and scholars is to keep pace

with this rapid development and practical application of cloud-based HRM software in organizations.

The main aim of this dissertation is to provide a case-study analysis of the outcomes of HRM cloud-based software implementation in terms of process improvements. The HRM processes that are in scope are personnel administration and organisational management. In particular, one intends to compare expected versus effective outcomes, as they are perceived before and after the introduction of e-HRM. This study draws upon a theoretical framework of general cloud-based outcomes that considers three types of e-HRM outcomes – operational, relational, and transformational outcomes (Lepak & Snell, 1998). Through the lens of this framework, the expected and achieved outcomes from the implementation of a cloud-based HRM software are examined and compared. Therefore, the research questions of this dissertation are:

- 1. What are the expected outcomes from a cloud-based HRM software implementation?*
- 2. What are the achieved outcomes from a cloud-based HRM software implementation?*
- 3. What factors can affect the achievement of the expected outcomes?*

HRM professionals are required to learn and have a clear understanding of whether the commonly expected outcomes from a cloud-based HRM software are actually transferable to their organizational contexts and then achieved in practice. This knowledge is required before implementation to not waste the resources and create unrealistic expectations for different stakeholder's groups. In order to help HRM departments realize what is the realistic and achievable potential of the cloud HRM technology, the present research defines three main research objectives. The first objective is to identify the expected outcomes for introducing an HRM cloud-based software in terms of HRM processes improvements that organizations may define before the implementation of software. The second objective is to identify the achieved outcomes of the HRM software introduction that are observed after implementation. Finally, the third objective is to provide further insights on the factors that may affect the achievement of the expected outcomes.

The relevance of this work lies in filling a research gaps pertaining to how HRM cloud-based software implementation is actually influencing the HRM processes. This work contributes to existing knowledge and practice regarding e-HRM by providing empirical

evidence on the improvements that a cloud-based technology can offer to HRM processes, including a discussion of the factors that can boost these developments.

This dissertation is structured as follows. After the introduction, which showed the relevance of the study, the aim of the research, and the research questions, Section 2 comprises the relevant literature on this topic, including the conceptual framework, the main concepts and definitions, a summary of similar studies, and a discussion of the theoretical background framing this research. Section 3 explains the chosen research methodology, sources of data and the procedures of data analysis. Section 4 presents the results. Finally, Section 5 covers a discussion of the main findings, while Section 6 presents the conclusion, limitations, future research contributions, theoretical and practical implications of this research.

2. Literature review

This literature review aims to give an overview of the main concepts and definitions of e-HRM implementation in general, as well as the resulting outcomes of this implementation. It will present the conceptual framework of this research and the reasons why it is important to study this topic. As recommended by Ravitch & Riggan (2017) the main sources of the conceptual framework are: (1) theory, (2) literature, and (3) experience. This information was searched on scientific databases like *Web of Science* and *Elsevier's Scopus*. Literature that were analysed mainly included articles and case studies on the cloud-based HRM software implementation with the focus on its outcomes. To find the relevant articles, a list of search terms was used that included: “e-HRM”, “cloud HRM”, “HRIS outcomes”, “HRIT outcomes”, “digital HRM”, “electronic HRM”, “HRM digitalisation”, “HRM software implementation”, “outcomes of HRM software implementation”, “web-based HR”. To select the relevant articles and case studies found in the initial search a spreadsheet was created in *Microsoft Excel* that included basic information about each article/case study: Title, Authors, Country, Sample size, Industry, Data collection and Key findings. All articles were critically inspected by ensuring that each selected article empirically described outcomes of HRM software implementation. When the final list was created, all articles and case studies were read and examined. Interesting facts and findings were highlighted and marked in the article margins. To systemize the available literature, two categories were defined: HRM and IT. The main journals considered for topics on HRM category were: *The International Journal of Human Resources Management*, *Human Resources Management Review*, *Employee Relations*, *Personnel Review*. The journals for topics on IT category were: *International Journal of Human Capital and Information Technology Professionals*, *Management Information Systems Quarterly*, *International Journal of Human Capital and Information Technology Professionals*, *Information Technology and People*.

The starting point for constructing an informative conceptual framework was to understand what is meant by the term implementation of e-HRM, specifically, at which stage this implementation is complete. Some early authors (Lucas, 1981; Nutt, 1986) pointed out that the implementation of e-HRM is complete when a new system (or some changes in the system) is technically installed in the organization, or when the old system needs to be updated or changed (Pipek & Wulf, 1999). Another group of authors does not see the completion of e-HRM implementation as a purely technical issue, but rather as a socio-technical term, thereby, Hettinga (2002) and Ruel (2001) think that the implementation is

complete when the system is appropriated, while Brown et al. (2002) and Venkatesh (2000) argued that e-HRM implementation is completed once the system is accepted by its users. It can also be said that e-HRM implementation is complete when satisfaction with the system is achieved (Schuring & Spil, 2002). The most relevant definition of the final stage of e-HRM implementation process for this work has been given by Lederer and Salmela (1996) which specified that when the intended objectives are met the e-HRM implementation is complete. This work will explore whether the intended objectives are really met at the end of e-HRM implementation.

When it comes to theoretical approaches framing e-HRM implementation, two main categories of implementation approaches can be found: linear and dynamic (Bondarouk, 2011). This split was done along two dimensions. The first-dimension tackles whether an implementation process is prescribed or achieved during the use of the e-HRM system. The second-dimension concerns whether the e-HRM system is seen as a given physical “body” or as a social set up. The linear approach to e-HRM implementation is concentrated with the technical aspects of the implementation process, such as: system design, system requirements, integration issues, etc. Therefore, this approach defines technology as a “tangible (physical) material” with specific technical properties that should be used by end users (Gasson & Holland, 1996). As it only covers the technical part of the implementation process and sees the e-HRM implementation process steps as predetermined, the main criticism to the linear approach is that it does not take into consideration the dynamic social reality of an implementation process. In fact, this approach completely excludes non-technical issues such as: organizational, managerial, or human aspects in the e-HRM implementation process.

In comparison with the linear approach, the dynamic approach defines the e-HRM implementation as an interactive, on-going process that, in addition to technical issues, includes organizational aspects (Gasson & Holland, 1996). This approach considers the e-HRM technology as a “social construct”, thereby, a technology can change its original forms during the implementation process. People are active enablers of the e-HRM technology in the dynamic approach, as they can use the same technology differently, which can result in different implementation outcomes. Given that the subject of this dissertation is an analysis of whether the expected outcomes of the HRM cloud-based software implementation are achieved, the dynamic e-HRM implementation approach is relevant for this work for a couple of reasons. First, it recognises that e-HRM technology can have more than one

interpretation as there are various implications for different individuals or groups. Secondly, it considers that the design of e-HRM technology is not fixed but evolves and continues during the implementation process (Orlikowski, 2000). Thirdly, it emphasizes that the social factor plays an active role in constructing the e-HRM technology both in the development and use of technology. The influence that different social groups, such as HRM professionals, line managers and employees, can have on the implementation of e-HRM technology means that they will experience technology differently. Therefore, it is of research interest to understand why these differences occur (Bondarouk, 2011). By using the individual interviews technique for data collection where different social groups are interviewed (e.g., employees, managers, HRM and IT specialists), the present research expects to find different views about the expected and achieved outcomes of the e-HRM implementation. Furthermore, one may also identify other factors influencing these differences.

According to the literature review on e-HRM implementation in a cloud environment, studies on the impact of e-HRM are common (Zebell, Albors-Garrigos, Schoeneberg, & Perello-Martin, 2019). In fact, different forms of **operational outcomes** (e.g. process automation, empowering employees to participate in HRM processes, better HRM database, etc.) that lead to increased HRM efficiency and effectiveness have been examined (Dhamija, 2012; Findikli & Rofcanin, 2016; Kumar & Lalitha, 2016; Lengnick-Hall & Moritz, 2003; Raiden & Neale, 2005; Ruel, Bondarouk, & Looise, 2004; Tansley, Newell, & Williams, 2001). On the other hand, some authors analysed the **strategic outcomes** from e-HRM implementation that can enable HRM departments to become more strategically oriented (Bellou, 2016; Bondarouk & Ruel, 2013; Grant & Newell, 2013; Marler & Parry, 2016). In addition to studies on operational and strategic outcomes, the **practical realisation of these benefits** has been confirmed in various recent studies (Findikli & Bayarçelik, 2015; Laumer, Maier, & Eckhardt, 2014; Stone, Lukaszewski, Stone-Romero, & Johnson, 2013), although Chapman & Webster (2003) found that the outcomes from e-HRM technology may have limited impact and success. So far, the academic literature has been widely discussing the potential of e-HRM outcomes, but few studies have tried to explore whether these outcomes are actually realised in practice and what factors can affect the achievement of the expected outcomes (Parry & Tyson, 2011; Strohmeier, 2007).

The e-HRM in a cloud environment enhance the capabilities of HRM departments. However, the literature that deals with the topic of e-HRM in cloud-based environment is

still limited (Zebell, Albors-Garrigos, Schoeneberg, & Perello-Martin, 2019). Some scholars call for additional conceptual development (Bhargava, Pradeep, & Keerthy, 2012; Chakraborty & Mansor, 2013; Parry, Bondarouk, & Ruël, 2017) and empirical research on this topic due to the additional value cloud technology can provide to HRM departments and its rapid development (Alamelu, Amudha, Nalini, Aishwarya, & Aarthi, 2016; Kansara, Hafez, & Kazi, 2016; Myllymaki, 2021; Zapotocny, 2015). The adoption of cloud e-HRM technology is gaining some importance in research (Johnson & Diman, 2017; Seo, Cho, Jung, & Gim, 2018), and some authors even argue that HRM technology is shifting from on-premise to cloud-based (Harris & Spencer, 2019; Ziebell, Schoeneberg, & Schultz, 2018). As it is expected that the cloud-based e-HRM solutions will continue to advance (Harris & Spencer, 2019) and that this cutting-edge technology will have large implications on HRM departments (Ghosh & Tripathi, 2017; Thite, 2019), there are further possibilities for research here. Therefore, the present study intends to identify (1) the expected outcomes, (2) the achieved outcomes and (3) the factors due to which potential discrepancies show up, resulting from the implementation of e-HRM in a cloud environment. The conceptual framework that has narratively been explained is graphically presented in Figure 1.

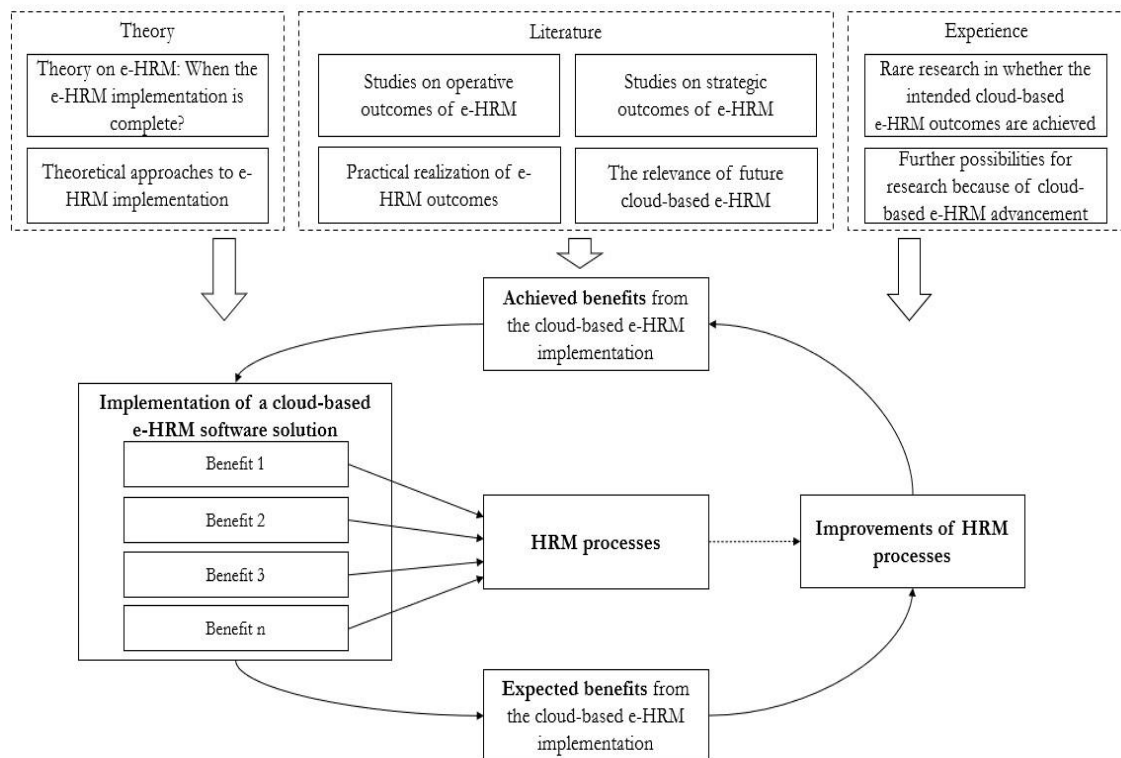


Figure 1. Conceptual framework of this research

Source: Author own elaboration based on (Bondarouk, 2011; Ravitch & Riggan, 2017)

2.1. Main concepts and definitions

Concepts such as digital human resource management, digitization and digitalization of human resource management are gaining momentum both in HRM departments and in scholarly discussions. However, it is important to make a clear distinction between these heterogeneous terms as some of them are used in this work.

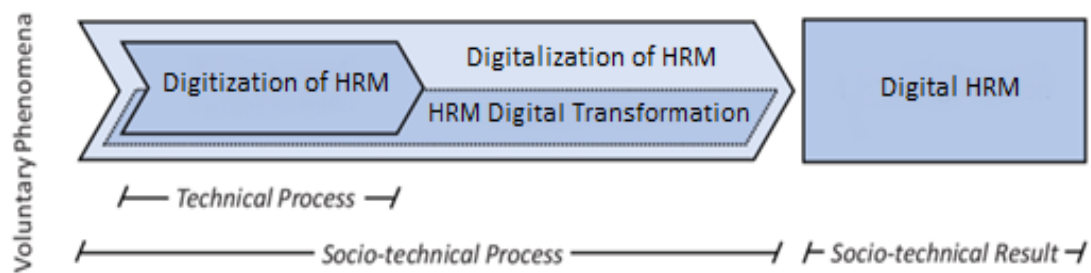


Figure 2. Terminology of digital HRM

Source: Adapted from Strohmeier (2020, p.35)

The process of HRM digitalisation can be initiated on: (i) a voluntary basis when an organization decides to go through this process; or (ii) involuntary, when an organization is forced to digitalize its HRM processes because of external forces (e.g., regulatory actions, customers, competitors, legal requirements). Therefore, HRM digitalisation on a voluntary basis is desired, while HRM digitalisation on an involuntary basis is highly undesirable. The topic of this research is the HRM digitalisation on a voluntary basis, so only the terminology of this phenomena is given.

Digitization (digitisation) of HRM is a technical process of transforming analogue data and information into digital HRM information so it can be ready for automated processing (Strohmeier, 2020). Digitisation, therefore, represents the conversion of analogous HRM information into binary digits (Brennen & Kreiss, 2020). *Digitalization (digitalisation) of HRM*, on the other hand, represents a socio-technical process of using the HRM digitization potential for operational and strategic purposes of human resources management (Strohmeier S. , 2020).

HRM Digital Transformation is, nowadays, a term often heard in conversations between HRM professionals. Similar with the term Digitalisation of HRM, it represents a socio-

technical digitalisation sub-process for strategic HRM purposes. Thereby, the term HRM Digital Transformation is in a direct connection with the creation and execution of a digital HRM strategy, where the digital HRM strategy can be defined as an HRM strategy that is based on digitization potential with the goal of creating an additional value for organizations (Bharadway, El Sawy, Pavlou, & Venkatraman, 2013). In practice, this term covers the process of e-HRM implementation. The end result of a socio-technical HRM digitalisation process is *Digital HRM*. *Digital HRM* thus, includes both simple operational results of HRM digitalisation (e.g., payroll calculation), as well as complex strategic outcomes (e.g., succession planning).

2.2. Similar studies

HRM software implementation can have operational and strategic outcomes. **Operational outcomes** include HRM processes improvements and automations, such as cost savings, quality of service, process efficiency, integrity, and data transparency, among others (Bellou, 2016; Berber, Djordjevic, & Milanovic, 2018; Davoudi & Andfartash, 2012). **Strategic outcomes**, on the other hand, include improvements in strategic partnerships and orientation of HRM departments, creation of organizational culture, development of leadership skills, HRM scenario planning techniques, etc. (Bondarouk & Ruel, 2013; Burbach & Dundon, 2005; Findikli & Rofcanin, 2016).

The achievement of these outcomes in practice has been confirmed in several case studies (Bondarouk, Parry, & Furtmueller, 2017; Kovach & Cathcart, 1999; Kovach, Hughes, Fagan, & Maggitti, 2002; Lengnick-Hall & Moritz, 2003; Parry & Tyson, 2011; Ruel, Bondarouk, & Looise, 2004) that are shown in Table 1. These studies are further discussed below.

Author(s)	Methodology	Research focus	Observed HRM processes improvements
Bondarouk et al. (2017)	Case study	Finding the relationship between e-HRM and better HRM service	Operational improvements (Process automation, cost savings, service improvements, etc.)
Kovach and Cathcart (1999)	Observation	Providing Business with Rapid Data Access, Information Exchange, and Strategic Advantage through HRIS	Improved decision making (From a broader and better database of people data)

Author(s)	Methodology	Research focus	Observed HRM processes improvements
Kovach et al. (2002)	Observation	Administrative and strategic advantages of HRIS	Enabling employees (making them a part of the HRM processes)
Lengnick-Hall and Moritz (2003)	Case study	Creation of HRM software that can transfer HRM information from personnel files to computers and play an important role in HRM transformation	Operational improvements (Process and quality of HRM service improvements)
Parry et al. (2011)	Case study	Examination of the goals stated by organizations for the introduction of e-HRM and whether these goals can be achieved	Operational improvements (Cost effectiveness, paperless and faster processes) Strategic improvements (Standardisation of processes and positive impact of organizational image)
Ruel et al. (2004)	Case study	What is e-HRM? What are the goals of starting with e-HRM? What types can be distinguished? What are the outcomes of e-HRM?	Operational improvements (Cost reduction, efficiency gains) Strategic improvements (Improved strategic orientation of HRM, facilitated employee self-services)

Table 1. Review of similar studies

Source: Author's own contribution

Most studies in the table above observed operational improvements of HRM processes, achieved through e-HRM implementation, by highlighting automation of processes, reduction in cost and enhancement of offered services. Some of them also confirmed the achievement of strategic outcomes realised through the improvement in strategic orientation of HRM departments, empowerment of employee and manager self-service roles and enablement of people data for better decision making. Despite the observed HRM processes improvements, the situation under which the expected outcomes are compared with the achieved ones has, overall, not been investigated. The exception to this is the case study from Parry and Tyson (2011) that showed that the expected outcomes from e-HRM might vary from the outcomes achieved in practice.

2.3. The outcomes of cloud-based HRM software implementation

Traditionally, it is possible to distinguish between three main types of HRM goals: cost effectiveness, high quality services, organizational strategic objectives support (Lepak & Snell, 1998). In general, the main purpose of cloud-based HRM software is to provide support for the defined organizational HRM processes and help in HRM goals achievement (Strohmeier, 2007). According to the work from Graeme et al. (2008) the objective of e-HRM is to support HRM departments in transactional and transformational goals, where transactional goals are to reduce cost and improve service delivery of HRM processes, while transformational goals should support HRM functions in becoming more strategic oriented (Ulrich, Younger, Brockbank, & Ulrich, 2012).

Lepak and Snell (1998) defined three main groups of outcomes from the e-HRM: (i) operational, (ii) relational, and (iii) transformational, although the empirical evidences of achieving these goals are rare (Johnson, Lukaszewski, & Stone, 2016; Parry & Tyson, 2011; Ziebell, Schoeneberg, & Schultz, 2018). Despite being defined more than 20 years ago when cloud technologies were not as popular as they are today, the framework from Lepak and Snell (1998) still summarizes the e-HRM outcomes identified by subsequent authors. Therefore, it is used as a basis in this research in checking the expected and achieved outcomes from a cloud-based HRM software implementation. The three-dimensional outcomes of e-HRM are shown in the Table 2. Theoretical backgrounds of these groups of outcomes are given below.

Three main groups of e-HRM outcomes		
Operational e-HRM	Relational e-HRM	Transformational e-HRM
Focused on the administrative HRM activities	Focused on the HRM activities that support business processes.	Focused on the strategic HRM activities.
Includes: organizational management, personnel administration, payroll, etc.	Includes: training, recruiting, performance and development, etc.	Includes: knowledge management, leadership, organizational culture, etc.

Table 2. Three main groups of e-HRM outcomes

Source: Adapted from Shah et al. (2020, p.12)

2.3.1 *Operational e-HRM outcomes*

Operational outcomes of e-HRM are outcomes visible in the effectiveness and efficiency obtained through e-HRM implementation. Typically, these outcomes lead to cost savings in HRM functions.

Many authors think that e-HRM can improve costs and process efficiency of HRM departments, (Fındıklı & Bayarçelik, 2015; Marler, 2009; Ruel, Bondarouk & Looise, 2004). In practice, a number of empirical studies confirmed that e-HRM supports efficiency gains, mainly through reduction in HRM costs, reduced staff from HRM departments, increased speed and quality of HRM processes, and reorientation of HRM functions from administrative to strategic work (Ruel, Bondarouk, & Looise, 2004; Ruta, 2005; Strohmeier, 2007).

2.3.2 *Relational e-HRM outcomes*

Relational outcomes of e-HRM represent improvements in service deliveries for internal and external HRM clients. Typical relational e-HRM outcomes lead to HRM process improvements in terms of integrity, transparency, duration and user's satisfaction.

It has been observed that relational e-HRM outcomes can also lead to improved employee awareness. A study from Hussain et al. (2007) showed that HRM professionals see e-HRM as a crucial technology that can help with the development of the HRM function, while Reddick (2009) showed that e-HRM improves employees' appreciation, understanding and use of HRM programs. Improvements in HRM processes, as well as satisfaction with the HRM departments, have been documented by a number of studies (Cronin, Morath, Curtin, & Heil, 2006; Lukaszewski, Stone, & Stone-Romero, 2008). It has also been concluded that relational e-HRM outcomes might increase the ability of employees and managers to participate in HRM related activities, by providing them a flexible remote access to HRM data (Parry & Tyson, 2011).

2.3.3 *Transformational e-HRM outcomes*

Transformational outcomes of e-HRM reflect the improvements in the strategic-orientation of HRM functions. These outcomes are changing the focus of HRM professionals from administrative to strategic business partners. Classic examples of these outcomes are change management practices and reorganization of HRM departments,

outsourcing and offshoring of traditional administrative HRM processes, and the creation of HR shared service centres.

Transformational e-HRM outcomes became important as soon as HRM professionals started to spend more time and resources for transformational (strategic) activities (Gardner, Lepak, & Bartol, 2003). These outcomes: (i) enable the ability of HRM professionals to adopt strategic decisions (Cronin, Morath, Curtin, & Heil, 2006); (ii) simplify the HRM planning and budgeting processes (Beulen, 2009); (iii) provide information for advanced reporting or sophisticated analysis (Bondarouk, Parry, & Furtmueller, 2017); and (iv) support the knowledge creation in organizations (Reddick, 2009). However, there is still some debate about whether these transformational e-HRM outcomes can actually be achieved. Newell et al. (2001) believe that e-HRM does not facilitate a more strategic HRM role, and Burbach et al. (2005) corroborate, in that e-HRM outcomes have been used for supporting administrative tasks and not for strategic HRM purposes.

Given the aforementioned debate on the outcomes of e-HRM, this study aims to help HRM departments realise what is the realistic and achievable potential of the cloud HRM technology. Therefore, one aims to identify:

- (1) **The expected outcomes** for introducing an HRM cloud-based software in terms of HRM processes improvements,
- (2) **The achieved outcomes** of the HRM software introduction that are observed after software implementation,
- (3) The potential **factors affecting the achievement** of the expected outcomes.

3. Methodology

There are several ways of doing scientific research: e.g., by analysis of archival information, observations, case studies, experiments, surveys, systematic literature reviews, and so forth (Cooper & Schindler, 2008). As all of these research methodologies have specific advantages and disadvantages, which one a researcher will choose depends on three main conditions (Yin, 2003): (i) the type of research questions, (ii) the control a researcher has over behavioural events, and (iii) the focus on historical or contemporary phenomena. As the topic of this research is an in-depth analysis of the expected and the achieved outcomes following the implementation of HRM cloud-based software, a case study approach is an appropriate and recommended research methodology.

The case study is a powerful qualitative research methodology that combines interviews with observation and analysis. The researcher collects data from the ‘case sources’ (e.g., annual reports, project reports, brochures, articles, surveys, etc.) and then combines these inputs with data from individual or group interviews. The main objective is to observe multiple perspectives of a single event, process or situation that took place at a specific point in time in an organization (Yin, 2003). As one of the goals of this research is to identify the expected versus achieved outcomes of HRM software implementation from multiple perspectives, the observation and experiences of multiples sources are sought.

3.1. Sources and procedure of data collection

The country selected for this research was Portugal, and the organization that is analysed is a member of a pharmaceutical industry. The reasons for choosing this organization are fourfold. First, the organization implemented the cloud-based *SAP SuccessFactors* HRM software solution in November 2019, which made it an ideal candidate for this research. The software became fully operational by the 1st quarter of 2020. Secondly, the implemented software contained various separate but interconnected modules, such as personnel data administration, organizational management, time management, performance and goals management, recruitment, onboarding, succession and development, learning, reporting and workforce analytics. Although the focus of this study was on the improvements in personnel administration and organisational management processes, these different modules provided an opportunity to identify operational, relational and perhaps transformational outcomes in other HRM processes. Thirdly, the Manager of the HRM

department and all members of local Senior Leadership Team were strongly interested and committed to the implementation and receptive to know more about its outcomes. Finally, there was a convenient opportunity to collect data along time, as the researcher was also involved in the implementation process as an external HRM Digitalisation Consultant. This ensured the access to rich data – between September 2020 and February 2021, including the discussion of key outcomes, observations and additional clarifications.

The organization analysed in this work is a Portuguese subsidiary of a global pharmaceutical group. The group's nature of business is manufacturing and supplying of pharmaceutical products. Its main products are generics (products created to be the same as an existing patented brand-name medicines), brand-name products, cancer therapy and other special pharmaceuticals. The group offers its products in approximately 120 countries worldwide for more than 125 years. The company's strategy is to avoid cost-intensive research on active ingredients and concentrate on multi-source products. The headquarter of the group is in Germany and it has been present in Portugal since 2005. At the moment of the data collection, the group in total had around 12000 employees while the local Portuguese subsidiary employed 41 employees. Although not big in the number of employees, the Portuguese subsidiary is an important member of the group with its contribution in the overall group's sales. Thereby, the primary orientation of this Portuguese organization are sales and marketing activities. One of the main drivers of its success are the committed and highly-motivated employees. This is why the organization has an experienced HR Manager that is responsible for the day-to-day planning and execution of the high-level HRM strategy (defined by the group), ensuring global policies and programs comply with local regulations, and building a culture that is in line with the group's values and objectives. The introduction of the new HRM software was the headquarter decision and the implemented cloud-based HRM software was rolled-out in every country where the group operated. By doing this, the group wanted to leverage the effects of increased globalization in HRM processes and to generate benefits from coordination and standardisation across geographical boundaries.

As soon as the software was installed in the organization (4th quarter of 2019) all employees got access to it, however, during this research, only 90% of employees had access as four employees were waiting for the software to be installed on their computers. A total of 37 users of the software were potentially available to provide their insights. From these, 9 (24%) were managers or supervisors of at least one employee and were not part of HRM

department, 7 (19%) were HRM and IT specialists, and the rest of 21 (57%) were regular employees (without managerial responsibilities and not part of HRM department).

Two data collection methods were used: analysis of internal documentation and individual interviews. The starting point for observing the expected HRM outcomes from a cloud-based software implementation was a review of the internal documentation where the expected outcomes were defined. Thereby, The Project Manager and the Manager of the HRM department shared the “sign-off” project documentation shown in Appendix 1. Once the expected outcomes were identified they were categorized into one of the three e-HRM outcomes from Lepak and Snell (1998) framework. Similarly, the actually achieved e-HRM outcomes were observed through the individual interviews with the users of the software.

3.2. Participants

In collecting data through interviews, which are often the dominant technique in case study research in the field of e-HRM (Ruel, Bondarouk, & Looise, 2004), three different groups of stakeholders were sought: (i) regular employees, (ii) supervisors and managers, and (iii) HRM and IT representatives. The interviews were held one-on-one online with the interviewees, via software *Microsoft Teams* and *Skype*.

A random sample of 25 software users was identified and included: nine regular employees, seven HRM and IT specialists, and nine managers. Although the same interview format was used for each interviewee group a separate interview structure was developed, as from the process perspective, the users of the software could have seen the process improvements differently. In terms of demographic characteristics, the interviewees were highly qualified: three (12%) had a PhD, three (12%) had a master's degree, 15 (60%) had a bachelor's degree, and four (16%) had a secondary degree. Thirteen (13) participants were female and 12 were male. Regarding age structure, four were up to 30 years old, four were between 30 and 40 years old, and 17 were above 40 years. A high tenure was also seen in the organization: seven had up to 5 years of tenure, three had between 5 and 10 years of tenure, and the remaining 15 having been working for the organization for more than 10 years. To characterize the sample HRM data was used directly from the HRM system of the organization. All interviewees were notified at the end of interviews that this data will be used just for the purpose of this research.

3.3. Interview guide

The draft of the interview structure with the research questions, subsidiary research questions, themes and questions for participants was first sent to the responsible Manager of the HRM department, and it was slightly modified according to the feedback received. Here, the HRM Manager explained that in order to ensure that interviewees understood which HRM processes are in focus the explanations for employee and manager self-service processes should be included at the end of the interview structure. The final structure of the interview is given in Table 3. The selected interviewees were notified in advance about the research, its importance and aims. They were invited to interviews by a personal email, and the results of the research were shared with them after the research was completed.

Research Question	Subsidiary Research Question	Topic/Themes	Questions to Participants
What are the achieved outcomes from a cloud-based HRM software implementation?	How do you see HRM processes?	Before software implementation	Do you remember how the HRM processes looked before software implementation? ⁽¹⁾
			What were the main issues?
			How flexible HRM processes were?
			What was the availability of HRM data?
			How transparent HRM data was? ⁽²⁾
			What was the quality of your own HRM data?
		After software implementation	How do you see HRM processes after software implementation?
			How flexible are HRM processes now?
			What is the availability to your own HRM data now?
			What is the transparency of HRM data now?
			What is the quality of your own HRM data now?
			What do you see as the biggest improvements in HRM processes from software implementation?
		Positive outcomes	Did the software implementation have any positive impact on your everyday job? If yes, how?

Research Question	Subsidiary Research Question	Topic/Themes	Questions to Participants
		Negative outcomes	Do you find that software implementation deteriorated some HRM processes? If yes, how? Did the software implementation have any negative impact on your everyday job? If yes, how?
What are the factors that affected the realisation of the outcomes?		Factors that affected the realisation of outcomes	What do you see as the biggest factors that affected the achievement of outcomes?

Table 3. Interview structure

Source: Author's own contribution

In interviewing different groups of interviewees, the HRM processes were analysed from different perspectives (as per the superscript 1 for employees and managers and superscript 2 for HRM professionals):

(1) Employees were asked to analyse Employee Self-Service processes (ESS): Change of personal data such as Address, Bank Details, Contact, etc. (superscript 1 in Table 3).

(2) Managers were asked to analyse Manager Self-Service processes (MSS): Managing team members data such as Transfer and Promotion of employee, Compensation and Other Contractual Changes – prolongation, increase/decrease of working hours, etc.

(3) HRM and IT representatives were asked to analyse above mentioned ESS and MSS processes from their perspectives. HRM data included (as per the superscript 2): (i) Personal Information (first name, last name, biographical and contact information of employee), (ii) Organizational information (functional area, department, cost centre, position/job, location), (iii) Organizational relationships (reporting lines).

With all the benefits of recording interviews, it was decided not to record them. This was decided for two reasons. First, in describing the organizational culture inside the organization, the HR Manager explained that the recorded interviews would create a different social dynamic with the interviewees. Secondly, some interviewees were concerned about the confidentiality of their responses. Therefore, to receive the most honest answers on the perceived outcomes from HRM software implementation, interviews were not recorded. During the interviews, notes and observations were taken and wrote down in *Microsoft One*

Note software. The notes were then shared with the participants at the end of the interview for additional check and confirmation.

3.4. Data analysis

The data collected via internal documentation and interviews were examined through qualitative analysis. The main goal was to compare the expected and achieved outcomes of the implementation of HRM cloud-based software in terms of process improvements. The processes that were analysed were: (i) personnel administration and (ii) organisational management.

The analysis of the internal documentation had the ultimate goal of identifying the expected outcomes. A “sign-off” documentation represented a set of different documents and files (*Microsoft Exceels, Microsoft PowerPoints, PDFs*, etc.) that were signed and acknowledged by all stakeholders (SAP Program manager on behalf of Service provider; Project owner, Project manager and IT responsible on behalf of Group’s representative). These documents identified the intended objectives from the cloud-based HRM software implementation in terms of HRM process improvements. There were three versions of the “sign-off” project documentation, as each followed some project iterations. In the data analysis, all three versions were included, for two main reasons. First, to see in which scope the organization changed its expected outcomes from the HRM software implementation during the project. Secondly, to ensure that all expected outcomes are recognised in this research, as outcomes slightly varied between iterations. At the end, when all expected outcomes were identified they were classified into one of the three e-HRM outcomes defined in the Lepak and Snell (1998) framework.

Data gathered through interviews was analysed in three steps. In the first step, all notes from the interviews were read carefully, and a global list of notes was created based on the first impressions from the answers and comments received during the interviews. The distinction was made between different groups of interviewees. In the second step, the interview notes were grouped in thematic categories created according to the three e-HRM outcomes identified by Lepak and Snell (1998). Finally, if an interviewee identified an outcome that did not fit into one of the three outcomes group it was analysed separately in the third step. These uncategorized outcomes were then grouped together into the new themes that appeared. This is how the unexpected e-HRM outcomes were identified.

4. Results

With the categorized data collected through internal documentation analysis and conversational interviews, it was possible to draw results and compare expected and achieved outcomes. In order to address each research question separately, the results of this research are presented in separate sections. Prior to the results, the contextual information about the case-company is given that can help understanding why certain results as well as the difference between expectations and achievements. Ultimately, the factors that may affect the e-HRM implementation might be linked to the wider organizational context.

4.1. The case-company: A Portuguese subsidiary within a multinational pharmaceutical group

4.1.1 *Worldwide presence*

With the long-standing heritage rooted in pharmacies for more than 125 years and the high-quality products it offers, this pharmaceutical group helps people around the world protect and ensure that everyday health remains affordable. Founded in the 19th century in Germany, the group started expanding in the local market in the middle of the 20th century and continued with the expansion into international markets in 1980s (Switzerland, Austria, Belgium, Netherlands) with the first foreign investments outside Europe in the beginning of 1990s (Asia). As internationalization continued, the group acquired Portuguese pharmaceutical company in 2005 which became strategically important for the group. At the moment of this research, the group had 32 subsidiaries and it sold its products worldwide in approximately 120 countries.

4.1.2 *A worldwide HRM strategy*

With the high level of expertise and their strong commitment, employees have played a key role in the longstanding successful development of the group. The group pursued a long-term oriented human resource management to secure this success factor and for the sustainable development of employees. However, in parallel with the growth in global presence (in terms of size and sales), the complexity of managing human resources have also increased.

This was first realised in 2010 when the group decided to implement the group-wide cost efficiency program. Apart from paying more attention on HRM costs in the upcoming

years, the corporate culture also became more important. This resulted in creation of four cultural values in 2019: Integrity, Entrepreneurship, Agility and Success. This set of shared values and their meanings are shown in Table 4.

Group's cultural values	
Integrity	We act ethically in line with the company's internal and external standards. Our actions are led up by speaking up and respect.
Entrepreneurship	We drive new ideas and actions, creating future growth and value.
Agility	We lead change with flexibility and decisiveness as part of our ongoing journey of personal development.
Success	We act in the best interests of the company as a whole rather than our business unit or function in order to build successful group.

Table 4. Group's cultural values

Source: Author's own contribution based on company data

These values are the foundation of all group's actions – no matter in which part of the world. In addition, the values were not created solely by the headquarter as they were discussed and shaped in a close collaboration between the group's executives and around 150 employees worldwide from different business units, hierarchy levels and countries. These cultural values drive group's HRM strategy that is oriented on ensuring reliable and digital HRM processes.

4.1.3 The selection of a cloud-based HRM software

The idea on introducing a new HRM software in whole group was initiated centrally by the HRM Digitalisation team and approved by the group's executives in the headquarter. Once the idea was shared globally (on the global HRM conference at the beginning of 2019), numerous meetings with the local HRM representatives were organized to discuss the idea and align on the best approach of software implementation, expected benefits and potential risks. It was concluded that trends all over the world such as business digitalisation, future of work, hr evolution and user expectations had high implications for local HRM systems and that the new HRM software should be a cloud-based software. It was also decided that the new software will be rolled out for all employees (approx. 12000 employees in 32 subsidiaries and headquarter) and that the implementation project will be led and coordinated by the HRM Digitalisation team (headquarter) while the local HRM departments nominated their HRM and IT specialist for the project team.

The evaluation and selection of the best technical solution was done together by global HRM digitalisation and IT team. The possible solutions on the market were identified by using the *Gartner's* Magic Quadrant (shown in Figure 3.). A Magic Quadrant is a tool that provides a graphical competitive positioning of technology providers on the market (Lougee, et al., 2019).



Figure 3. Gartner's Magic Quadrant

Source: Lougee et al. (2019, p.4)

The HRM digitalisation team evaluated available solutions on the market by analysing their functionalities. On the other hand, the IT team evaluated solutions from the technical perspective. As the global IT team provided support to all subsidiaries, they were aware of technical specifications of local HRM systems that might affect the selection of the new cloud-based software. Taking into consideration (i) specifications of different solutions, (ii) the outcomes these solutions can offer to group, and (iii) their alignment with the strategic direction of the company, the group selected the *SAP Successfactors* software. This software was recognised as one of the most mature HRM-IT solutions on the market and it offered wide range of localisation and language options. The way the principles of chosen software solution matched with the group's strategic direction are shown in Table 5.

Reasons for choosing the <i>SAP Successfactors</i> software		
Software's specifications	Benefits for the group	Group's strategic direction
Data stored on global cloud servers	➡ Data security and transparency	◀ Highest standards on compliance
Online, ubiquitous access	➡ Global and mobile workforce	◀ One global company
Easy scale through licensing	➡ Scalability of processes	◀ Growth through acquisitions
Automatic system updates/maintenance	➡ Standardised, low-maintenance systems	◀ Realisation of cost synergies
Single global database	➡ Increased need for reliable reporting	◀ Data driven organisation

Table 5. Reasons for choosing the SAP Successfactors

Source: Author's own contribution based on company data

4.1.4 *The Portuguese subsidiary*

The Portuguese subsidiary was founded in 2000. At that time, the organization was focused on the specific market segment by selling its generic prescription medicines (pharmaceutical products that legally require a medical prescription to be dispensed). In 2005, the company was bought by the German pharmaceutical group. This acquisition required big structural changes and implementation of a new strategy. During the next years, the company grew as new products was added to the portfolio of products. The vast portfolio today includes medicines, generic medicines, medical devices, dietary supplements and cosmetics, in several therapeutic areas. The main activities are related to the commercialization of products such as marketing and sales.

The organizational structure is mainly hierarchical with functional relationships. The core activities of the business are sales, marketing, business development, supply chain and regulatory affairs. The managers of these core departments are recognised as Senior Leadership Team as they are responsible for balancing between global and local requirements, and managing priorities and problems addressed by employees. The supportive activities are provided by Finance, HRM and IT department. In order to better support local business activities, these supportive departments are decentralized in every subsidiary. However, in addition to General Manager of the subsidiary, these departments are also coordinated by the Centre of expertise departments from the headquarter.

Before the new cloud-based software was implemented, the company used simple tools such as *Microsoft Office* for their HRM processes. In addition, for payroll processes the

Primavera software was used. The personnel data (Excel files with employee basic information, signed copies of HRM documents, ID cards, etc.) was stored in separate folders on HRM Manager's personal computer. The employee profiles (with the compensation information) were also available in *Primavera*, however, the software did not offer employee and manager self-service functionalities. Only the HRM Manager was able to maintain this data.

4.2. What are the expected outcomes from a cloud-based HRM software implementation?

The overall goal of a cloud-based HRM software implementation in the case-company was to establish a modern way of work that will be aligned with the strategic goals of the organization. This was a message communicated through the organization by HRM and Communication colleagues, from the start until the end of the project. In addition, the project was heavily supported by the engagement of the Senior Leadership Team which was involved in the communication channels.

In analysing internal documents where the expected outcomes were defined the focus was on project requirements and agreements with the external service providers with whom the organization signed an agreement for a cloud-based HRM software implementation. In communication with the Project Manager, who was responsible for software implementation, it was found that the expected outcomes were constantly changing, mainly because of the technical issues (e.g., limitations of the current and future HRM software, integration between these two systems, constraints pertaining to the functionalities of the new HRM software, data migration and validation, etc.). In numerous meetings with the service providers the Project Manager and the Project Representatives learned more about the possibilities and the technical limitations of the selected HRM cloud-based software. This led to variations in the expected outcomes from the technical perspective. However, this did not affect the expected functional outcomes. Therefore, the expected outcomes were identified in the "sign-off" project documentation that was shared by the Project Manager and the Manager of the HRM department with all stakeholders in the organization.

The HRM processes that were expected to see improvements from the software implementation were: (i) personnel administration – hiring, transferring, promoting and terminating employee, and (ii) organizational management – position, job and organizational

structure management. Altogether, five expected outcomes for the introduction of this solution were identified in documentation analysis:

1. Improving data security and transparency
2. Improving efficiency and flexibility of HRM processes
3. Standardisation of HRM processes
4. Offering 24/7 self-service access to people data to employees and managers
5. Create one global HRM system

The first goal for the implementation of a cloud-based HRM software was to ensure that all people data is secure. The introduction of this software would provide an additional layer of security that can protect sensitive personal information of all employees inside the organization, both from external and from internal threats. In addition to data security, the organization also expected that the introduction of this HRM software would increase the transparency of data. Following the defined HRM strategy and the organizational culture, the headquarter and the analysed subsidiary wanted to introduce a software that could increase the transparency and visibility of HRM actions as their employees expected the same level of transparency from the HRM department, the line management, and the Senior Leadership Team.

The idea behind the second goal was to improve HRM processes in terms of efficiency and flexibility. The pre-project analysis showed that several processes, such as transfer/promotion of an employee, reorganisation of the department, or simple changes of bank account information were inefficient (costly, “never-ending”, and without clear split of responsibilities). This created an environment where HRM processes had rigid and old-fashioned actions that affected business initiatives and line managers’ decision-making. In addition, these HRM processes were not flexible enough which made the end customers of HRM services (employees, managers and external clients) dissatisfied. This lack of flexibility was contrary to the core organizational value of Agility.

The third goal was to standardize HRM processes as much as possible, respecting the customization of processes in terms of a country-specific or unexpected business requirements. The missing standardisation in HRM processes led to inaccurate and incomplete personal data. In addition, the organization realized that the lack of standardisation in processes made it difficult to measure and improve performance.

The fourth goal of the introduction of HRM software was to give access to personal data both to employees and managers – anytime and anywhere – with respect to the *General*

Data Protection Regulation (GDPR). The organization expected the self-services would lead to more accurate data in the HRM system and personnel records, as the “owners of employees’ personal information” (e.g., name, last name, marital status, bank information, addresses, etc.) are employees themselves. At the same time, “the owners of employees’ organizational information” (e.g., position name, cost centre, department, location, etc.) are line managers. The more reliable and comparable people data will ensure the more data-driven decision making and a good basis for the use of advanced workforce analytics. Moreover, this would mean that employees and managers could gain full flexibility and could become independent from the HRM department (including their availability and office hours for providing basic information).

Finally, the fifth goal was to define one global HR-IT landscape instead of having various local HRM systems. This goal was defined by the headquarter and was applicable not only to Portugal but to all countries where the group had subsidiaries. This would ensure more efficient HRM work on the global level and improve HR-IT support and maintenance processes (through cost reduction and faster resolution of HR-IT issues that users reported). Based on careful evaluation, the end goal was to decommission existing local HRM systems. In addition, it was expected that the use of other global systems that were already in place in the organization (e.g., software for Procurement, Marketing, Communications, etc.) would also benefit from the implementation of this HRM software.

The identified outcomes expected from the cloud-based HRM software are grouped into one of the three general outcomes defined by Lepak and Snell (1998). The expected outcomes are shown in Table 6.

General outcomes from a cloud-based e-HRM implementation	Identified expected outcomes in this research
Operational	Improving data security and transparency
	Improving efficiency and flexibility of HRM processes
	Standardisation of HRM processes
Relational	Offering 24/7 self-service access to people data to employees and managers
Transformational	Create one global HRM system

Table 6. The expected outcomes from a cloud-based HRM software

Source: Author’s own contribution based on company data

As shown in Table 6, three out of five expected outcomes were operational, one identified outcome was relational and one transformational. The expectations from the introduction of cloud-based e-HRM were, therefore, mainly related to increasing the operational efficiency of HRM processes. This shows that the HRM department of the case-company was not mature enough to define the outcomes that might be strategically more important for the development of HRM department, and ultimately, the whole organization. In addition, the only transformational outcome that was expected was defined by the headquarter and not by the subsidiary.

4.3. What are the achieved outcomes from a cloud-based HRM software implementation?

To determine the achieved outcomes from the implementation of this cloud-based HRM software, the interviewees were asked about their perception of the HRM processes before and after the implementation and what they saw as the main outcomes (both positive and negative). The most frequent answers addressed five core dimensions:

(1) Self-service functionalities were seen as the largest benefit.

(2) Standardisation and flexibility in the HRM processes. The software did not only support the standardisation of HRM processes but also offered solutions that respected deviations from the defined standardised processes.

(3) People management skills. The implementation of the software improved the people management skills of managers.

(4) HRM quality and efficiency. All HRM processes that were in the scope of the software implementation (personnel administration and organizational management) became more efficient in terms of process duration and quality of the provided services.

(5) Unexpected outcomes. Having the global HRM system in place slowed down some local HRM processes (such as payroll) and created some IT problems (such as integration with other systems).

The following subsections provide more detail about these observed outcomes.

4.3.1 *Self-service functionalities*

Functionalities for Employees and Managers' self-service actions in the new cloud-based HRM were the most commonly mentioned benefits by interviewees. It appeared not only in interviewing HRM and IT specialist but also in the interviews with regular employees

and managers. In total it was recognised by 21 participants (out of 25). A regular employee explained:

“I really like the system, especially the self-services! I can just open my profile and change my bank account details. I don’t have to send any emails to HRM colleagues or go to their office. I can attach a proof if needed directly in the system, insert a comment, and explain what should be changed... This is the case for all personal information, not only the bank account.”

The slogan that followed the introduction of the new HRM software was: *Become your own HERO* (HERO was the internal name of the newly introduced HRM software) and it was communicated that this will be the new software not only for HRM departments but for all employees. The interviewed employees felt that the possibility to manage their personal data 24/7 and completely independently from HRM office working hours was a big step towards the digitalisation of HRM processes. As one manager pointed out:

“One thing that I really missed in managing my team was having my team’s information available. With HERO in place, I can professionally manage my employees through self-service actions by not worrying about compliance while benefiting from transparency.”

Managers confirmed that self-services not only helped them managing their teams but also provided the improved accuracy and availability of data that they could use for different decision-making situations. Some interviewees went further with the possibilities of self-services:

“Manager self-service role is a great thing! I can increase the working hours or transfer one employee to another position in just two clicks. But there are also many other HRM processes. For example, I am wondering if we will also be able to see performance and development plans for my team members in the new system?”

HRM and IT specialists also confirmed that this expected outcome pertaining to the introduction of self-services for employees and managers was completely achieved. HRM specialists thought that the main reason for this high level of acceptance and use of HR self-services lied in the initial training and supporting material delivered to employees and managers about self-service functionalities. The introduction of self-services significantly reduced the transactional administrative work of HRM departments, allowing them to spend more time on complex “soft HRM” tasks. The responsible HRM manager put it like this:

“Without self-services that the new cloud-based HRM software offered, we had many problems for simple processes like changing employee’s address or marital status. Employees would raise a request for changing their address by sending an email or informing HRM representatives during a “morning coffee”

discussion in the canteen... Usually, this new data wasn't changed in the local system, either because the information provided by the employee was not complete or was inaccurate, the documents that served as a proof that the change is valid were missing, or HRM representatives didn't absorb the informal communication from employees... With self-services in place, this situation cannot happen. While most of the HRM administrative tasks were earlier done by the HRM department, our employees and managers now do that."

4.3.2 Standardisation and flexibility in the HRM processes

Fifteen interviewees said that the new cloud-based HRM software created and ensured the standardisation of HRM processes. When interviewing regular employees, they said that the software provided information about how the process of changing personal data (e.g., education or dependents information) looks like, what they should do, and which supporting documentation they could use, as well as who should approve their request. An interviewee explained:

"If I wanted to change my bank account, I had a concern should I contact my HRBP or someone from HRM Administration, or even someone from Finance/ Payroll team. The process was not standardised, sometimes I just had to deliver my new bank account number in the email and to attach a proof that my bank details (including the SWIFT code of the bank) are valid, and sometimes I just had to write in the email my new account details without providing SWIFT (in this case HRM Admin would inform me that the proof is not needed)... I was also not aware what is the latest day in the month when I should inform HRM department that I changed my bank account so I can receive my salary on the new account."

This changed with the implementation of the new cloud-based HRM software:

"With the new software in place, when I initiate the bank account change action, I receive a complete information about the process. There is a clear process flow and the notification that the bank account information change will be valid starting from the 1st day of the next month."

Similar with the comments from regular employees, managers also recognised that one of the outcomes achieved through the implementation of the new cloud-based software was the standardisation of certain HRM processes. In their case, they were mainly referring to Manager Self-Service processes, e.g. transfer or promotion of an employee. A manager from the Regulatory Affairs department described this:

"I never knew the process steps if I want to transfer an employee from one to another position inside my team. There was one form, like a spreadsheet that I had to fill-out and send to my HRM department. At the end of the form, there was one part with the approval steps, but it just said 1st approver, 2nd approver and HRBP. Now, the problem was that for some processes I had to collect approvals from my 1st and 2nd

line managers (e.g., promotion of an employee – vertical movement to a higher-level position) while for others I only needed approval from my HRBP (e.g., regular transfer of an employee – horizontal movement to another position)...

Another manager added: *“What HERO offered was a complete standardisation of HRM personnel administration processes. Whatever process I initiate for my employees (transfer, promotion, or any other contractual change) the one-over-one rule applies, meaning my line manager should approve this and that’s it. I just have to start the process and enter the effective date of change, all other steps in the process are now standardised– the request goes to my line manager and then to HRBP and HRM Administrator. Simplicity that saves a lot of our time!”*

HRM representatives recognised the additional benefits from having standardised HRM processes in place. This allowed them to reduce the reporting effort, being ready to provide a specific report to the business managers at any point in time. An HRM Administrator commented:

“Having standardised HRM processes for personnel administration and organisational management was highly demanded by the Senior Leadership Team as they needed improved reports from the HRM department. With the standardised HRM processes we are able to ensure solid and similar data basis from one source, to develop comparable KPIs, and to have shorter duration of delivery with the real time data. At the end, this leads to better and faster business decisions.”

4.3.3 People management skills

The introduction of a cloud-based HRM software was not a purely technical IT issue. It brought extensive cultural change in the behaviour and mindsets of all users of the system: HRM representatives but also employees and managers. For the managers, the implementation of this HRM software transformed the way they manage their teams.

“When you login into the software, you can see your team members at the home screen. You can check their profiles with all the required organizational information that we need for our every-day work. With all this information I can feel that I am really managing my team! What is important is that this is reflected on our results, productivity, and efficiency as a team.”

However, not all managers were ready to take the responsibility for the team they were managing through the functionalities of the new software. Some of them still think that they should not participate in the HRM processes, such as the transfer or promotion of an employee. From their point of view, the HRM department is the only responsible for these actions, and the HRM specialists should complete all these administrative actions in the

software. An HRM specialist explained a comment received, during the introductory training, from a business manager:

“I just don’t get it. My job is in procurement not in HRM department. I am not doing your job!”

HRM specialist continued:

We understood that this will be a big change for our managers, and we expected these comments. What we did is that we prepared a clear communication on the split of responsibilities in HRM processes. This looked like this: “As a manager, initiating these processes is your responsibility. As an HRM, we support and ensure from the HRM perspective that the processes are executed correctly. We cannot initiate these processes ourselves. We ask you to accept this.” In addition to this, the Senior Leadership Team supported our communication with the explanation that this was a strategic decision of the organization. These actions prevented negative comments about the new software, and soon, managers that had negative comments started to use the software regularly....”

The same HR manager added:

“What is interesting is that we were able to see a big change in the attitude of these managers, as well as in their organization and planning skills. For example, they started using information about their team members directly from the new software, such as location, work schedule, actual working hours, cost centre, etc. They also started asking our HRBP if he could support them in a specific people management skills (e.g., how can they increase the motivation of their teams so they can work towards organization’s vision, as the data in the new software allowed them to analyse employees’ compensation information, awards, and one-time payments, and compare them with their career levels and paths).”

Interestingly, this outcome from the implementation of HRM cloud-based software was also recognised by regular employees who did not have managerial responsibilities. An employee (part of sales department) described the following observation:

“It looks like we are better organized as a team, e.g., we don’t have the “last minute” changes in our work schedules anymore, and changes in our daily plans are not so frequent as they used to be. I also think that we are more flexible, so if there is an unexpected action on the market we can quickly react and reorganise ourselves.”

4.3.4 HRM quality and efficiency

In most interviews, a reduction of the administrative paperwork in HRM processes was mentioned as an obvious outcome of HRM cloud-based software implementation. The introduction of the new software did not intend to replace the necessary discussions and

coordination within the departments. However, in order to have lean HRM processes, it was decided to reduce approval chains. As the Sales Manager explained:

“When I initiate the transfer of an employee in HERO to another team, the approval workflow is triggered. I see in the approval chain that besides the new manager of the employee, only the level above the manager has to approve the request. The request is then delivered to our HRBP and the HRM administrator will be informed on the change so the HRM department can prepare the required documentation. My question was: ‘Do I not have to ask my responsible Matrix Manager in the future anymore?’ Before HERO, this was the required step so if you wanted to transfer an employee from one team to another you had to fill out the spreadsheet, sign it and send via email to the next approver, and then that next approver had to do the same and forward it to the next approver, and so on... For example, the transfers of sales force specialists are frequent and sometimes 5 managers and team leaders had to approve their transfers (depending in which team they are transferred). The same process with HERO in place, looks way more efficient!”

Digitalisation of core administrative HRM processes reduced the transactional work of the HRM department and freed up managers time allowing them to focus on the more complex HRM topics (e.g., creating programs that promote behaviours that are connected with organization’s cultural values). Another manager provided the similar observation and pointed out that in some cases the initiated processes were slow, delayed or even never completed:

“Previously we had to fill-out and submit a paper form for increasing someone’s salary. This form would then be sent from person to person until it reaches the HRM department. Unfortunately, these forms would often get lost during transition from one person to another, and the process would stop. At the end, the employees suffered the most. In the new software, this can’t happen as all participants are informed and notified about the due dates for their actions. In addition, you can always check the status of the process and see where your request is.”

Interviewees from the HRM department also experienced faster and more flexible processes. A seasoned HRM specialist commented:

“With opening our HRM software to employees and managers, the direct data entry and process tracking tasks were done by the process owners. This removed the double work for HRM where we had to enter data in the system for which we are not the owners, and it removed a lot of necessary paper forms. It indeed reduced the time needed for processing HRM actions initiated by employees and managers, but it also increased transparency and flexibility of HRM processes.”

Although the whole organization experienced advantages from a cloud-based HRM software, the aforementioned improvements in HRM processes were foremost beneficial for the HRM department.

4.3.5 Unexpected outcomes

HRM and IT specialists also recognised some negative outcomes from the implementation of a cloud-based HRM software. These outcomes were seen through the challenges the new software created for local users of the system. Overall goal was to decommission existing local HRM systems. It was planned that this will ensure lower costs for local HRM and IT departments and one standard system in place for all subsidiaries. In spite of that, it was not possible to decommission local HRM system completely as the newly implemented software was not able to respond to all country-specific requirements (such as payroll process). One of the HRM representatives put this into words:

“The problem with the new software is that we can’t complete all the required actions in it. For example, we have to complete 90% of the hiring action in the new software and this information will be transferred to our payroll system. The other 10% that are required for the payroll process we have to complete directly in our payroll software. Fortunately, this is not the case with all HRM processes. Moreover, we expect to get rid of these software limitations through the regular software updates that are coming out twice per year. We hope that in the future we will use only HERO.”

These issues were also recognised by colleagues from IT department. They thought that the new software is easy to learn, use and maintain but the problem was that they had to maintain two systems in parallel. In addition, integration between two systems sometimes created unexpected issues that affected other business areas:

“The new cloud-based software is really easy to learn and maintain. A way easier than the older on-premise software. Nevertheless, we had to keep using the old software in parallel. External software consultants, that helped us with the implementation of the new software, offered us an integration solution that would help us in maintaining the two systems... During the testing phases this solution worked fine, however, as soon as we started using the new software in the real environment different unexpected issues began to appear... Instead of having more, we now have less free time as we have to support two systems and the integration between them... The solution here would be to get rid of the old software and we expect this to happen in the upcoming months. What we like most with our new cloud-based software-as-a-service solution is that the provider regularly upgrades the solution every few months. The costs of these upgrades are much lower than with the traditional on-premises software and are much easier to install.”

Many employees also observed that the new software has a global perspective. When they wanted to check their employee profiles in the new software where all personal and organizational information was stored, they could see empty fields that confused them. As one employee explained:

“I wanted to complete my employee profile and to insert my profile picture, and then I saw some strange empty fields in my personal information section, e.g. Preferred name, and Name in alternate language. I called our HRM colleagues to ask if we have to add something here and they explained that we don’t use these fields in Portugal. They are there because colleagues from other countries are using them (e.g., Preferred name is used in Great Britain and Name in alternate language is in Russia.”

The achieved outcomes from a cloud-based HRM software implementation can be grouped into one of the three general outcomes defined by Lepak and Snell (1998). The achieved outcomes are shown in Table 7.

General outcomes from a cloud-based e-HRM implementation	Identified achieved outcomes in this research
Operational	Standardisation and flexibility in the HRM processes
	HRM quality and efficiency
Relational	Self-services
	People management skills
Transformational	Unexpected outcomes

Table 7. The achieved outcomes from a cloud-based HRM software

Source: Author’s own contribution based on company data

As can be seen in the table above, two out of five achieved outcomes were operational, other two were relational and one was classified as transformational. Although the expected outcomes were mostly oriented towards improving the operational efficiency, the implementation of a cloud-based HRM software brought additional relational outcome (improved people management skills) that enhanced relationships between employees and the organization. It was also found that the expected transformational outcome (create one global HRM system), that aimed to transform the HRM department by enabling its strategic orientation, led to the emergence of challenges for some local HRM and IT processes.

4.4. What factors can affect the achievement of the expected outcomes?

The data collected through internal documentation and individual interviews allowed the identification of some factors that could have affected the achievement of the initially

expected outcomes. The factors that emerged were: (1) Design phase of software implementation, (2) Training the users of the implemented software, (3) Engagement of IT department. The following subsections provide more detail about these factors.

4.4.1 Design phase of software implementation

Some interviewees (employees and managers) observed that parts of the implemented software were not intuitive. If an employee wanted to add his private email address in addition to the business email address (that was already in the system), he had to choose which of these two email addresses is the main point of contact. As an interviewee explained:

“I have an option to add my private email address to my profile information so colleagues can contact me on the email where I am always available. However, as my business email address is already on my profile by default, once I add my private email, I have to select which of the two emails is my primary contact. There is a button called “Is Primary” next to both email addresses and you have to select your main address. It looks strange and it is not clear what is meant by this field. In fact, I am available on both addresses, and both are primary— one as my business and other as my personal email.”

Similar comment was made by an interviewee from the HRM department who observed the same design problem with adding different national ID numbers for employees in the system:

“One employee has different national IDs, e.g., National Identity number, Fiscal number, Social Security number, Passport number, etc. All these types of numbers are stored in one section of the system. When we want to add these numbers for our employees, we are asked to pick the primary number between these alternative numbers. The fact is that these are not alternatives, but different types of numbers and we need all of them. That button “Is Primary” is really confusing us.”

It was also observed that the system did not centralize all information relevant for employees in one place. What confused the users is that the information was not grouped well, so instead of finding all information needed in one single place the users had to search different part of the system. According to one employee, this design does not contribute to the user-friendliness:

“The design of some portlets of the system does not guide us through the actions we want to perform. As an example, if we want to add information about our dependents in the system there is a separate section called “Dependents” and here you can enter information about your dependent persons. However, the information on number of dependent persons and if you are responsible for single parent family is not located here, but in a different section.”

4.4.2 Training the users of the implemented software

Although the organization decided to provide an online support to all users by installing a separate application that provided instructions on how to use the software, a group of interviewees mentioned that in some situations trainings provided by HRM specialists were needed or were more efficient in explaining the functionalities of the software.

HRM specialists were also aware of this tricky variable that could have had an impact on the achievement of the expected outcomes if they were not available to provide such trainings. As some expected outcomes were directly oriented on empowering employees and managers, training the end users was an important activity. Thereby, the local HRM team defined the “local-go-to” persons who acted as a first-level support by providing colleague-to-colleague help to end users. An HRM specialist commented on this:

“Local-go-to persons were employees outside the HRM department (e.g., business assistants) who were specifically trained in using the system by HRM specialists and external consultants, and these employees then gave first-level support to other employees. We defined two of them and they were both supporting our sales force on the field. In addition to providing the necessary support, the “local-go-to” persons were acting as a change agent by advocating benefits from the software and providing individual on-the-spot training refreshments.”

4.4.3 Engagement of IT department

All HRM specialists who were interviewed identified the importance of the engagement of IT colleagues in the implementation process. Interviewees with employees from the IT department agreed with this and added that, apart from being engaged with technical questions (e.g., system architecture, configuration, integration, etc.), IT specialists should also be engaged in understanding the specific HRM questions that the implementation of the cloud-based software should solve. An HRM interviewee put it like this:

“The project of the cloud-based software implementation required high cooperation between HRM and IT departments. There were situations where we (HRM department) wanted to have one functionality in the system, but the IT explained that, although the software offers this functionality, it will not be a good decision to go with it as it can create additional problems with the existing internal IT architecture. In another situation, we had to test if one application, that was connected with the new software, would work in practice. The external consultants said that it should work, however, we were not able to test it as we didn’t have access

to the 3rd party application. Thankfully, our IT specialists were able to get in touch the vendor of this application and ensure the proper testing for us.”

It was also recognised that, apart from having technical IT knowledge, it is desired for IT specialist to have a basic understanding of HRM processes that are affected by the implementation of the HRM software (in the analysed case-company personnel administration and organisational management processes were affected). This is how an interviewed IT specialist described it:

We were able to understand the new cloud-based software from the technical perspective. However, as the project continued to develop more and more specific HRM requirements appeared. We realised that we should understand the way HRM processes are designed and interconnected. These are skills that did not exist within the IT department, but which were necessary in order to achieve the planned outcomes.”

With this basic knowledge of HRM processes and their connections with another business processes, the IT specialist can understand requirements from HRM colleagues. In addition, other important IT tasks such as setting roles and permissions in the system, identifying potential risks or compliance issues, resolving the identified errors, providing technical support to the end-users, are all tasks that require fundamental knowledge about HRM processes.

5. Discussion

The present case-study provides empirical evidence for the expected and achieved outcomes of a cloud-based HRM software implementation in a Portuguese subsidiary. These outcomes were identified and defined by drawing upon Lepak and Snell (1998) framework, which distinguishes three types of e-HRM outcomes – operational, relational, and transformational. The findings confirmed that the actually achieved outcomes can vary from the expected ones (in this case-company the variation was found along relational and transformational outcomes). This does not necessarily mean that this variance can only be negative, as an introduction of a cloud-based HRM software can also provide unexpected positive outcomes. Finally, this study identified three factors that can affect the achievement of the expected outcomes from a cloud-based HRM software. This section further discusses the findings in line with the existing literature.

5.1. Expected outcomes from cloud-based HRM software implementation

By examining a case study on the implementation of a cloud-based HRM software in a Portuguese pharmaceutical subsidiary, this research uncovered that a large part of the expected outcomes was oriented to the operational efficiency of administrative HRM processes. The majority of the expected outcomes (three out of five expected outcomes) were focused on increasing the operational efficiency of HRM processes: (i) improving data security and transparency, (ii) improving efficiency and flexibility of HRM processes, and (iii) standardisation of HRM processes. The remaining two expected outcomes, (iv) offering 24/7 self-service access to people data to employees and (v) create one global HRM system, were oriented towards enabling the strategic dimension of HRM department.

These findings provide support to authors who see e-HRM as a tool that enables more efficient and easily administered HRM activities (Kettley & Reilly, 2003). Similarly, Bondarouk et al. (2016) indicated that e-HRM aspires to improve the HRM processes through increasing their consistency, efficiency and quality while Voermans et al. (2007) think that technology can offer administrative support to the HRM. Furthermore, case-studies confirmed that the introduction of e-HRM enables the increase in the speed of HRM processes and relieves HRM representatives from administrative tasks (Berber, Djordjevic, & Milanovic, 2018).

With the HRM department getting rid of the administrative tasks, the overall idea with the implementation of the cloud-based HRM software in this multinational group, including the Portuguese subsidiary, was to establish a modern way of working that is aligned with the organization's strategic goals. By examining the existing literature on the e-HRM and its impact on organization's business strategy different views can be found. Some empirical studies point out that the implementation of e-HRM can enable better integration between organizations and the HRM strategy (Tansley, Newell, & Williams, 2001), while others show that e-HRM has not yet achieved its full potential in permitting HRM departments to focus on strategic topics (Ruel, Bondarouk, & Looise, 2004).

The finding that one of the desired outcomes was to increase involvement of employees and managers in HRM processes by giving them self-service roles and making responsible for their personnel data, corroborates a number of existing studies. Thereby, Parry et al. (2011) in their work recognised that one of the key objectives of introducing e-HRM concept is to empower managers to carry out various HRM activities (such as updating information in HRM system). The present research added that empowering should not be oriented only to managers, but also to employees without managerial responsibilities. This helps reshape the HRM department into a strategic partner.

The expected outcome to decommission the existing local HRM systems (used in group's subsidiaries) and to build one global HRM system is in line with the existing evidence in this research area (Heikkila, 2013). The decision to have one global HRM system instead of various local system would bring various advantages, particularly in terms of cost reduction and standardisation of processes. However, the implementation of HRM software in multi-national organizations leads to the "global-local" dilemma as it requires the parties involved in the project (HRM representatives from subsidiaries and from headquarter) to find an agreement on what should be standardised and what must be localised in the HRM software (Heikkila, 2013). The organizations should, therefore, be very cautious with the expectation to see this outcome from e-HRM implementation. As this study discovered in analysing the achieved outcomes, the desire to have one global HRM system in place can lead to some unexpected negative outcomes.

5.2. Achieved outcomes from cloud-based HRM software implementation

In parallel with checking the expected outcomes, this study observed and provided evidence on the actually achieved outcomes from the implementation of a cloud-based HRM software. The outcomes that were achieved were: (i) self-service functionalities for end-users (employees and managers), (ii) standardisation and flexibility in the HRM processes, (iii) HRM quality and efficiency, (iv) improved people management skills for managers. In addition, one negative outcome was identified that was classified as (v) unexpected outcomes.

The comparison between the expected and the achieved outcomes from a cloud-based HRM software implementation in the case-company is given in Table 8. The achieved outcomes are further discussed below.

Main findings drawing upon Lepak and Snell (1998) framework	Comparison between expected and achieved outcomes		
	Expected outcomes	Achieved outcomes	Comments
Operational e-HRM	Improving data security and transparency	HRM quality and efficiency	Expected outcome was achieved
	Improving efficiency and flexibility of HRM processes	Standardisation and flexibility in the HRM processes	Expected outcomes were achieved as HRM processes became more efficient and flexible.
	Standardisation of HRM processes		
Relational e-HRM	Offering 24/7 self-service access to people data to employees and managers	Self-services	Expected outcome was achieved
		Improved people management skills of managers	Unexpected positive outcome
Transformational e-HRM	Create one global HRM system	Unexpected outcomes	Unexpected negative outcomes

Table 8. The comparison between expected and achieved outcomes

Source: Author's own contribution based on company data

Employee and manager self-service functionalities were the achieved outcome stated by most interviewees. Thanks to the introduction of these functionalities, the vast majority of employees' data in the HRM system (both personal and organizational information) is entered and updated by employees and managers' self-service roles. Likewise, Ruel et al. (2004) also provided evidence that these functionalities were recognised as the main achieved e-HRM outcome, adding that 67% of all HRM data entries were entered by employees. Johnson et al. (2016) further argued that employees' self-services represent the major innovation in the evolution of HRM and related information systems (HRIS). The introduction of employees' self-service actions assist employees to manage their own personal information directly in the HRM system (Gueutal & Falbe, 2005), which in turn enables employees' satisfaction (Marler, Fisher, & Ke, 2009). With the exception of a few line managers, who complaint from doing the job of HRM, the self-service functionalities and the independence they offered was well-received by most interviewed end-users.

Findings in this research noticed the standardisation of HRM processes as one of the expected outcomes that was achieved. Standardisation and harmonisation of HRM policies and processes were previously recognised as one of the e-HRM goals by Looise et al. (2004) in four out of five analysed organizations. The authors also pointed out that technology, in this case e-HRM, can help in HRM processes standardisation by offering numerous possibilities. Actually, large organizations always looked for a way to standardise their HRM processes (Johnson, Lukaszewski, & Stone, 2016), which can be boost by e-HRM. What the organization achieved with this outcome was a standardisation of personnel administration and organizational management processes. The standardisation enabled accurate and complete personal data, which in turn, made employees satisfied. Similarly, Boudreau et al. (1991) stated that the Information Technology enabled HRM departments to increase administrative standardisation while eliminating layers of papers handling in their processes (Davoudi & Fartash, 2012). In addition to this, Heikkila (2013) recognised that, in order to achieve the right balance between standardisation and business flexibility, an organization have to ensure a corresponding IT transformation and focus especially on the HRM systems.

Topics like workforce diversity, change management, organizational effectiveness, succession planning and leadership development are identified by Namrata et al. (2020) as the best HRM practices developed within the organizations. The findings of this work revealed that leadership skills, particularly people management skills were improved with the implementation of a cloud-based HRM software. This positive outcome, closely linked to

the introduction of managers' self-service functionalities, was not an intended outcome. Thereby, it can be interpreted as the unexpected benefit that might emerge from the implementation of the new HRM technologies. In his detailed list of potential benefits from the implementation of e-HRM concept, Armstrong (2009) defined "manage people's working time more effectively" as one of the possible improvements. Functionalities for time management of direct reports was also recognised by managers in this research as they saw it as a brilliant tool. It seems that the e-HRM can provide some direct contribution to leadership development (Lawler III & Mohrman, 2003). If the implementation of e-HRM can ensure the better people management skills this can help managers to (i) lead their teams efficiently and (ii) set priorities in teams activities, while at the same time (iii) stay flexible enough in terms of deadlines and workload. As organizations nowadays operate in environments with uncertain and unpredictable events it is important that their business managers can create, have and expand the people management skills as it can be the key differentiator in creating a competitive advantage on the market. There is no doubt that with the rapid development of cloud-based technologies, HRM departments can expect more of these unanticipated benefits in the future.

Quality and efficiency of HRM processes were also one of the e-HRM outcomes identified by different group of interviewees. This improved efficiency of personnel administration and organisational management processes were found in the reduction of the transactional and the administrative paperwork, the increase of the flexibility and the shorter duration of processes. As observed by Pande et al. (2012) efficiency gains were defined as one of the three main benefits from the implementation of e-HRM. The literature also indicates that the response time, quality and consistency of HRM processes are improved (SHRM, 2005) as well as the overall administrative efficiency and HRM productivity (Beadles, Lowery, & Johns, 2005; Schuessler, 2008; Wiblen, Dery, & Grant, 2010). Going beyond administrative transactional improvements in HRM processes, e-HRM can also offer better communications and knowledge management, which in turn may influence employer branding and employee value proposition (Kettley & Reilly, 2003). These are one of the main reasons why organizations are giving more and more importance to e-HRM that is seen as a new form of HRM that can meet the requirements of a modern diverse workforce and help organizations reach their purposes (CedarCrestone, 2005; Davoudi & Fartash, 2012; Deloitte Insights, 2020; Omran & Anan, 2018; Samson & Agrawal, 2020).

Finally, the findings from this study also identified some negative outcomes from the e-HRM implementation. In this case-company, the introduction of a global e-HRM system was experienced as a great endeavour. Challenges with having the global e-HRM, which technical configuration had to answer to requirements from different countries included the requirements from group's headquarter and all other subsidiaries. As recognised by Burbach et al. (2010) these confrontations that come with the implementation of an e-HRM software in a MNC and its subsidiaries are not easy to overcome. The influence that the local HRM representatives from the subsidiaries had on the implementation of HRM software was minimal, as the decisions were mainly made by headquarter. As a consequence, some features of the implemented software in the analysed organization confused the users, as some global decisions were not adequate or not needed for the Portuguese subsidiary. Having a perfect HRM system in place that answers on both local and global needs typically requires high level of local responsiveness and involvement as HRM processes, in general, are the most difficult to integrate because of their cultural and institutional specifications (Schramm, 2006; Tayeb, 1998). Although the ultimate idea was to decommission the existing local HRM systems after the implementation of the new HRM software, the project team, HRM and IT specialists did not spend the appropriate time in analysing all local requirements. The end result was the frustration of the end users of the software that had to maintain two software systems in parallel (the new and the old one). Indeed, this problem has already been identified by some previous studies that indicated that globally integrated e-HRM systems are not yet ready to offer solutions to "grey areas" of HRM requirements in the multi-national organizations but rather black or white approach (global versus local) to standardisation and local adoption of HRM software (Smale & Heikkilä, 2009). What becomes clear, related to this aspect, is that the multi-national dimension of the organizational environment is a complicating factor in e-HRM implementation. The increased pace of uncertain globalization continues to change the business reality and the well-designed e-HRM should acknowledge these realities. It can be concluded that, in trying to implement the global HRM system, the multi-national organizations should not only pay attention to the technical implementation process but also to the elements such as early adoption of implementation plans according to the local context of subsidiaries and communication between subsidiaries and headquarter.

5.3. Factors affecting the achievement of the expected outcomes

With the identified expected and achieved outcomes from the implementation, it was possible to identify factors that affected the achievement of the planned outcomes. These factors were: (i) design phase of software implementation, (ii) training of the users of the implemented software, (iii) engagement of IT department.

An organization that is implementing a cloud-based HRM software must be aware of the importance of the designing phase. The present study confirmed the relevance of the design phase and provided an example on how it can negatively affect the realisation of the planned outcomes. The design phase of e-HRM is crucial for every software implementation project during which requirements are transformed into detailed system specifications. However, most individuals within an organization that are responsible for this usually have little or no experience in going through this activity (Bedell & Cannif, 2020). Besides the risk of configuring the system wrongly, the security of the system can also be affected. The findings, therefore, call for better management of this project phase and increased awareness of the potential negative outcomes that the inappropriate design of the system can bring.

Improving HRM processes through the implementation of a cloud-based HRM software must be accompanied with the trainings of the end-users of the software. Normally, these trainings should be done prior the system “goes live” so the users are aware of the functionalities of the software. Apart from preparing the online training material the studied organization also had to prepare the offline “face-to-face” trainings for employees (as it was requested by employees). In addition, the study demonstrated a solution that can help HRM professionals in providing continuous trainings by defining “local-go-to” persons that act as training agents and provide support in “how-to-click” questions. The findings that the users of the system still ask for the traditional “face-to-face” trainings can help organizations understand how to organize these trainings and provide help to the users of the system.

Finally, this study identified the engagement of IT departments as one of the factors that can influence the achievement of the desired outcomes. In alignment with the current literature, this research provided an empirical evidence that the IT specialists, apart from having a technical IT knowledge, should also have a conceptual understanding of HRM processes that are affected by the implementation of the new software. To ensure that all employees have access, information and tools necessary to use the HRM software, IT specialists must understand what is required from the HRM process perspective so they can translate the requirements into technical language (Bedell & Cannif, 2020). If IT specialists

are experienced in technical knowledge but do not understand HRM colleagues, the transformational effect of e-HRM on the HRM function will be limited (Smale & Heikkilä, 2009). Organizations investing in e-HRM do not want to end up with the inefficient or unstable software at the end of the costly implementation project. As one interviewee said, these findings are important for organizations because they: “...*Identified the skills that did not exist within IT department, but which might be necessary for achieving the expected outcomes from e-HRM implementation.*”

6. Conclusion

This dissertation intended to identify (1) the expected outcomes for introducing an HRM cloud-based software in terms of HRM processes improvements that organizations may define before the implementation of software, (2) the achieved outcomes of the HRM software introduction that are observed after software implementation, and (3) to provide further insights on the factors that may affect the achievement of the expected outcomes.

The results of this study highlight that organizations can decide to introduce a cloud-based HRM software to (1) increase the operational efficiency of HRM processes by improving data security and transparency, increasing flexibility and standardizing processes, (2) to enhance HRM relations with their end users by offering employee and manager self-services, and (3) to transform the orientation of HRM functions by introducing one global HRM system. The expected outcomes are mostly oriented towards operational efficiency of HRM processes. In addition, it is also expected that the introduction of cloud-based HRM software will bring changes in the way how employees and managers experience HRM function. Finally, it is anticipated that this software will be able to supersede the various local HRM systems.

The results of this study also provide empirical evidence on the actually achieved outcomes from the introduction of a cloud-based HRM software. The expected outcomes that can be achieved are introduction of employee and manager self-services, standardisation and flexibility of HRM processes, and more efficient HRM processes. Furthermore, improved people management skills of managers had also been identified as one of the improvements for HRM processes. Eventually, not all achieved outcomes are positive as organizations can also experience big challenges with having the global HRM system in place.

Further, the results contribute to identifying the factors that can affect the realisation of e-HRM goals. The factors that can potentially affect the achievement of the planned outcomes are: (1) design phase of software implementation project, (2) trainings of the software users, and (3) IT engagement in the project. Although these factors can vary in every implementation project, these findings are important as they have practical implications for the overall process of e-HRM implementation.

Based on this study, we now have a better understanding on the outcomes from a cloud-based HRM software implementation. This rare empirical study made several contributions to the literature on this popular HRM topic. First, this study provided empirical

evidence and analysis of both expected and achieved outcomes that organizations can see from the implementation of a cloud-based HRM software. Secondly, it identified one of the potential secondary outcomes that can be interesting and important for many organizations as it can affect the leadership skills of an organization. Thirdly, the findings have recognised an issue that can arise with the implementation of global cloud-based HRM software. The fact is that organizations that decide to implement globally aligned cloud-based HRM software must be aware of much deeper global-local debate that surrounds this dilemma. Finally, the findings on factors that may affect the achievement of the expected outcomes have practical implications for all organizations aiming to digitalize their HRM departments by implementing the HRM software.

6.1. Limitations and future research

The results obtained in this research should be interpreted considering its limitations. First, this study is limited with the question “How can you generalise from a single case?” (Yin, 2003). There is no way of knowing, empirically, to what extent the analysed organization is different or similar with other companies. Making the general conclusions of these findings is thus limited. To increase the generalisability of this study, the further research would have to be repeated with the same concept but in different settings (companies or countries).

Secondly, findings from this research are limited to the period when the outcomes from a cloud-based HRM software implementation were observed. The achieved outcomes were analysed one year after the solution was implemented. As some new outcomes may emerge or become larger over time there is a need for research that would follow the effects of a cloud-based HRM software implementation over a longer period of time.

Thirdly, as a methodological limitation, data was collected through interviews that was held in English which is not the official language in Portugal. Even though the interviewees were comfortable with being interviewed in English language, as this is not their native language this could lead to some cultural misunderstandings and potential different perceptions of the outcomes from HRM software implementation. It is therefore suggested that future research collaborate closely with a Portuguese researcher to make sure that language and cultural issues are controlled.

One of the limitations of this research is also the researcher bias. The researcher in this study was also a participant in the analysed e-HRM implementation. As findings were

based on the analysis of qualitative data the results depended on the interpretation and objectivity the researcher placed on the collected information. Although case studies are strongest when researcher expertise and intuition are maximised, this raises doubts about the objectivity of the study (Hodkinson & Hodkinson, 2001).

6.2. Theoretical implications

Technology development has encouraged researchers to explore the impact of cloud-based HRM technology on organizational performance (Obeidat, 2016). Although the e-HRM literature explored different aspects of the e-HRM outcomes, few studies have tried to explore whether the intended outcomes are really achieved after the e-HRM is implemented. In fact, in addition to the research from Parry et al. (2011), this is the second study that examined and compared the expected and the achieved e-HRM outcomes, and to the knowledge, the unique that did this examination in cloud-based environment. Additionally, this is the first study on e-HRM outcomes in Portugal. This research, therefore, contributes to the HRM digitalisation knowledge by showing what are the achievable e-HRM outcomes from a cloud-based software. Understanding the e-HRM implementation completely is not possible unless the potential of e-HRM is acknowledged.

The results of this study support the findings of previous research that the main outcomes of e-HRM implementation are mainly related to the enhancement of the operational effectiveness of HRM processes (Bondarouk & Ruël, 2006; Bondarouk & Ruel, 2013). In addition, one of the main theoretical elements in e-HRM implementation is of research interest to understand why these differences occur. (Bondarouk, 2011). The factors, identified in this study, that may affect the achievement of the desired outcomes are in consensus with what has been suggested by previous authors (Naima, 2019; Xu, Venkatesh, & Thong, 2012). As the findings from this study are helping organizations understand what to expect from the cloud-based e-HRM and what can affect the realisation of these expectations, they are relevant for further theory building on the dynamic approaches to e-HRM implementation. What is learnt by this study is that the expected outcome on introducing the global cloud-based HRM software in MNC cannot be achieved easily. In facts, it is followed by many challenges between headquarter and subsidiaries that may seriously affect the implementation outcomes. At the same time, this study showed that the improvement of people management skills of managers can also popup as one of the outcomes from the cloud-based HRM software. By validating the potential of the cloud-

based e-HRM, findings from this study may lead to reconsidering what is the real capability of the cloud-based HRM technology in future research.

The scope of the future research can also be extended to other HRM areas in order to cover different HRM processes.

6.3. Practical implications

Despite the fact that this research was done by analysing a pharmaceutical organization, the present research provides several practical contributions that are not limited only to pharmaceutical industry but are relevant for any organization interested in e-HRM implementation. First, the findings show that the outcomes from the implementation of a cloud-based HRM software are mainly focused on improving the operational efficiency of HRM processes. Secondly, the results from this study reveal that the expected outcomes are not always completely achieved and that the implementation of a cloud-based software can bring unanticipated positive and negative outcomes. Therefore, these results fill-out the gaps in the research area of practical implications for HRM processes that a cloud-based HRM technology brings. Thirdly, the findings help HRM departments understand the benefits and distortions coming with the introduction of this HRM software in their organizations. Before organizations start with the implementation, it is important for HRM professionals to understand whether the commonly expected outcomes are applicable in their organizational context, and what types of positive outcomes the cloud-based technology can offer. They should also be aware of potential negative outcomes, including end-user's resistance to change and distortion of their (local) HRM processes.

To conclude, a cloud-based technology is gaining momentum not only in HRM but also in other business functions. There is no doubt that a cloud technology can offer many benefits to HRM departments. It can help them in improving their processes, getting rid of the administrative paper work and time consuming tasks, empowering employees and managers to participate and take responsibilities in HRM processes, changing the way an organization see HRM function, and creating space for becoming more strategically oriented. However, companies should be aware that the introduction of a cloud-based HRM software is not a simple task. All parties involved in this implementation must be informed about surroundings and complexity that follows, especially in the context of MNC, and try to find the optimal balance between benefits and drawbacks of having a cloud-based HRM software.

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Appendixes

Appendix 1. “Sign-off” project documentation

Sign-off documentation for the project of implementation of SAP Successfactors @ organization			
Start date	01/11/2019	Finish date	31/03/2020
Project duration	5 months (4m for implementation + 1m for support)		
Project goals	1. Implementation of SAP Successfactors Employee Central module – that offers: increased services available through the central HR landing page and access to HR tools, visibility of own employment for each employee at any time (with up-to-date data), visibility about own team data for managers at any time, built in self-service functionalities for employees and managers, comprehensive reporting & analytics 2. Decommissioning of local HRM systems		
Specific HRM Project deliverables	1. Improving data security and transparency 2. Improving efficiency and flexibility of HRM processes 3. Standardisation of HRM processes 4. Offering 24/7 self-service access to people data to employees and managers		
Comments			
Document signatures			
Name	Description	Signature	Date
Customer representative/ Project owner	By signing this document, I acknowledge that I have received all the stated deliverables at the agreed to quality levels.	T.M.	30/04/2020
Customer representative/ Project manager		E.S.	30/04/2020
Customer representative/ IT Responsible		Dj.P.	29/04/2020
Service provider/ SAP Program manager		O.B.	31/04/2020

Source: Author's own contribution. Adjusted with the permission of the analysed organization.