Digitalization of HRM: A study of success factors and consequences in the last decade

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To my mom

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Abstract

Purpose

In recent years we have seen an increasing use of digital tools within organizations. Obviously, digitalization also had a strong impact on the HRM function. The fundamental objective of this study is to identify the factors that determine the success of the digitalization of HRM and define its consequences. To answer this research question: *"What are the factors that determine the success of the digitalization of human resource management (function) and its consequences during the last decade as highlighted by existing literature on the subject?",* we have studied the literature produced on this topic in the ten years (2010-2020).

Methods

A systematic bibliographic search was conducted in order to obtain the literature relating to the digitalization of HRM. We initially made a preliminary list of articles through the Google Scholar search database. The articles obtained were then analyzed and filtered on the basis of pre-established criteria.

Results

Based on the study conducted, we can say that the existing literature on the subject focuses more on the study of the consequences of the digitalization of HRM, while the study of the factors that determine its success is still limited. Using the TOP model, we grouped the factors into three different categories: technological, organizational and people factors. As regards the consequences of digitalization, these were analyzed by dividing them into positive and negative consequences. Finally, through the study of empirical articles, the conditions to be respected to obtain a good HRM digitalization were also traced.

Conclusions

Digitalization is becoming increasingly important for the HR function which has the ability to simplify, accelerate and economize the activities it carries out. However, these digital transformation benefits need to be weighed while also considering the negative implications, such as data security issues. Technological, organizational and people factors are essential to successfully implement new digital technologies within the organization, but it is equally important to be able to meet certain conditions. In conclusion, we can say that through this work we are able to provide an overview of the most important factors for the success of HRM digitalization and its consequences. This work can represent a basis for further deepening knowledge in this field trying to understand how these factors can be best balanced in the implementation of new HR technologies.

Table of contents

1. Introduction

In recent decades, society as a whole has undergone rapid and profound changes due to the great advances made in technology and which have subsequently spread to all sectors. Because of these changes, the current period is called the "digital era". The recent discourses includes terms like digital transformation, that is defined by Stolterman and Fors (2004) as a business model driven by *"the changes associated with the application of digital technology in all aspects of human society"*.

Some authors even claim that digital transformation, or digitalization, has revolutionized the way organizations operate so much that it become a fundamental component of corporate strategies (e.g. Heavin & Power, 2018), and organization around the world have been heavily affected by the effects of digitalization, as this has led to changes in consumer behaviour, expectations and assessments of products and services. In response to this changing in consumer behaviour, organizations have to rethink their business model to achieve sustained competitive advantage.

Several advantages of the digital transformation are mentioned in the literature, all related to the growing use of information and communication technologies, IT (Brennen and Kreiss, 2016; Stolterman and Fors, 2004). It is an internal optimization tool that is assumed to have a positive effect on the organization's future opportunities and trends (Nöhammer & Stichlberger, 2019). It should be noted that digital transformation differ from digitization, whereas the latter is viewed as the *"ability to transform existing products or services into digital variants and therefore offer advantages over the tangible product"* (Gassmann et al., 2014).

Among the most obvious advantages of digitalization is the generation and access to a multiplicity of data - this leads to an increase in the knowledge accumulated in the company and to greater general flexibility (Nöhammer & Stichlberger, 2019) - greater analytical capabilities of the data through the use of algorithms and an increase in information flows.

In recent years, the new challenges brought about by digitalization have also required changes in traditional human resource management (HRM) models. With the development of new technologies, the way human resources interact with data and information has changed. Many human resource processes, such as the employee hiring and selection process, performance management and human resource planning, have been profoundly modified through the use of digital technologies, improving the services offered to its stakeholders. If in fact, in the past,

the human resources function kept the relevant information through the use of paper documents, with the development of digital technologies and human resource information systems (HRIS) there was a significant simplification in data management and relevant information leading to significant savings in the planning times of HR activities.

In this regard, Palmer et al. (2017) cited the Adobe company case to describe the way in which digitalization has impacted HRM. In 2011, Adobe stopped selling licensed products in packages to become a cloud-based digital service provider. This radical transformation of the company has led to changes both for the worker and for the HR function. Indeed, the management of human resources following the digital transformation has become more people-oriented, more varied and therefore there is greater will in planning stimulating works. This is an example of how the HR function had to shape its way of operating to respond to changes brought about by new technologies, allowing the organization to remain competitive.

Strohmeier and Parry (2014), focusing on the impact of the changes produced by digitalization on the management of human resources, highlighted some future challenges that the latter are facing. The so-called *"digital employees"*, or a cohort of people shaped by new digital technologies so as to influence their attitudes, qualifications and behaviors, have required significant strategic and operational changes by human resources professionals.

The purpose of this thesis is to study the impact of digitalization on human resource management in the period 2010-2020. This period deserves special attention as the changes that occurred during it profoundly transformed the HR function. Application of artificial intelligence, smart working, reskilling, gamification and the growing strategic importance of data are just some of the trends that are affecting human resources management.

Digital approaches to human resource management are taking on an increasingly important role and have now become essential for defining strategies for human resources and for the organization as a whole.

Due to the relative novelty of the topic, there are still few studies on the subject and there is no clear identification of the factors that are important for a correct implementation of digital technologies within the HR function and its consequences. We attempt to fill this gap through an exploratory analysis of the literature produced over the past decade.

In particular, by means of this review, we address the following research question:

"What are the factors that determine the success of the digitalization of human resource management (function) and its consequences during the last decade as highlighted by existing literature on the subject?"

Our goal is to study the consequences of HRM digitalization in organizations and identify the factors that determine those consequences. Our target is represented by the whole organization. In fact, if for example the HRIS is adopted only by the HR department, when we talk about digitalization, we refer to the entire organization as everyone is involved in its implementation. Obviously, the purchase decisions of a given digital tool reside in the hands of the decision makers but once the new technology has been acquired everyone can adopt and use it, even if with different access rights.

Finally, it is now necessary to clarify how the term success is related to the factors and consequences that will be examined in this study. Indeed, the literature needed to describe the success of HRM digitalization can be divided into two parts: the first part refers to the adoption of digital tools and the factors that determine success in this phase. The second part concerns the consequences of digitalization. Therefore, the factors driving the adoption of digital tools are a fundamental prerequisite for the success of HRM digitalization. These factors in turn influence the final results of HRM digitalization which determine the success of this process.

The study is structured as follows: the methodology of the literature review is described in the next session. Subsequently, a review of the literature is provided on the factors and consequences of digitalization of HRM. This is followed by the presentation of the results. The study ends with discussion and conclusions.

2. Literature Study Methodology

In this session, the design of the research conducted will be illustrated. In particular, the method of data collection and the method of data analysis used will be explained.

2.1 Literature search

To find relevant literature on digitalization in human resource management, systematic bibliographic research was conducted. To carry out this selection, the keywords "digitization and digital transformation of HRM" have been included in the Google Scholar search database, limited to the period of 2010-2020. There were 2550 articles produced by this search.

The 2550 entries were put on the scan process. By scanning the abstracts (wherever unclear - the full paper), we have selected 95 articles related to the digitalization of human management practices, carried out in the period 2010-2020. Articles that did not deal with HRM digitization but dealt with digitization in general or with the digitization of organizations were excluded and that appeared in the research only because they cited the HR function as an example. Therefore, only articles written entirely in English and which had the digitization of HR practices as their main topic were selected. Subsequently, the titles of these articles, the authors, the abstracts, the year of publication, and the journals from which the articles were published, were entered into a spreadsheet. Furthermore, for each article it was emphasized whether it was a literature review, an empirical article or a conceptual article. In the next phase, we determined two inclusion criteria (relevance for the research question and empirical nature of the study) and one exclusion criterion (literature reviews and conceptual papers). Studies were considered relevant for the research question when they were able to offer empirical results that would allow us to study the factors that determine the adoption of digital tools and their consequences.

From this analysis, 49 articles were selected, while the excluded literature reviews were 18 and the excluded conceptual articles were 28. The 49 articles selected were checked by the senior researcher for relevance and quality for inclusion in the literature review, obtaining a final sample of 26 articles. *Figure 1* summarize the literature search procedure.

From these articles, one was from 2013, one from 2014, five from 2017, eight from 2018, nine from 2019 and two were published in 2020.
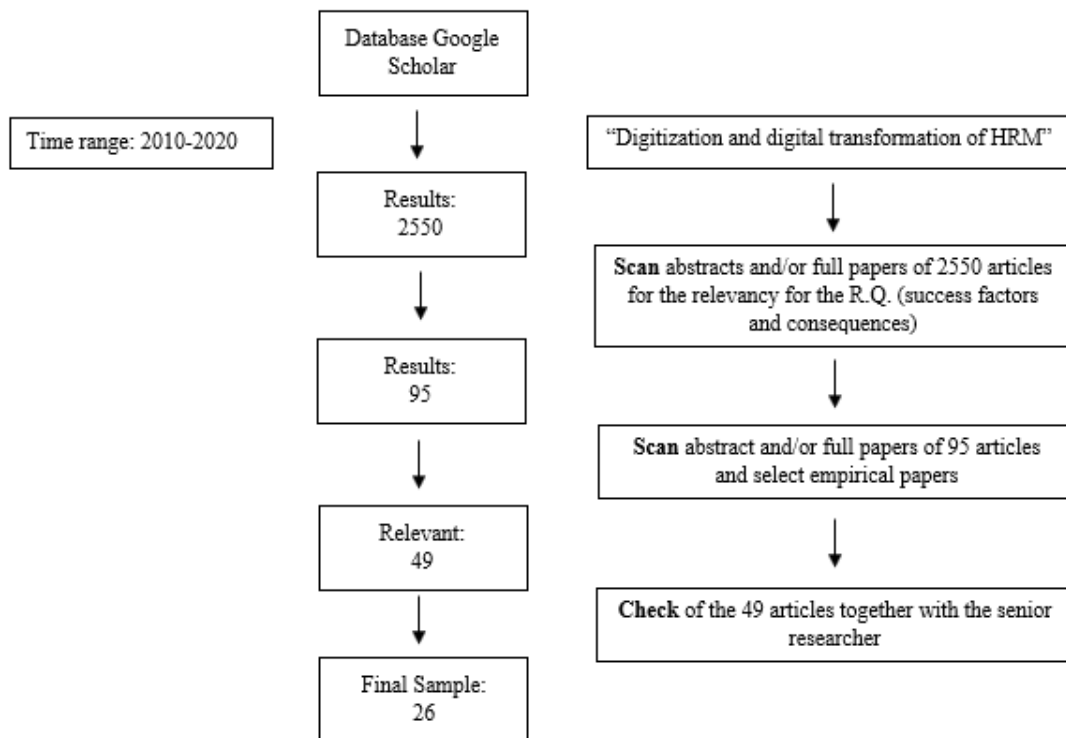
Figure 1: Literature search procedure

2.2 Data Analysis

To answer our research question and identify the factors that determine a successful digitalization of the HRM function and their consequences, we have analyzed the selected articles carefully. To carry out this analysis, a grid (Appendix A) was created and used, consisting of the following columns:

1. Full reference to the article
2. Research goal or research question, as formulated by the author(s)
3. Definition of main concepts (as formulated in the article): digitalization, digitization, digital HRM, implementation, etc.
4. Country where the empirical research was conducted
5. Theories/Concepts used in the research
6. Methods (who were participants, how many, which techniques – survey/interviews – how the data was analysed, etc.)
7. Factors that determine success of the digitalization of HRM
8. Consequences of the digitalization of HRM
9. Conditions that the authors found important for the successful digitalization of HRM

Therefore, the articles have been read in order to search for this information and insert it in the grid. Once the grid was created, this was also checked by the senior researcher, in order to correct any errors. In the next section, the columns of this spreadsheet and the related data have been described, compared and analyzed.

In order to classify the factors that determine the success of the digital transformation of HRM, we use the TOP model developed by Bondarouk et al. (2017). This model, used by the authors to classify the factors that influence the adoption of e-HRM by tracing them back to three fundamental areas (*technological, organizational, people factors*), can also be applied to answer our research question.

3. Results

In the following chapter, the results obtained from the analysis performed are presented. As previously stated, the analysis is structured according to the thematization of the material examined: definition of digitalization, factors necessary for successful HR digitalization, consequences and fundamental conditions. This chapter will highlight the fundamental aspects of the digital transformation process.

3.1 Digitalization definitions

From the analysis carried out it emerges that there is no clear and complete definition of digitalization. Indeed, most authors seem to use this term assuming that the reader is able to understand its meaning without receiving explanations. In this way, rather than giving definitions, they introduce the term digitalization simply by underlining the main implications it has for society in general and for organizations. For example, Evseeva et al. (2019) states that *"the digitalization of processes is relevant not only at the level of individual enterprises: there is a growing pressure from international and domestic network companies that are able to meet all new and new consumer demands as soon as possible"*.

Although in many articles the definition of digitalization is absent (e.g. Florea, 2013; Zeng, 2020; Njoku et al. 2019; Nabila, 2017; Ketolainen, 2018), in others it is inserted. However, we can note that there is no univocal conceptualization of this term. For Kristoff, Hoen, Adrian and Stang (2018), digitalization is about how people use technology. On the other hand, other authors view digitalization as a process. Murphy (2018) states that *"digitalization is the process of converting analogue signals or information in any form into a digital format that can be understood by computer systems or electronic devices"*. This vision of digitalization as a process is also supported by Ketolainen (2018), who defines digital HR transformation as *"the change process of moving to a digital HR to become automated and data-driven. It is the use of technologies that enables changing business"*.

Osipova (2019) further deepened the analysis of this terminology, stating that its meaning can be interpreted strictly or broadly. In the first case, digitalization is seen as a transition from analogue to digital; therefore, this definition coincides with that provided by the other authors. In the second case, according to Osipova (2019) it is necessary to see digitalization as a long-term process that involves not only technical but also strategic changes. This broader vision of the meaning of the word digitalization can also be traced in the work of Abdali (2019), who

says that digitalization requires that alongside the introduction of new digital technologies that require changes in the business model there is also an alignment between the latter and the processes, practices and organizational culture.

Finally, Das and Sureshkrishna (2019) say that organizations must be ready to embrace the adoption of new technologies to remain competitive. In this case, digitalization is seen as an imperative, a necessary change that organizations cannot escape.

After all, several characteristics seem to be important to best define digitalization when the authors talk about this topic. Digitalization is: (1) fast moving and flexible process, (2) easy to use, (3) customer-focused, (4) data driven, (5) collaborative process, (6) strategically important for the success of organizations.

Therefore, in this study we suggest that digitalization is much more than the mere use of digital tools within the organization. Instead, it consists in the implementation of these tools aimed at innovating the business model and long-term corporate strategies.

With reference to the topics covered in the 26 articles analyzed, we can emphasize that most of the authors focus their attention on the impact that digitalization had on some fundamental HR processes, such as the recruitment and training of staff (e.g. Evseeva et al., 2019; Savola and Troqe, 2019). For example, Thaker and Pillai (2018) studied how digital technology-based training and recruitment fit into the organization. The authors highlighted that digital hiring and training, or the use of technological tools to carry out these HR practices, have a positive effect on employee performance and the time needed to carry out these activities. Florea and Badea (2013) explored the topic by identifying the advantages and disadvantages of the different recruiting methods. Other authors, however, have tried to analyze the impact that digital transformation of HR function had on HR managers in order to study how digitalization creates challenges for them (Das and Sureshkrishna, 2019) and how they make sense of digitalization (Bengtsson and Bloom, 2017).

Das and Sureshkrishna (2019) showed that digitalization has brought about a transformation in society at multiple levels and that it has several implications for HRM managers and organizations. This was also confirmed by the study of Bengtsson and Bloom (2017). They highlighted that HR managers perceive digitalization as a process that determines an ever-changing environment to which they must adapt. Digitalization has implications for HR managers in a cycle: it is an enabling factor for implications and these implications are critical to HRM success (Bengtsson and Bloom, 2017).

Finally, some studies have analyzed the impact of digitalization on employees. For example, Lager and Milojkovic (2018) analyzed how companies can adopt digital solutions to manage employees globally, discovering that surveys on employee digital engagement improve employee engagement in corporate activities. Fedorova et al. (2019) studied the impact of digitalization on employee performance. They highlighted that this accomplishment a reduction in routine tasks and human errors.

The researchers analyzed were conducted in 15 different countries *(Table 1).* For example, Evseeva (2019) in his work analyzed how digital tools are used in the management of human resources of the most important Russian companies. The choice of Russia is due to the fact that this country is actively involved in the digitalization process of HRM (Evseeva, 2019). Savola and Troqe (2019), on the other hand, analyzed the management implications of the use of Artificial Intelligence (AI) on recruiting in Sweden. Northern European countries see AI as a fundamental tool for remaining competitive and in particular Sweden is known to be one of the most digitized countries in the world (Savola and Troqe, 2019).

Table 1: Countries in which searches were conducted

Country	Articles
India	Das and Sureshkrishna (2019); Mishra, M. (2014); Thaker and Pillai (2018); Rakhy and Vijayan (2018).
Finland	Ketolainen (2018); Okuneva N. (2018); Khoreva et al. (2019)
Russia	Osipova (2019); Fedorova et al. (2019); Evseeva et al. (2019).
Sweden	Lager and Milojkovic (2018); Bloom and Bengtsson (2017); Savola and Troqe (2019).
Malaysia	Zeng (2020); Latif et al. (2019).
Netherlands	Dionne (2017): van Kruining I. (2017)
Bangladesh	Nabila (2017)
Germany	Thomas (2020)
Ireland	Murphy (2018)
Middle East Market	Nooruddin (2018)
Norway	Kristoff et al. (2018)
New Zealand	Abdali (2019).
Romania	Florea and Badea (2013)
United Kingdom	Njoku et al. (2019)
United States	Onayeva L. (2017)

The sample analyzed in this study consists of 26 articles where authors conducted using different empirical methods, with the dominance of quantitative work. Specifically, for 14 studies the quantitative method was used, for 6 articles the qualitative method and for the remaining 6 articles a mixed method *(see Table 2)*. Therefore, the quantitative method is the most used method within the selected sample. The choice between the different methods is determined by the fundamental purpose that the researcher places in his study. For example, Murphy (2018) motivates his choice by stating that quantitative research allows to measure and numerically establish the variables that are then studied from a statistical point of view in order to understand the relationships with other variables.

Table 2. Method by which the research was conducted

Method	Articles
Quantitative	Florea and Badea (2013); Zeng (2020); Murphy (2018); Thomas (2020); Osipova (2019); Nabila (2017); Kristoff et al. (2018); Mishra, M. (2014); Latif et al. (2019); Evseeva et al. (2019); Savola and Troqe (2019); Thaker and Pillai (2018); Nooruddin (2018); Okuneva (2018)
Mixed Method	Njoku et al. (2019); Lager and Milojkovic (2018); Ketolainen (2018); Fedorova et al. (2019); van Kruining (2017); Rakhy and Vijayan (2018)
Qualitative	Das and Sureshkrishna (2019); Bloom and Bengtsson (2017); Dionne (2017); Abdali (2019); Onayeva (2017); Khoreva et al. (2019)

3.2 Factors necessary for successful digitalization of HRM

Research conducted has revealed that the factors that determine the success of the digitalization of HRM practices are still divided into three categories as it was suggested by Bondarouk et al. (2017) TOP model: technological, organizational and people factors. In this paragraph we will detail these factors *(Table 3.3)*.

Table 3: Essential factors for successful digitalization of HRM

Technological factors	1. Application and characteristics
	   • *Ease of use*
	   • *Usefulness*
	
	2. Data characteristics
	
	3. Integration

Organizational factors	1. Organizational characteristics
	   • *Size of the company*
	   • *Sector characteristics*
	   • *Department size of HR*
	   • *Business area*
	   • *Geographic area*
	
	2. Capabilities and resources
	   • *Budget limitation and financial resources*
	   • *Lack of awareness of HR systems potential*
	   • *Capacity to acquire IT skills among HR staff*

People Factors	1. Top Management Support
	
	2. User Acceptance
	   • *User Age, education, gender, job experience*
	   • *Customer Involvement*

As for technological factors, it is important to consider: Application and characteristics, data characteristics and integration. Njoku (2018) investigated whether *perceived usefulness (PU)* and *perceived ease of use (PEOU)* have a positive relationship with the top manager's attitude towards the value created by the digital tools used in their organizations. She found that this relationship is strong and positive in the case of perceived usefulness, while it is weak and negative in the case of perceived ease of use.

In the studies analyzed, other technological factors that influence the implementation of digital tools were highlighted. These factors concern the characteristics of the data (e.g. Nabila, 2017) and integration (e.g. Murphy, 2018).

The organizational factors that determine the success of the HRM digitalization can be grouped into two main categories: organizational characteristics and, capabilities and resources. From the study conducted by Ketolainen (2018), it emerges that the type of approach to digitalization

of HRM adopted by organizations and its success are strongly influenced by the size, sector, business area and geographic area in which the company operates. The size of organizations appears to be positively correlated to digitalization. In fact, digital transformation is more widespread in medium and large organizations (Ketolainen, 2018). Mishra (2014), analyzing some Indian organizations, highlighted that the private sector is able to better exploit the advantages deriving from the digitalization of HR practices, compared to public sector organizations.

The second category of organizational factors are capabilities and resources. From this point of view, difficulties in acquiring and implementing digital tools within organizations can be mainly due to tight budgets, to the lack of awareness of HR systems potential or to the absence of a staff sufficiently prepared to face the digitization process. According to Abdali (2019), limitations related to budget and financial resources are seen by HR managers as a fundamental factor in determining the success of the corporate digitalization process. This is because the adoption of new digital technologies requires the organization to face a significant cost that heavily influences the decisions of HR managers, forcing them to learn to work by trying to circumvent budgetary constraints (Abdali, 2019). This is also confirmed by the study conducted by Murphy (2018), in which HR professionals say that the biggest obstacle they have to face for the implementation of new digital technologies is the corporate budget.

The lack of awareness of the potential of HR systems was highlighted by Njoku (2018) who said that there is a gap in technological knowledge that does not allow the best use of digital tools. Ketolainen (2018), while acknowledging this problem, admits the progress made recently by stating that "skills have existed for some time, but it is only now that human resource organizations are mature enough for this type of speed".

Finally, as regards people factors, among these we underline in particular: Top management support and user acceptance. Bloom and Bengtsson (2017) say that top management support is one of the most important factors in determining the success of the HRM digitalization process. In fact, HR managers have a fundamental role in making employees understand the importance of this process, but this can be particularly complicated due to the difficulty of the managers themselves in fully understanding digitalization (Bloom and Bengtsson, 2017).

Another factor that determines the success of the digitalization process is the customer involvement. According to Zeng (2020), the use of digital tools, and in particular of AI, allows to create a user-driven employee experience.

3.3 Consequences of HRM digitalization

From the analysis carried out it is clear that digitalization offers positive and negative consequences on HRM practices *(Table 3.4)*.

Table 4: Advantage and Disadvantage of the digitalization of HRM

Advantages of HRM digitalization:	Disadvantages of HRM digitalization:
1. Cost Saving	1. Data Security
2. Efficiency • *Time Saving* • *Productivity* • *HR Efficiency* • *Elimination of paperwork*	2. Lacks suitable skills
3. Effectiveness • *Administrative Quality* • *Flexibilities of HR* • *Level of bureaucracy*	3. Existing HR digital tools are not being exploited to their full potential
4. Employee Relationship • *Cooperation* • *Communication Quality* • *Employee get more informed about organizational issues* • *Employee Motivation*	4. Difficulty in using new technologies by employees
5. Digital HR enables new employment forms	

As for the advantages, the positive aspect that is most often emphasized in the analyzed papers is the cost savings. According to Lager and Milojkovic (2018), through the implementation of digital tools, organizations can achieve reductions in costs incurred because they can speed up processes and information management.

However, Murphy (2018), answering the research question "Can the digitalization of HR services alter employee perceptions of those services and the HR function at the same time as delivering HR operational cost savings to an organization?", concluded that although the satisfaction of employees has increased thanks to the digitalization of the HR function, it is not

clear whether digitalization involves a reduction in the operating costs of human resource management. In particular, the author, in his research work, submitted a questionnaire to HR professionals to study the cost of digitalization and to verify whether this latter had resulted in operational savings for the HR function. This analysis showed that 31% of respondents were not aware of the impact of digitalization on HR management costs, for the same percentage of respondents the cost of managing HR increased, on the contrary for 19% this cost has decreased. So, based on the data obtained from this empirical work, Murphy (2018) concludes by stating that *"the introduction of digital HR services and processes does not actually reduce the cost of running the HR function, although it might very well be that the cost of such is used in different ways"*.

The study showed that the digitalization of HRM practices also leads to an improvement in efficiency. In particular, many of the studies analyzed underlined that the digitalization of HRM has resulted in time savings. This results in an increase in the productivity of the HRM function. Dionne Démeijer (2017) highlights that thanks to digitalization, HRM processes are simplified, simpler and faster. This allows HR professionals to better focus on activities that are meaningful to their function.

With particular reference to recruitment, Nooruddin (2018) showed that the adoption of digitalized HRM practices resulted in a reduction of the work intensity to select candidates, analyze their skills in relation to the requirements required to fill the vacant position and select the subjects to hire. This has translated into a reduction in time and an improvement in the organization's ability to deal with its main objectives.

As far as effectiveness is concerned, the analysis carried out shows that the digitalization of HR practices leads to an increase in administrative quality and HR flexibility, and less bureaucracy within the function. The adoption of digital tools leads to a reduction in the time taken to carry out certain activities. According to Murphy (2018) when HR professionals can do their work from home, through digital tools, there is a reduction in administrative work that makes them feel less stressed and focus on being more efficient. In other words, when HR employees don't have to deal with low-level administrative tasks, they can focus on more strategic jobs with high added value.

Beside these purely operational and organizational consequences, some relationship consequences also emerge: employee motivation, employee engagement, communication quality, new communication channels.

In the study conducted by Murphy (2018) it was highlighted that digitalization improves the commitment of employees who feel more connected to each other. The survey carried out showed that 56% of the interviewees felt more connected to their workplace following the introduction of digital tools.

Lager and Milojkovic (2018) say that digitalization must not remove communication channels but must be able to create new ones, faster and easier to use. According to the authors, these channels must not be alternative to each other and therefore, the use of one channel must not exclude the possibility of using another.

Fedorova et al. (2019) conducted a study to analyze the impact of digitalization of work on employees' motivation. The study showed that by monitoring the work carried out through technological tools, employees feel more motivated to try to improve their performance, to undertake new projects and to obtain recognition from superiors.

Finally, digitalization has led to the creation of new forms of employment. According to Bloom and Bengtsson (2017), this new ongoing trend requires HR managers to engage in ever new challenges, for example by using fixed-term contracts to face future uncertainty or flexible forms of work.

Among the disadvantages caused by the digitalization of human resource management practices, the problems relating to data security (Odegov et al., 2018) and to the management of sensitive employee information (Kristoff et al. 2018) are highlighted in particular. The need to keep certain data confidential can limit the digitalization of the HRM practices (Kristoff et al. 2018).

Digital skills are essential to make the most of the potential of digitalization. However, the analysis carried out shows that there is a lack of suitable skills. As shown by Bloom and Bengtsson (2017) these skills to be acquired by the human resources managers, must be identified by the latter and this can be a very complex process.

3.4 Important conditions for successful digitalization of HRM

In order to obtain a successful HRM digitalization process, scholars emphasize that certain conditions must be met. These conditions are:

1. Clear identification of objective
2. Clear identification of key figure

3. Digital tools as complements to traditional ones

First of all, it is essential that there is a clear and precise identification of the objectives that this process must achieve within the organization (Murphy, 2018). This in fact allows the organization to understand the best direction in which to direct its digital efforts and allows employees to identify more precisely how these technologies redefine their role in the organization.

Secondly, another fundamental condition for the digital transformation of HRM is the identification of key players within the organization. Among these we can underline in particular the role played by HR managers. According to Bloom and Bengtsson (2017), it is crucial that HR managers think they are fundamental factors for digitalization. They need to be able to align their strategy with the corporate vision, in particular they need to develop *"digital awareness"* in order to maximize the benefits of digitalization (Bengtson and Bloom, 2017)

Finally, according to Murphy (2018) digital tools should not be seen as substitutes for traditional HR processes but rather as tools that allow them to be facilitated. However, to achieve the highest level of effectiveness and efficiency, some traditional processes need to be modified to best adapt them to new technologies. This is also confirmed by Ketolainen (2018) who says that HR must be able to balance standard and dynamic *"offering relevant administrative services as efficiently as possible and at the same time being able to be a value creating strategic partner for the business"*

4. Discussion

This section analyzes the results of the analysis in relation to the research objective. In particular, the results will be discussed in relation to the factors that determine the success of the HRM digitalization process. Subsequently, the relative consequences and the essential conditions for achieving a good result will be analyzed.

4.1. General Discussion

The main goal of this research was to study the digitalization of HRM by analyzing the existing publications on this topic, in order to understand the factors that may be important for its success, the consequences determined by it and verify the existence of some conditions to be respected in the implementation of new technologies within the organization.

What immediately emerged from reading the articles is that the literature does not provide a clear definition of digitalization. This literature review helped to discover how the digitalization of HRM is defined by different authors, highlighting the most important characteristics. Through the analysis of the selected articles we discovered that digitalization is a fast-moving process, customer-focused and data driven. This process is also based on collaboration and is strategically important for the success of organizations. Thanks to this analysis, we have suggested that the digitalization must be seen as the implementation of digital tools aimed at innovating the business model and long-term corporate strategies.

After having given an exhaustive definition of the term, we focused on the fundamental objective of the research, namely the study of the effects and consequences of the digitalization of HRM. Based on the obtained results, we can say that the existing literature on the subject focuses more on the study of the consequences of the HRM digitalization, while the study of the factors that determine its success is still limited.

Based on the TOP model (Bondarouk et al., 2017), we have identified some determining factors for the success of HRM digital transformation and divided them into: technological, organizational and people factors. In particular, the analysis shows that organizational factors heavily influence the willingness to adopt digital tools, while technological and people factors influence the HR function once the digitization process is already underway. In fact, organizational factors such as company size, characteristics of the sector, geographical and

business area have a strong impact on the digitalization strategy adopted by organizations (Ketolainen, 2018).

From the studies analyzed it emerged that other organizational factors fundamental for a correct digitalization process are budget limitations, lack of awareness of HR systems potential and capacity to acquire IT skills among HR staff. In particular, budget limitations are the organizational factor most often cited within the empirical research analyzed; the restrictions imposed by budgetary constraints and financial resources represent one of the major obstacles to a good digitization of HRM (e.g. Murphy, 2018; Abdali, 2019).

As regards the technological factors, we have highlighted that those that are most considered important for digital transformation are: Application and characteristics, data characteristics and integration.

The people factors traced are: Top Management Support and User Acceptance. Digitalization can be considered as a change, a force that, by causing pressure on the organization, pushes the latter to evolve (Bengtson and Bloom, 2017). From this perspective, digital transformation represents an external pressure that drives the evolution of organizations. However, digitalization also requires a change in human behavior (Bengtson and Bloom, 2017). The interactions that occur within the HR function have undergone profound transformations following the introduction of new digital technologies. HR managers must be able to support the implementation of new digital technologies. However, the analysis carried out shows that human resources managers are still little aware of the importance of their role in facilitating the adoption and use of digital tools. This ambiguity in HR managers' understanding of the significance of digitalization, as highlighted by Bengtson and Bloom (2017), creates greater uncertainty and new challenges.

Based on our results, the TOP model confirms its ability to internally understand most of the factors that most influence the adoption of digital tools within organizations. The categories and sub-categories identified by the TOP framework are exhaustive and capable of grouping the various factors that can determine the success of HRM digitalization. However, in order to increase its efficiency, the model could be enriched through the study of factors external to the organization, such as economic pressure and institutional factors.

As stated earlier, studying the consequences of HRM digitalization has received more attention from scholars than studying the enabling factors of the digital transformation process. We have divided the consequences of digitalization on HRM into positive and negative.

The positive consequences identified are: cost reduction, increase in effectiveness and efficiency, improvement of relations with employees and creation of new forms of work. Among these, the positive consequences that are most cited in the articles analyzed are cost savings (e.g. Lager and Milojkovic, 2018) and increased efficiency (e.g. Nooruddin, 2018). In particular, it is often highlighted that digitalization is creating new operational and strategic opportunities for HRM (Dionne Démeijer, 2017). Thanks to the greater simplicity and speed with which personnel management processes are carried out, HR managers can perform routine operations more efficiently and spend more time on strategic activities. This transition of the HR function from a purely operational function to a strategic function has profoundly transformed its role within the organization, increasing its importance (Abdali, 2019). In addition, the greater efficiency determined by the use of new digital technologies allows the HR function to become more flexible, increasing administrative quality and reducing bureaucratic tasks.

Regarding the negative consequences of digitalization, we have identified: Data security, lacks suitable skills, difficulty in using new technologies by employees and the fact that existing HR digital tools are not being exploited to their full potential. In particular, the problems that have the greatest impact on the digital transformation of HRM are those relating to data security and the use of new digital technologies.

Finally, we have identified three conditions that must be met in order to achieve a successful digitalization process: clear identification of objectives, clear identification of key figures and clear definition of the functionality of digital tools. Identifying objectives precisely allows the organization to better understand and direct the management of the digitalization process (Murphy, 2018).

The clear identification of the key figures and in particular of those who hold the role of HR manager also contributes to this. In fact, the latter must be seen as fundamental figures for the digitalization of their function as the correct use of new technologies by employees depends on them (Bengtson and Bloom, 2017).

The third condition identified concerns the way in which digital tools must be considered. They should not be seen as a substitute for traditional HR tools but as tools that facilitate normal HR processes.

Digitalization and digital transformation have become important trends especially in the 21st century (Das and Sureshkrishna, 2019). In fact, in this period, fast digital development has taken

on an important role within organizations, impacting all the different units and therefore also HRM. This digital revolution has required the HR function to revise their models and become more flexible. The transformation of the HR function due to the digitalization represents a step forward in the development of the HRM field. In the past, the literature focused more on the study of e-HRM which represents a new way of carrying out traditional HR activities, allowing access to information and services in an "increasingly easier and accessible way to all organizational stakeholders" (Santone, 2020).

The study of the developments achieved in the last decade in relation to e-HRM (Santone, 2020) and digitalization is important because it allows us to understand the progress made by HRM in the field of IT. From the analyzes carried out, in fact, we noticed the absence of articles common to this study and to that carried out by my colleague on e-HRM. This seems to indicate that if in the past it was thought that e-HRM covered all the different applications of IT to human resources, in the last decade technologies have become different and subgroups within that field may have developed. Therefore, it is likely that the study of new IT technologies applied to the HRM field has developed in parallel, creating research subgroups.

4.2. Implications

This study has implications for research and practice. These two different types of implications will now be described in detail.

4.2.1. Implications for research

First of all, this work has implications for research as it provides a definition of the term digitalization. Indeed, the existing literature on the subject does not clearly define the concept of digitalization. Through this study we have provided a definition of the term digitalization that is exhaustive and which we believe can also be used by future research.

The second implication for the research is that this study provides a broad overview of the factors and consequences of the digitalization of HRM. Causes and consequences of a good HRM digitalization have been identified on the basis of empirical research conducted over the past ten years. A study of this kind had not yet been developed in the context of digitalization; therefore this work can represent a starting point for future research.

Thanks to the results obtained, HRM digitalization can be seen as a constantly evolving process whose success depends on technological, organizational and people factors and the consequences they determine.

4.2.2. Implications for practice

The first implication for the practice comes from the fact that our study highlights the factors that may or may not determine the success of HRM digitalization, so practitioners could use it to gain insight into the potential for success of a given digital transformation process.

Based on the results obtained from this study, we can say that the most important recommendation for managers who want to digitize HRM activities is to define a clear plan to follow. This not only allows them to better target their efforts but also ensures that they are able to guide employees towards a correct implementation of digital tools in the HR function. In fact, through the definition of a clear HRM digitalization plan, in which the factors that need to be paid more attention must be explicitly highlighted, HR managers will be able to better study the consequences of their choices and make changes if necessary. where there was a need.

Secondly, this study could therefore be used by other researchers as a basis for the development of a business case to empirically prove our results.

5. Conclusions

The main objective of this study was analyze the impact of digitalization on human resource management and it was conducted trying to answer the following research question:

"What are the factors that determine the success of the digitalization of human resource management (function) and its consequences during the last decade as highlighted by existing literature on the subject?"

To achieve this goal, we have analyzed the existing literature on the subject in order to identify factors and consequences of digital trasformation. Based on this analysis, we can conclude that as initially assumed, digitalization is becoming increasingly important for HR function. The latter, in fact, has the possibility of simplifying, accelerating and economizing the activities it is performing. However, these positive consequences of digital transformation need to be weighed against other negative implications, such as data security concerns or employees' proper learning to use digital tools. Technological, organizational and people factors are essential to successfully implement new digital technologies within the organization, but it is equally important to be able to meet certain conditions such as clear definition of objectives and precise identification of key figures within the organization.

In conclusion, we can state that through this work we are able to provide an overview of the factors that are most important for a correct implementation of new digital technologies within the HR function and its consequences. This study extends existing research on the subject. Although interest in the topic has grown considerably in recent years, there is still no clear definition of what the causes and consequences of the success of the digital transformation process can be. This work represents a step in this direction.

However, the analysis carried out is subject to some limitations. All the limitations connected with the study methodology itself must be considered. Firstly, the choice of publications to be included in the study is influenced by the search terms entered in the database; therefore the use of a specific word clearly determines the exclusion of all publications that use a synonym.

Secondly, our analysis is completely dependent on previously published research and on factors and consequences identified by them. Furthermore, it is important to underline that empirical studies on this topic are still quite limited, probably due to the fact that the interest in it has grown especially in recent years following the strong technological development. Therefore,

there may be different results that have not yet been analyzed empirically and on which the attention of the researchers will have to focus.

Thirdly, to carry out the literature reviews, most scholars use more than one database in order to obtain a complete sample of articles to be analyzed; in this study we only used the Google Scholar database to ensure the reproducibility of the results. Future research could deepen the analysis conducted through the use of a larger sample of articles.

Finally, even if some articles analyzed referred to particular functional areas, we concentrated our attention on the study of the digital transformation of HRM in general, so as to obtain less specific and more generalizable results.

The aim of the study is to provide an overview of the literature produced in the last decade in relation to the digitalization of HRM. With this work we highlight what are the success factors of the digital transformation of the HR function and the related consequences. Future research may use this work as a basis for new studies on digital human resource management. Given the growing importance of digital transformation for organizations, this study can be a starting point in understanding the impact of HR digitalization on business performance.

List of tables

List of figures

References

Abdali, M. (2019). The strategic use of digital learning solutions: An HRM perspective (Doctoral dissertation, Auckland University of Technology).

Bloom, M., & Bengtsson, C. (2017). Human Resource Management in a Digital Era.

Bondarouk, T., Parry, E., & Furtmueller, E. (2017). Electronic HRM: four decades of research on adoption and consequences. The International Journal of Human Resource Management, 28(1), 98-131.

Brennen, J. S., & Kreiss, D. (2016). Digitalization. The international encyclopaedia of communication theory and philosophy, 1-11.

Chirag Thaker & Rashmi Pillai, (2018) Training and recruitment of workforce fit for digital era / Towards Excellence: An Indexed, Refereed & Peer Reviewed Journal of Higher Education / Page 93-105

Das, S. & Sureshkrishna, G. (2019) Challenges of digitalization for HR Professionals: An Exploratory Study. International Journal of Innovative Research in Technology, 6(1).

Démeijer Dionne (2017) Making Digital HRM work: A study in changes in perceived consequences of e-HRM in the past decade. MS thesis. University of Twente

Evseeva, O., Kalchenko, O., Evseeva, S., & Plis, K. (2019, September). Instruments of human resource management based on the digital technologies in Russia. In International Conference on Digital Technologies in Logistics and Infrastructure (ICDTLI 2019). Atlantis Press.

Fedorova, A., Zarubina, A., Pikulina, Y., Moskovskikh, A., Balandina, T., & Gafurova, T. (2019). Digitalization of The Human Resource Management: Russian Companies Case. In International Conference on Education, Social Sciences and Humanities (pp. 1227-1230).

Florea, V. N., & Badea, M. (2013, May). Acceptance of new Technologies in HR: E-Recruitment in Organizations. In Proceedings of the European Conference on Information Management & Evaluation (pp. 344-352).

Gassmann, O., Frankenberger K. and M. Csik (2014). The St. Gallen Business Model Navigator. URL: http://www.im.ethz.ch/education/HS13/MIS13/Business_Model_Navigator.pdf

Heavin, C., & Power, D. J. (2018). Challenges for digital transformation–towards a conceptual decision support guide for managers. Journal of Decision Systems, 27(sup1), 38-45.

Ketolainen N. (2018) Digitalization of Human Resources-the trasformation journey into automated and data-driven service organization.

Khoreva, V., Vaiman, V., Bondarouk, T., & Salojärvi, S. (2019, July). Exploring the Influence of Digitalization on Global Talent Management. In Academy of Management Proceedings (Vol. 2019, No. 1, p. 10238). Briarcliff Manor, NY 10510: Academy of Management.

Kristoff, H., Hoen B. T., Adrian L., & Stang V. (2018), Digitalization & HR

Latif, K. A., Mahmood, N. H. N., & Ali, N. R. M. (2019). Exploring the Changing Human Resource Management Role in the Context of Digital Banking Transformation. Open International Journal of Informatics (OIJI), 7(2), 1-13.

Mishra, M. (2014) Evaluation of Level of E-HRM in Indian Organizations. Bhagawan Chandra Sinha.

Murphy, A. (2018). Can the digitisation of HR services alter employee perceptions of those services and the HR function at the same time as delivering HR operational cost savings to an organisation? (Doctoral dissertation, Dublin Business School).

Nabila Z. Z. (2017). Digital Trasformation: New Era of HR in perspective of Bata.

Nöhammer, E., & Stichlberger, S. (2019). Digitalization, innovative work behavior and extended availability. Journal of Business Economics, 89(8-9), 1191-1214.

Nooruddin F. (2018). To Critically Evaluate How Digitisation/Automation Has Changed the Role of HR Department from Recruitment and Selection Perspective: The Case of Adecco in Middle East Market (Doctoral dissertation, Cardiff Metropolitan University).

Njoku E., Ruel H., Rowlands H., Evans L. & Murdoch M. (2019): An Analysis of the contribution of e-HRM to sustaining business performance. In HRM 4.0 For Human-Centered Organizations. Emerald Publishing Limited.

Okuneva N. (2018). Embracing digitalization in HR: theory and practice of HR Analytics.

Onayeva L. (2017), Digitalization and its impacts on the human resource management. Thesis Empire State College

Osipova O. (2019, September). Digital trasformation of personnel management services. In International Conference on Digital Technologies in Logistics and Infrastructure (ICDTLI 2019). Atlantis Press.

Palmer, I., Dunford, R. & Buchanan, D. A. (2017). Managing Organizational Change: a Multiple Perspectives Approach, 3rd Edition, International ed. New York: McGraw-Hill Education.

Rakhy K. S. & Vijayan S. (2018). Digitalisation in Human Resource Management Process, the Opportunity for the Competence Management in Retail Sector. International Journal of Pure and Applied Mathematics, 119(12), 2569-2581.

Savola, H., & Troqe, B. (2019). Recruiters just wanna have... AI? Implications of implementing AI in HR recruitment.

Santone R. (2020), The constant research on adoption and consequences of e-HRM. A comparison between past and present. Master Thesis. University of Twente.

Stolterman, E. and A. C. Fors (2004). "Information Technology and the Good Life." In: Information Systems Research: Relevant Theory and Informed Practice. Ed. Kaplan, B. et al., London: Kluwer Academic Publishers.

Strohmeier, S. & Parry, E., (2014). HRM in the digital age–digital changes and challenges of the HR profession. Employee Relations.

Thomas G. (2020). Digital Maturity of HR in SMEs. European Journal of Economics and Business Studies, 6(1), 56-62.

van Kruining I. (2017) The dis-app-earance of HRM: Impact of Digitization on the HRM Profession. Electronic HRM in the Smart Era, 311.

Zeng, H (2020) Adaptability of artificial intelligence in Human Resources Management in this Era

Appendix A – Overview of selected articles

References	Research goal/Research question	Definitions of the main concepts	Country	Theories/ concepts used in the research	Methods	Findings: Factors that determine success of the digitalization of HRM	Findings: Consequences of the digitalization of HRM	Findings: Conditions that the authors found important for the successful digitalization of HRM
1. Florea, V. N., & Badea, M. (2013, May). Acceptance of new Technologies in HR: E-Recruitment in Organizations. In Proceedings of the European Conference on Information Management & Evaluation (pp. 344-352).	In this paper the authors analyse the strategies and the methods of recruitment through the Internet in regard to the traditional methods of recruitment used by large organizations from Dambovita County. They also analyse the advantages and the disadvantages of using such method, what kind of organization rather use e-Recruitment, as well as, what kind of employees are rather attracted by e-Recruitment.	E-Recruitment is defined as "the use of technology to attract candidates and aid the recruitment process" (Cushway B., 2012). The use of the internet for recruitment purposes undoubtedly the most striking recent development in the field, but its practical significance remains a question of debate (Torrington D., Hall L. and Taylor S., 2005). The method of matching job	Romania	-	This paper is a descriptive research based empirical data sources. The empirical data used for the research is for the most part provided by the data of the large organizations from Dambovita County.	-	The main advantages are winning time and money for candidates and for organization, too, though e-Recruitment has become an indisputable tool and the main competitor for mass-media (Bournois F. and al., 2007). Web-based recruitment activities range from prospective students' portal; online submission of online applications; online examination; online confirmation and enrolment. Organizations e-mail information	-

		seekers to employers that has emerged over the last few years, and is growing more quickly than any other means, is Internet recruitment [Cooper D. et al., 2003]. E-Recruitment is now a substantial component of the recruitment strategy for a wide range of organizations worldwide, as well as an increasingly popular method for seekers in searching and applying for jobs (CCH WKB, 2010). E-Recruitment is one of the most successful e-Commerce applications as a method for quickly reaching a large pool of the potential job seekers [Torres-Coronas T,				and job opportunities directly to them at little cost. The process of e Recruitment consists of attracting, screening and tracking applicants, selecting, and offering jobs or rejecting candidates. A typical approach is to advertise the vacancy on an on-line recruitment site (Armstrong M., 2007). This will provide job details and information about the organization. Fees for Internet job sites tend to be lower than for other employment sources, such as advertising and recruitment agencies. Advantages obtained using e-Recruitment (Bournois F. and al., 2007): winning time;	

| | | Arias-Oliva M., 2005]. | | | | | lower costs comparing with mass-media; relatively simple and usable technique for all; growing productivity compared with analyzing of written and submitted resumes. E-Recruitment has several other advantages: low cost, quick response time, broad range of applicants, more educated applicants (Bondarouk T., 2009), worldwide accessibility (Galanaki E., 2002) at their own convenience- 24 hours, 7 days a week. It has been demonstrated a shorter recruitment cycle and lower cost-per-hire. Now, not only those people who look for a job, but passive job seekers who would be | |

							interested in some working conditions or the recruitment message can easily browse the online advertisements.	
2. Zeng, H (2020) Adaptability of artificial intelligence in Human Resources Management in this Era	What are the barriers to adopting AI technologies? What is causing the slow adoption of AI in this field? Financial barriers can be blamed for the lack of wider tool implementation to assist in HR administrative tasks. Other key barriers to AI adoption include: Talent gap: it can be expensive and hard to find properly educated	Artificial intelligence (AI) refers to technology used to do a task that requires some level of intelligence to accomplish—in other words, a tool trained to do what a human can do. Core AI technologies provide better accuracy and stability to everyday processes using an algorithm	Malaysia	In this regard following theory to be tried. They are: Free Variables. 1) Identify the business problem to solve using artificial intelligence and start collecting data on the current state of the problem and the key KPI you want to impact with AI. 2) Build a cross functional team of key stakeholders to educate them on the business benefits of using AI to solve key business problems. 3) Implement learning opportunities for key job roles impacted in HR by AI (such as those in	As far as the theory is concern, the study will follow the descriptive research method. The above theory formulated, and one dependent variable supported by five other variables as independent variables were incorporated. One mediator is introduced for a unique model for the study to follow for a probable solution	In the era of digitization Artificial Intelligence is colouring the fantasy images and is proved to be the gist of technological excellence. It has not only simplified the human learning but also provided real growth to the business and has proved to be very useful in enhancing employee engagements as well as satisfaction level. It is a future	AI is used in checking employee turnover at initial stages. AI is helping with employee retention by eliminating monotonous tasks, understanding employee engagement factors thereby improving the overall performance of companies.	-

	or skilled people. Concern over privacy: confidential HR data must be accessed securely and available only to the authorized person. Ongoing maintenance: as with other innovative technologies, AI requires deep learning and regular review and updates. Integration capabilities: data availability is limited, due to the HR trend toward SAAS (Software as a Service). Limited proven applications: many products and services are feasible based on proof of concept only. However, the cost of using AI can be justified for the following human resource functions: 1) Reducing the amount of time HR professionals spend on	that connects quality data with fast computation services. AI technologies offer significant opportunities to improve HR functions, such as self-service transactions, recruiting and talent acquisition, payroll, reporting, access policies and procedures.		Recruiting, New Hire On-Boarding and Corporate Learning). 4) Identify new jobs and skills needed as AI is leveraged in the workplace. 5) Change performance management and development skills needed in HR roles to include a fundamental understanding of how to use artificial intelligence across the employee life cycle.	to the issue raised. On the above concept, at field level investigation will be carried out for finalizing the module. The Quantitative research methods will be adopted for analysis with the SPSS spread sheet and Smart PLS till module found supportive. The study may be conducted with (Explorative Research) methods. As in the said method, the module is defined as a specific line of inquiry, often for future research with the purpose of making recommendation	game changer which is transforming our lives at home as well as at work. Artificial Intelligence is the engine that is driving the new wave of digital transformation among the different resources by making use of several AI tools for HRM be it, recruitment, selection, training and development, performance management, compensation and reward management.	The benefits of AI and automation for HR and the workforce don't come instantly, however. It's a journey and one can see the short-term benefits of this journey in automation, the medium-term benefits in augmentation and finally the long-term benefits in the amplification of human activities or tasks. Short medium and long term effects of AI and automation in HR.	

	administrative tasks. 2) Reducing the burden of shared service centers and help desks by performing HR transactions and providing answers for routine queries. 3)Recruiting and retention. 4)Measuring return on investments. Reducing bias in HR decision-making.							
3. Njoku E., Ruel H., Rowlands H., Evans L. & Murdoch M. (2019): An Analysis of the contribution of e-HRM to sustaining business performance. In HRM 4.0 For Human-	The research aimed to explore the contribution of e-HRM to sustaining business performance from the lived	The authors have various opinions as to what exactly e-HRM is and does for the HR function. As some suggest	United Kingdom	Models focused on exploring users' attitude towards the value e-HRM creates in their organisation and how this affects their strategic use of the technology were developed- using the	The research was designed and undertaken as a qualitative research because there was no investigative framework to	The research demonstrated that the strategic e-HRM activities pivotal to e-HRM's contribution to SBP include: 'Using e-HRM as a	e-HRM can create strategic value by improving HR's capability to contribute to business performance, the	-

33

Centered Organizations. Emerald Publishing Limited.	experiences of HR professionals and Line managers, to provide some understanding on how e-HRM can create strategic value and contribute to organisational performance, and to sustaining business performance in rapidly changing environments. To achieve this, the research objectives included the following: 1) To explore and identify factors that influence how e-HRM can contribute to sustaining business performance, 2) To explain the mechanisms and social structures involved in sustaining business performance using e-HRM, by providing an in-depth understanding of the factors	that it is an administrative tool which supports the day-to-day operations of HR administrative duties. Some others suggest that it is a relational tool that improves the communication and information flow between the HR function and its service users, which also improves the interaction between managers and employees		Technology Acceptance Model (TAM) (Davis, 1989). The final model was developed to explore how 'improved strategic HRM orientation' realised from the strategic use of e-HRM influences e-HRM's contribution to sustaining business performance-using RBV (Barney, 1991). The models were developed to link literature to the research objectives and to provide a clear structure for the research process and its methodological approach	explore the phenomenon under investigation and the lack of a unifying understanding of the phenomenon. The research was about an in-depth analysis of the phenomenon from the perspective of the social actors related to the construction of its reality. As a triangulation-mixed method research, there was the need to collect both types of data on the same questionnaire, to avoid giving undue weight to one database over the other during the data analysis stage. Semi-structured interviews were used as the only data collection method for Stage 2 of the research. In terms of sample size for the semi-structured	performance management system' and 'Using e-HRM as a means of intra-organisational HR communication'. They were shown to contribute to SBP only when they complement each other, rather than when they are used alone. Suggesting that their value creating potential will lie in them being 'co-specialised assets' (Teece, 1982; Pitelis and Teece, 2010), derived through resource complementarity rather than when they are used alone. Technology was revealed to be about implementing 'Operational', 'Relational' and 'an intuitive fully integrated. Transformational e-HRM technology', that encourages the internal fit for e-HRM's	theories were not sufficiently utilised in previous studies and there still isn't a widely acknowledged investigative framework to undertake research. The HRM context includes: 'HRM policy/practices consistency', 'HR technology competence', 'Clarity of e-HRM goal', and 'Expectations of e HRM'. The 'HRM context' is expected to moderate or precede 'HRM strength' and 'HRM value creation' (thus, 'e-HRM value creation') in the organisation. While, the Line managers' context includes: 'Line managers' accepting to use e-HRM for people management activities', 'Line	

| | identified to influence this within the research, 3) To critically examine HR professionals and Line managers' attitude towards the value e-HRM creates in their organisation, aimed to understand how any differences between individuals or groups influences e-HRM's contribution to sustaining business performance, 4) To propose a model that enables academics and practitioners to understand the link between e-HRM and sustaining business performance. | | | | interviews, rather than selecting many people, the decision was based on the need to identify a small number of the relevant social actors (comprising of HR managers and Line managers), who will be able to provide rich detailed information on the social phenomenon through their lived experiences of it. Not so many people were interviewed, so that the researcher would not be in the danger of being overwhelmed by the amount of data generated (Smith, 2004). And because it is more problematic to try to meet IPA's idiographic commitments with a sample that is 'too large', than with one that is 'too small' | contribution to SBP. The strategic use of e-HRM is about these social actors using 'an intuitive and fully integrated e-HRM technology' frontend, so that they can use it to fulfil both the transactional aspect of strategic e-HRM activities (i.e. recording information and outcomes of the strategic activities) and fulfilling the strategic aspect of strategic e-HRM activities (i.e. retrieving the strategically relevant HR information from the technology, so that it can be used to drive organisational decisions to facilitate business success). Which is expected to facilitate the strategic partnering between HR and Line managers, towards enhancing HR's capability to | managers having sufficient face-to-face interaction with their staff', 'Line managers' consistent use of all e-HRM technologies', and 'Line managers' ability to look at statistical reports for their teams'. Because these are the factors revealed to enable Line managers undertake people and performance management activities in ways that will lead to improvements in organisational performance. Since they are the factors that were shown to enable Line managers to contribute meaningfully to be a strategic partner with HR, towards enhancing HR's ability to become more strategic in its activities and contribute to organisational performance | |

					(Smith et al., 2011). The research sample for the first stage of the research were 10 HR professionals and 19 Line managers, who work at the Office of National Statistics (ONS), in South Wales, UK.	become more strategic in its activities by using e-HRM.		
4. Murphy, A. (2018). Can the digitisation of HR services alter employee perceptions of those services and the HR function at the same time as delivering HR operational cost savings to an organisation? (Doctoral dissertation, Dublin Business School).	The purpose of this research is to answer the following question; "Can the digitisation of HR services alter employee perceptions of those services and the HR function at the same time as delivering HR operational cost savings to an organisation?" The research will review several organisations both in Ireland and internationally which have undergone a digital transformation of	Bhatia, 2016 says that "digitisation is the process of converting analogue signals or information in any form into a digital format that can be understood by computer systems or electronic devices". Bondarouk and Ruel (2009) in their research to define electronic Human Resource Management ("e-HRM") said that new HR	Ireland	-	Having decided on the research philosophy of this research the author has chosen the deduction research approach firstly, because it is the approach that is usually associated with the positivist philosophy (Saunders et al, 2016). Secondly, if research starts with a theory from academic readings or other articles and the research is designed to either corroborate or contradict that	The author also examined whether there were differences in levels of employee satisfaction in relation to location or employee, age of employee, industry in which the employee worked or size of the company in which the employee worked. The author found that whether an employee was office based or not office based made no significant difference to the level of employee satisfaction with digital HR services. In terms of age, the author	Digitisation of HR services and processes would lead to great efficiency for HR functions. HR functions would not spend as much time as before on administrative tasks thus becoming a more value adding strategic business function. The digitisation of HR services would lead to more engaged employees and higher satisfaction with the HR function. Finally, the HR headcount would	The author, through his research found that the organisations in which respondents worked, both managers and employees were, in the main satisfied with the digitisation of HR services in terms of HR processes, policies and procedures and performance management. While there appeared to be great satisfaction with

36

| | HR services in the twelve months preceding a quantitative survey being conducted which will form the basis of this research. The research will examine if, in the view of employees that the digitisation of HR processes and services has led to greater satisfaction with the services offered and the HR function. | technologies are aimed at employees and managers whereas until the mid-1980's HR technology was primarily directed at HR departments. The author conducted the research with employees, managers and the HR function in mind. The digitisation of the workplace is creating new opportunities for how employees interact with each other and their organisations. (Jesuthasan, 2017) Bersin (2015) outlines some challenges facing organisations in the transition to digital HR; • Disruptive leadership is required to lead the change to a | | | theory, then it is most likely the deductive approach which is being followed (Saunders et al, 2016). Quantitative research methods are usually associated with the positivist research philosophy however that is not the only reason that the author has chosen this methodology for his research. Because quantitative research measures variables which can be defined numerically and subsequently subjected to statistical analysis to discover relationships between the variable, quantitative techniques are the correct choice for this research. There was a total of 105 | found that while age was not a significant factor in relation to satisfaction, though older employees in the baby boomers age category were less satisfied than their younger counterparts. From an industry perspective, employees in the pharmaceutical industry were more satisfied with the digitisation of HR services and employees in the telecommunications industry or other industries. Finally, in terms of company size, the research showed that the smaller the company, the more satisfied employees were with the HR function as a result of digitisation. HR professionals reported that the biggest obstacle they faced when implementing digital HR services was buy-in from senior management with the second | reduce, and operational HR costs would decrease as a result of digitisation. The digitisation of HR services and processes has led to employees, managers and HR professionals all feeling more connected to the workplace particularly by using such services from home. From a HR professionals' perspective, the majority of those who responded to the survey said that the digitisation of HR services and processes has led to greater engagement and satisfaction with the HR function as a whole. As many previous authors found in their research, the amount of time HR professionals spend on administrative tasks decreased | performance management from employees and managers, HR professionals were not as convinced of the impact. The area where satisfaction was lowest for managers and employees was in communication of upcoming changes to the digital transformation of HR and the training received. The author recommends that a clear communications plan and training plan is put in place to ensure greater success in digital implementation. The author recommends that clear policies and guidelines are put in place for accessing |

		digital workplace. • HR needs to be re-skilled to work in new ways and to adopt technological change. HR business processes and practices will have to be redesigned to deliver value adding digital solutions as introducing technology without changing the processes will fail. This is particularly true when organisations need to attract millennials and Generation Z employees (which the author will discuss later). • Organisations must gain buy-in from employees for the change to digital to be successful, it cannot be done in isolation by			respondents to the research questionnaire (appendix 1) which the author sent to personal HR contacts in the HR software vendor and other companies mentioned in section 1.3. Ideally there would have been a larger number of respondents to the questionnaire but again, given the short time frame in which the research had to be conducted there may be some limitations on the statistical significance of some of the findings of this research.	biggest obstacle being budget. Digitisation of HR services and processes has had a positive impact in areas such as recruitment, compensation & benefits and salary planning. The one area that stood out in the research for not having the same level of positivity about its impact was performance management. There is no doubt, from the authors experience as a HR professional that digital HR facilitates objective setting and performance management, however it is not a substitute for the actual process of meaningful performance conversations and SMART objective setting.	while the time spent on higher value adding tasks increased.	online services outside work hours. Senior management buy-in must be gained at the start of creating the business case for the digitisation of HR. HR must create a cost benefit business case aligned with IT and the digital strategy of the entire organisation. HR must create a clear digital strategy and roadmap. HR needs to be re-skilled to adapt to this technological change and become a credible business partner. The author recommends that HR technology is not seen a replacement for many traditional HR processes. HR technology

		the management of the organisation.					efficiently facilitates HR processes; however, such processes may have to be redesigned so as to extract maximum efficiency and effectiveness. The author recommends that HR should create and expectation of redeployment of resources into higher value adding HR activities rather than creating an expectation of cost savings as a result of the digitisation of HR.

| 5. Das, S. & Sureshkrishna, G. (2019) Challenges of digitalization for HR Professionals: An Exploratory Study. International Journal of Innovative Research in Technology, 6(1). | A large part of the previous academic research on the topic focuses on how technology has streamlined HR processes such as planning, recruitment and performance management through the use of digital tools (Obeidat, 2015; Stone & Dulebohn 2013; Bondarouk & Ruël, 2009; Marler & Fisher, 2013). However, this approach of "digital HR" or "e-HRM" has a stronger focus on the digitization of HR processes. This study discusses how digitalization creates challenges for HR managers. Bell Lee and Yeung (2006) argue that the digitalization and the use of technology have resulted in further implications for the role of HR, its | Digitalization has become a buzzword in the organizational press and addressed as something organizations must embrace in order to stay relevant (Goldstein, 2015; Deloitte, 2016).

Technological development has played a major role in the evolution of the HR. It affects HRM in a much broader perspective than the use of IT systems (Hempel, 2004; Thite & Kavanagh, 2009). Apart from being a direct force of change through digitization of specific HR processes, the technological development also has indirect | India | - | An unstructured interview was conducted with selected HR practitioners working in IT, automotive and telecom sectors where the impact of digitalisation is visibly high. The respondents were asked to list out the issues and challenges in the digital age particularly with the advent of cloud computing, big data analytics, internet of things, artificial intelligence, blockchain and other emerging technologies. It was found that the HR professionals tend to face a lots challenges due to emergence of digitalisation and its subsequent application in the area of human capital management. | When approaching the topic of digitalization, a clear majority of the HR professionals referred to it as an on-going change that organizations have to handle. A majority of respondents have disclosed that digitalization in the organization is perceived as an external pressure for change. Digitalization was also perceived by most of the HR managers as a disruptive change that requires the organization to adapt whether they like it or not. The prominent perception among the HR managers was that the driving force for change has its foundation external to the organization, as a result of the digitalization. HR managers perceive digitalization as affecting HRM on | Digitalization affects everyone, and therefore results in both direct and indirect implications for the organization. Building on this, it was demonstrated that digitalization also has implication for HR managers in multiple ways. However, digitalization is a strong driver for change, causing tremendous implications for organizations. This in turn requires organizations to recognize both the direct and indirect consequences the technological environment brings in. | - |

capabilities and competencies.	effects on HRM.				further levels beyond the potential use of digital HR tools. It puts pressure on the role of HRM to evolve as it changes how organizations work. The HR managers did perceive that digitalization as an external pressure for change, creates challenges for them in many ways through the need for new HR competencies due to digitalization and flexible ways of working.		

6. Thomas G. (2020). Digital Maturity of HR in SMEs. European Journal of Economics and Business Studies, 6(1), 56-62.	This paper focuses on the digitalization of HR management in SMEs. The situation if discussed both in the light of SMEs, who are faced with unique challenges in terms of digitalization and its subsequent management. The role of the entrepreneurs/head of SMEs in driving the digitalization process is discussed. In a similar vein, the role HR departments can take both in their own digitalization and in the one of the company is displayed from various points of view, citing evidence that HR departments – especially of SMEs – often lag behind in terms of digitalization, thus not living up to their full potential as	Digitalization and digital transformation processes pose chances and challenges to companies in a variety of different aspects. Authors such as Tapscott and Barry (2009) see the digital transformation of companies as a consequence and also as the basis of digitization. While digitization on the one hand creates the necessary technological basis for digitally transformed business processes, it also makes such a transformation necessary. Tapscott and Barry (2009) particularly emphasize the role of IT departments.	Germany	The current paper followed a quantitative approach, driven by the proposal of Oertig, Estermann and Thoma (2017) who described a model of assessing the digital maturity of HR departments in SMEs. The authors proposed three major stages on the way to digital maturity, starting with a phase labelled Ad Hoc, where digital solutions such as Microsoft Word and Microsoft Excel are used, but no connection of HR functions to other digital platforms in the company exists. Problems are solved when necessary, in this step, without strategic, long-term goals in the field of digital transformation. The second stage is labelled Integrated Solutions. This step, according to Oertig et al (2017) sees digital connections of the HR function to other departments and their digital platforms. Digital processes are supporting and guiding the work of the HR departments in this stage. Data is widely accessible and first steps towards automatization of tasks are taken in this stage. The third and final stage of	A quantitative survey with 11 items was conducted via the Online Platform SurveyMonkey. The questions were posed as closed questions and formulated in close accordance with the classification presented by Oertig et al (2017). A total of n = 16 participants stemming from an expert group of HR managers in German SMEs took part in this study in regard to the digital maturity of their own departments.	HR departments can strongly shape the success of company-wide digitalization as they can provide the necessary skills or adequately skilled employees, that are needed for such processes	-	The responsibility to push for stronger digital transformation – especially in SMEs – lays with the entrepreneur or top management itself. The digital HR strategy thereby should be part of a general digitalization strategy

	internal service partners of companies.	According to the authors, these were purely service providers within the company for a long time and were primarily responsible for ensuring that the actual business processes were able to operate smoothly.		digital maturity of HR departments is labelled Analytics and describes one of the core goals of digital transformation. The usage of data to make meaningful predictions is one of the most powerful applications of digitization and characterizes the third stage of digital maturity (Oertig et al, 2017).				
7. Osipova O. (2019, September). Digital trasformation of personnel management services. In International Conference on Digital Technologies in Logistics and Infrastructure (ICDTLI 2019). Atlantis Press.	How do HR-specialists evaluate the process of transformation of transport-logistics companies into digital companies? How does digital transformation in the field of logistics and transport differ from Pan-Russian indices? How do processes of human	The meaning of the term digitization in a narrow sense and a broad sense must be differentiated. The term digitization (in the narrow technical sense of the word) implies transforming information from the analogue form to the digital	Russia	-	A sociological survey by the temporary creative team was conducted to define the key drivers of changes, possibilities and restrictions of the HR management systems of organizations, in the conditions of the digitization of economy in the framework of scientific project.	All the respondents think that the automation processes of HR processes must continuously happen on the basis of step by step realization of smaller projects and their integration within the framework of a developed HR-strategy.	The introduction of IoT technologies in logistics allows solving such relevant tasks in this field as reducing the expenses for cargo carriers and delays on the way. Also, it allows to increase transparency of transportations (including help of RFID marks) and minimize the	The present study has confirmed that among the executive level and HR specialists there is an increasing understanding that the specific technologies do not guarantee a shift to the next level of growth and effectiveness. For the fourth industrial

	resources management are changing; how mature is automation of HR processes? How do the HR managers, working in the transport logistics sector of the economy, view the future of personnel management service? The main aim of the present paper is to study the extent of development of digital maturity of the companies and of HR processes in the transport-logistics sector.	form Order of the Government of Moscow. In management, it is necessary to study digitization in the broad sense of the term as a long-term process, leading not only to technical changes. "The digitization is neither a technology nor a product. It is rather an approach in using digital resources for transformation of works in an organization, as noted by Kerravala Consulting Group in their study. The digitization implies redefining technologies and business processes in order to improve the working environment of personnel, and			The first stage of the sociological survey was conducted among the specialists responsible for managing personnel in Russian organizations from 4th to 26th June 2019. The form consisted of 5 parts. The survey was conducted remotely with the aid of processing software GoogleDocs. Later on, the received data was processed with the aid of Excel program. In the present paper the survey results of only one of the respondent groups was analyzed, that is of employees of HR services in transport, logistics and distribution organizations. Among all the people surveyed the number of respondents representing		influence of human factor.	revolution, the key role lies in the extent of integration into socioeconomic and working relations, and not in a set of separate technologies.

		also interaction with customers and other participants in the activities of modern distribution companies. Digitalization significantly improves company's productivity and coverage"			transport, logistics and distribution organizations amount to 57 people. In accordance with the official affiliation, 43.75% of respondents were HR managers, heads of HR departments - 41.67%, HR partners, HR directors - 6.25% of respondents. 40% of the respondents have 3 to 10 years of working experience in personnel management services, and same figure is for respondents having more than 10 years. Almost same figure was for employees of HR groups who had from 1 year working experience and from 1 to 3 years. 90.5% of respondents work in subdivisions called "personnel management",		

					while 7.14 % work in "HR management".				
8. Nabila Z. Z. (2017). Digital Trasformation: New Era of HR in perspective of Bata.	This report aims to project the impact of automation in HR practices in perspective of the Bata Shoe company. Anyone interested to get a detailed picture of the HR practices in country's topmost company from retail industry and the effect of digitization process in organization will find this report helpful.	Today, almost every company is undergoing a digital transformation. HR leaders are trying to create a social, mobile and consumer-style experience for employees. Cloud and mobile computing, artificial intelligence, and increasing automation have created the potential to transform nearly every aspect of a business.

Forward looking HR leaders, are transforming HR to deliver an employee experience that is human centered, uses the latest digital technologies, | Bangladesh | - | This is a qualitative report containing qualitative data regarding the Digital HR Practices of Bata Shoe Company Ltd. All the information collected are features and descriptive grounded hence the outcome is descriptive as well. For preparing this report the author used primary & secondary both data collected from different sources. The author has collected the primary data from different department of Bata Shoe Company (BD) Ltd. information revealed from the discussion with managers, executives and | - | Digital is fundamentally changing the way businesses and governments operate—from how they interact with customers, citizens and suppliers, to how they manage their employees. New digital technologies enable not only greater integration and flexibility than ever before, but also the ability for employees to have a greater share of voice and ability to participate in defining and even creating their own work experiences HR departments that ignore this transformation could face obsolescence. | - |

		and is personalized, compelling, and memorable.			staff. Primary data have been collected with face to face discussions with the employees of people & corporate division. For the secondary sources, the author has collected all these secondary data mostly from— Company's official records and printed materials, Internet, Website of other Bata Shoe Organization. All the above stated sources have been used to equipped different part of the report.		Inherent in the use of HR management systems is the means for inaccuracy. Because computers and their associated programs are only as effective as their human users, data entry errors can and do occur.	
9. Kristoff, H., Hoen B. T., Adrian L., & Stang V. (2018), Digitalization & HR	"How does digitalization affect GSS HR's services and the user-experiences of their customers?" By the "customers" we are referring mainly to those	Digitalization refers to how people utilize IT, and digitization refers to how IT takes over tasks that earlier were conducted by humans.	Norway	-	The authors decided to use both in-depth interviews and focus group interviews as parts of our data collection process. The purpose of the in-	-	The digitization of paper-based information was referred to as an improvement to their user-experience. However, there are still shortcomings in	-

whom use the services provided by GSS HR, and these are specifically line managers, Business Area HR and the employees at the GSS HR department. This research question contains two stages. Firstly, we will through our analysis try to answer our research question by examining how HR services and processes can affect the user-experience through digitalization. Secondly, we will draw lines from the processes above and create suggestions regarding possibilities and concerns regarding digital HR.				depth interviews was to get a broader perspective of the topic of digitalization of HR, and to get useful insight at an early stage of the data collection process. The focus group interviews were arranged to target more specific information about the customers views on the same topic, with their personal experiences from using the services provided by GSS HR. Both the in-depth and focus group interviews had a semi-structured designed, but with different interview guides based on their purpose. All the interviews lasted for around one and a half hour. One researcher operated as a moderator who sat the agenda		the services, particularly regarding the intuitiveness of some tools and systems. The organisational learning and development of user-friendly services suffers due to a lack of reciprocal and continuous feedback. A two-way feedback loop and implementation of this feedback in the development of the services, would probably improve the user-experience. Lastly, digitalization could positively affect the user-experience if it provided the line managers with more self-service tools and autonomy. This idea has been supported by our analysis and additional research.	

and directed the discussion. The other researcher acted as an observer and noted down important arguments and attitudes in the context of the interviews. The authors chose to conduct in-depth interviews with experts as our research question implied an exploration of the field of digitalization and digital HR.

They executed in total four focus group interviews, with 3-5 participants in each interview. After the in-depth interviews were completed the recordings were transcribed. Since our interview guide was already split into themes, there were no additional need to code or categorize these transcriptions.

| 10. Digitalization and the renewal of employee engagement surveys | The current research in the field of employee engagement within multinational corporations is not focused on the digital transformation that the world is experiencing today. There is a research gap within this field of research that needs to be explored and explained in order to understand the possibilities of digital tools and how they could work to benefit the employee engagement within multinational corporations. The study will furthermore investigate how a continuous digital survey could help the HR managers and departments in multinational firms to utilize the sampled information for improvements. In | Electronic Human Resource Management is a relatively new area in the field of HRM, which importance has grown since the modern technology evolved the industry where the rapid development of Internet during the last decades has opened up and accelerated the implementation of electronic solutions in the field of HRM (Strohmeier, 2007).

E-HRM encompasses the integration mechanisms and contents shared between HRM and Information Technology (IT) and includes all cases when IT is used to plan, implement or | Sweden | Previous studies within the field of employee engagement has stated that there is an obvious relationship between employee engagement and organizational performance. This relationship is not measured, only confirmed in this thesis and is therefore not highlighted in following framework. Instead, focus will be put on how the traditional way of measuring employee engagement through an annual engagement survey is perceived within a multinational corporation and if there is a need of a digital and more frequent survey to be implemented. The arrows of both annual survey and digital frequent survey points towards employee engagement since they both are a tool designed to measure the engagement within a firm. Annual surveys are the traditional way of measuring and has been criticized as ineffective while new pulse survey tools (frequent engagement surveys) has started to enter the market. The study will investigate how a digital frequent engagement survey will contribute to a | Different types of research strategies can be used in order to collect relevant data for a thesis. The research strategy is most commonly divided into two main approaches: qualitative and quantitative (Bryman & Bell, 2015). This thesis has used a qualitative research approach with the motive of building a deep analysis where value can be added by interviewees thoughts and explanations. The qualitative approach gives room for the individuals own interpretation and perception of the studied phenomenon; thus, this gives a more subjective perspective in comparison to what a quantitative | - | Implementing digital tools could speed up the informational process that enable firms to be more productive and cost efficient. The managers can act on real time data that enable them to discover issues and dissatisfaction at an early stage.

A digital tool could help to gain more interaction with employees abroad. a digital tool is not supposed to remove that type of communication but rather to add a new and easy alternative.

The digital way of meeting could also be time efficient since the HR workers would not have to travel as much in their work to meet employees located at different places. | It is important to have both digital and personal tools since different generations might request different things

By implementing more digital tools within HRM, it allows people to have less administrative work and enables more focus on human touch, coaching and meetings. Digital tools is not something that will get rid of the human touch but rather make new solutions for having more interaction than before.

If one way of becoming more time efficient is by implementing digital tools it should be considered as an opportunity |

order to investigate how multinational firms can benefit from utilizing digital solutions, problems associated with the digitalization needs to be addressed. This thesis will focus on exploring the possibility of integrating a digital tool within a organizations work with employee engagement and investigate issues that might arise. Thus, the first research question is: "What are the challenges with current employee engagement surveys within a multinational corporation?"

perform any HRM activity (Bondarouk & Ruël, 2009; Strohmeier, 2007).

HRIS refers to automation of systems for benefitting the HR function, for example storing employee data, managing payrolls and recruitment processes (Heikkilä, 2013), while e-HRM is more focused on the application of internet and web-based systems, which in turn leads to a modifying integration between the HR personnel, line managers and employees (Heikkilä, 2013).

firm work with employee engagement and what challenges the annual survey brings. Thus, the following framework has created to clarify the conceptual framework used within this thesis.

method would result in. The gathered data consists of both primary and secondary data. The heart of the study is however the in depth, semi-structured interviews conducted with personnel at Stena and Nevin Insights AB. The interviewees perceptions on employee engagement and e HRM have been central in the progress of investigate the research questions. Interviewees were chosen based on convenience sampling since a pilot project between Nevin and Stena had occurred since before. Some of interviewees at Stena was therefore aware of Nevins service and a deeper interview could be performed.

of improvement that organizations should make full use of since it allows them to focus on other things that are more efficient.

Digital tools should be used in combination with physical meetings in order for organizations to keep the human and caring touch. With that said, it is not necessarily believed to be a problem when minimizing the human touch within an organization. One should not forget that the primary goal for an organization is to make profit and it is therefore of interest to effective as many procedures as possible.

					Furthermore, other interviews with HR-managers at Stena was conducted since the research is of exploratory kind and a bird's perspective was implemented where the thoughts and perceptions of HR-managers was relevant to investigate the research question. The data was gathered through six in-depth, semi-structured interviews. Before conducting the interviews, questions were designed in order to explore and answer the research questions and the interview guide is attached in appendix. However, the questions varied a bit in format depending on the interviewee in terms of			Certainly, the organization should not remove all types of behavioral work, however if digital tools could speed up process and remove a bit of the personal meetings to get time efficient, it should be an opportunity worth testing.

					differences in duties or if they managed employees abroad. Additionally, the semi-structured approach allowed the authors to be flexible and to get rich and deep answers since the structure permits supplementary questions of the exploratory kind. All the interviews were conducted in English and was audio recorded and later manually transcribed by the authors of the report.			
11. Ketolainen N. (2018) Digitalization of Human Resources-the trasformation journey into automated and data-driven service organization.	The objective of this Master Thesis research was to study the selected HR organizations´ digital HR transformation journey and obtain information about how HR services are delivered and managed in this transformation. Based on the	Human Resources Information Systems (HRIS) is software that the Human Re-source Management (HRM) group needs for supporting core human resource (HR) pro-cesses. The	Finland	The conceptual framework for this study consisted of HR, Human Resources Management (HRM), HR processes, HR policies and HR operating model, and how those are linked to HR Service Delivery and HR Service Management.	This study was mainly conducted between December 2017 and May 2018. However, the theory was collected during fall 2017/early spring 2018. The interviewees were held in February 2018 - March 2018 and	Crucial elements in successful HR digitalization in-cluded the following high-level elements: how the relevant organizational elements were in place, how leadership had been taken care of, what impact the business environment had,	HR Service Management capabilities and HR Service Ma-turity levels were somewhat poor/low because of lack of relevant HR Service Delivery tools and methods. Some parts of the HR Services had been digitalized but when taking a	HR organizations are facing the challenges relating the need of design, source and manage the future of work, workforces, and workplaces to in-corporate a solid understanding of which skills

	obtained information, the purpose was to discuss what are the critical elements and lessons learned in this transformation journey, what would be the value of digital HR Service Delivery and HR Service Management and how could HR adapt ITSM best practices to its operations why/why not. In addition, it was to be evaluated that how HR trends and the future of digital HR services are connected to the overall digitalization of HR. Secondary objective of this study was to obtain relevant information for Symfoni Finland Oy in order it to have the opportunity to refine its HR Service Delivery and HR Service	functions of most Human Resource Information Systems (HRIS) are often the same as Human Capital Management (HCM) system thus in this study both terms are used during this study. HRIS provides a centralized repository of employee master data and enables e.g. reporting capabilities, making the employee data stored in the system more accessible and usable. (TechTarget 2017a; TechTarget 2017b.) As mentioned, HRIS is also referred as Human Capital Management (HCM) systems.			analysing the data was done in March-early May 2018. This study was conducted as a Case study but also somewhat as an Action Research. The study was descriptive but also exploratory. This is because it was important to really understand the phenomenon and what elements are associated with it. Case study was most appropriate strategy for this research as case study is considered to be the empirical inquiry that investigates a phenomenon within its real-life context. (Soitinaho 24.10.2016.) Companies selected for this study were chosen according to their business area, size and geographical operating area.	what kind of delivery HR model & HR processes were in place and relevant tools to support that model but also what was the HR´s and HR Service Maturity. It was found that the ultimate value of digital HR Service Delivery and HR Service Management is in the in-crease of HR´s credibility and level of professionalism, enabling HR to run its operations like business.	closer look to the end-to-end process, manual steps still existed. Thus, HR operated somewhat unstructured and manual manner which has made HR Service Delivery and HR Service Management challenging.	are essentially human. HR needs to find balance between standard and dynamic: offering relevant administrative services as efficiently as possible and at the same time being able to be a value creating strategic partner for the business.

	Management project offerings. The research questions for this study were: RQ1: How is HR Service Delivery and HR Service Management handled in case organizations? RQ2: What are the crucial elements and lessons learned when entering digital HR trans-formation journey? - What is the value of Digital HR Service Delivery and HR Service Management? RQ3: What HR trends are currently relevant in case organizations and how those are connected to digital HR Service Delivery and HR Service Management? RQ4: How could IT Service Management best practices be utilized in HR, why/why not?	Digital HR Transformation can be defined as the change process of moving to a digital HR to become automated and data-driven. It is the use of technologies that enables changing business model thus providing new revenue and value-adding opportunities. (Gartner 2018b; Verlinde 2018.) This study focused to the digitalization of HR and it was also evaluated what kind of impacts the phenomenon has to HR´s operations.			This was because the purpose was to gain understanding and acknowledgement about what kind of challenges HR digitalization includes depending on e.g. organization´s industry or country. Furthermore, even though HR digital transformation and overall digitalization is relevant in all organizations, especially large and medium size, international and global companies are most likely to have taken or will be taking steps in the near future in their HR transformation journey i.e. digitalizing HR Service Delivery.			

| 12. Fedorova, A., Zarubina, A., Pikulina, Y., Moskovskikh, A., Balandina, T., & Gafurova, T. (2019). Digitalization of The Human Resource Management: Russian Companies Case. In International Conference on Education, Social Sciences and Humanities (pp. 1227-1230). | In this article, the authors consider the experience of introducing digital technologies into separate human resource management processes, the impact of digitalization on the performance of employees is assessing. | HR management digitization is aimed at combining all areas of personnel management with the capabilities of rapidly developing digital technologies for transparency, consistency of alignment and measurement of human capital management processes, similar to the management of any other company assets | Russia | - | At the first stage of the study, secondary sources of information were studied. Subsequently, in order to determine the effectiveness of using digital tools in the development of the employer's brand, a survey was conducted using a questionnaire method. The respondents were students, working citizens and not working citizens of different age categories. In total 136 respondents took part in survey. To obtain empirical data on the effectiveness of digital recruiting, was used the method of interviews with candidates and recruiters. 54 candidates took part in researches for the position of | The main digital tools used for the development of the employer's brand include sites about work, social networks, and mobile applications. As practice shows, many companies begin to use these tools, applying the "successful" experience of developing an employer brand of leading companies, without analysing the needs of their target audience. | Digitalization had a significant impact on the effectiveness of the selection of sales managers in a highly competitive market. There were conducted 42 interviews with recruiters, as a result of which were identified 4 of the most common sources of searching sales managers: job websites, recommendations, social networks, and the "direct search" method. According to respondents, the search on job websites is the most effective, but 50% of respondents use the recommendations of their colleagues and acquaintances. Social networks and the "direct search" method are used by 42% and 28% of respondents, | - |

| | | | | | sales manager and 42 recruitment specialists working in sales of services, a complex technical product, real estate and FMCG, aged 25-35 years. | | respectively. Based on the study, was compiled a rating of the most popular Job-websites among respondents.

The introduction of new system has a great influence on the motivation of employees, as they understand that their reward depends only on their own efforts. Also, according to electronic data, the most productive employees who deserve the title of "best" in their field of work are determined.

Digitization of HR processes makes it possible to remove numerous routine tasks from employees, to minimize the risk of human error and to free up time for specialists to solve more important issues, | |

						allowing them to use their knowledge and skills more effectively in solving business problems.	
13. Mishra, M. (2014) Evaluation of Level of E-HRM in Indian Organizations. Bhagawan Chandra Sinha.	Present study is part of inquisitiveness of the questions which has been converted into research objectives. To evaluate the present level of e-HRM in Indian organizations? To examine difference of level of e-HRM between public and private organizations? To examine difference of level of e-HRM between manufacturing and service sector?	Lepak and Snell (1998) make distinction in HRM services, namely operational HRM, relational HRM and transformational HRM. Wright and Dyer (2000) made a similar distinction in service delivery of HRM services named as transactional HRM, traditional HRM, and transformational HRM. Lengnick-Hall and Moritz (2003) view e-HRM development slightly differently to other authors. They purport that e-HRM	India	A) H0- It is hypothesized that there is no difference in mean value of present level of e-HRM and test mean value. B) H0- It is hypothesized that difference in mean value of level of e-HRM between public and private organization is zero. C) H0- It is hypothesized that difference in mean value of level of e-HRM between manufacturing and services organization is zero.	The study consists of public and private organizations both from manufacturing sector and services sector in equal numbers. The researcher has selected eight organizations, National Thermal Power Corporation, Coal India Ltd, Life Insurance Corporation, State Bank of India, Moser Baer India Ltd, Tata Motors, HCL, ICICI Bank Ltd as sample organizations as these organizations have sound HR practices. Target respondents are supervisors and managers of these	For successful implementation of e-HRM organization must pay attention to culture of HR professionals, mechanism and service delivery of HR process, technology adopted, roles and responsibilities of individuals performing HR activities, developmental needs, competencies of the work force. For making it successful HR professional has to support at system at every step.	-	-

		develops through three main waves within an organisation. The most simplistic form of e-HRM is all about publishing information.			organizations. The sample size of the research consists of 307 employees.			
					Structured questionnaire with 5-point response scale (not at all, very little, to some extent, to great extent, very much) has been used as a research instrument.			
		According to Bieasalski (2003) e- HRM offers the opportunity to automate administrative HR-work and to optimize value creating HR-activities. Three levels of development can be distinguished as web-presence HR, web-enabled HR, web-energized HR.			The questionnaires were sent to the employees in soft copy and in some cases questionnaire in hard copy was also provided. Convenient sampling technique was adopted in order to choose the ultimate unit (respondents).			
					The statistical techniques were applied using the Statistical Package for the Social Sciences (SPSS) computer program for			

						Windows, version 16.0. Factor analysis has been used as tool to categorize the questionnaire in different groups. One sample t-test had been used to test the hypothesis of A. Paired sample t-test has been used to test hypothesis B and C		
14. Latif, K. A., Mahmood, N. H. N., & Ali, N. R. M. (2019). Exploring the Changing Human Resource Management Role in the Context of Digital Banking Transformation. Open International Journal of Informatics (OIJI), 7(2), 1-13.	In response to changing to changing business demands and the evolving role of HRM, the objective of this study is to explore what does this mean in terms of managing human capital requirements for the future and how has the HRM function of a banking institution prioritises its HRM practices in response to the increased competition for digital banking transformation.	For the purpose of this paper, digitalisation is a broad theme which refers to usage of any digital infrastructure and assets organizations can use to improve their performance and the effects of these new technologies on how companies organize, and on how work is being delivered. Digital changes of HRM can be seen through three focal	Malaysia	-	A case study approach was adopted which involved utilizing a theoretical underpinning to empirically examine a phenomenon in a real-life setting, especially when the boundaries between phenomenon and context are not clearly evident. The study focused on an Islamic banking institution based in Malaysia. In order to collect the qualitative data, the study was conducted	As technology becomes more ubiquitous, there are critical skills and capabilities that cannot be reduced to an algorithm. Differentiating human skills such as creativity, innovation, critical thinking, complex problem-solving and emotional intelligence will be increasingly important.	Digital transformation is an exercise of making organizations remain competitive and as a means to grow and innovate. It is a challenging matter within any organizations undergoing the business transformation process. The key conclusion of this study is that the HRM function of BankCoA is significantly aware of the impact of the digital banking	-

The main reason behind selection of looking into banking sector is owing to the future competitiveness and growth of the sector have more potentiality in increasing employment and economy for Malaysia. Based on the research objective and current understanding, the following research questions are formulated for this study: a) What are the external and internal factors driving changes on BankCoA's business imperatives? b) How does the HRM function in BankCoA prioritises its HRM practices to address the on-going changes in meeting the needs of the digital banking transformation agenda?	areas of digital work, digital employees and digital employee management where HRM plays an important role in building the infrastructure through which an organization can seamlessly access the different means of getting work done and driving digital engagement.			using interview methods and field observations. In-depth interviews were conducted, and saturation point was attained with seven HRM professionals, three business heads and four high potential talent across the different divisions in BankCoA. All of the interviews were conducted in private and each interview lasted between 45 and 75 minutes and recorded so that the information shared by informants were looked in-depth. The data gathered from the semi-structured interviews were analysed to construct patterns, grouping and thematised by organizing data into abstract units of information.	transformation on the people and organization perspective by responding to the HRM practices and initiatives which it thinks is appropriate for the organization. The focus on culture excellence programme, talent development initiatives and restructuring of HRM function means HRM is also looking at related processes on communication management for change, leadership development, performance management, capability building and HRM improvement activities are being reviewed for effectiveness and better impact.

					Interviews from the target participants were conducted, transcribed and analyzed during and after the data collection phase. Using NVivo 12, all of the transcribed texts, notes from the observation session as well as meeting notes were all entered into a database, as per the required appropriate structure of coding. Both manual and text analysis software (NVivo 12) were undertaken to code, recode and generate themes [35][36]. Manual data analysis is conducted through using a thematic method to inductively derive and identify phrases and words that were related to the research questions.			

Bloom M. & Bengtsson C. (2017). Human Resource Management in a Digital Era.	Digitalization affects HRM further than just through facilitating daily administrative work. This leads us to the following research questions: • How do HR managers make sense of digitalization? o What do they perceive as the main challenges? An in-depth case study of how HR managers perceive digitalization and its implications for HRM will expectantly facilitate the clarification and understanding of the challenges and the potential changes it implies – which will be relevant for both practitioners as well as scholars.	Digitalization has become a buzzword in the organizational press and addressed as something organizations must embrace in order to stay relevant (e.g. CapGemini, 2013; Spitzer, 2014; Goldstein, 2015; Deloitte, 2016). It is evident that digitalization of society puts immense pressure on organizations and its people, but the research regarding how it is experienced by HR managers in practice is limited. In light of the above, the aim of this thesis is to get a deeper understanding of how digitalization has implications for HR managers.	Sweden		In order to create a deeper understanding of the topic, we used a qualitative, abductive approach. This study is based on primary data. This implies data that was collected specifically for the purpose of the study (Alvesson & Sköldberg, 2009). Qualitative interviews were deemed the most relevant method of data collection in order to reveal the implications of digitalization for HR managers. Other data collection methods such as surveys, observation and document analysis were excluded, as it would not have provided relevant material for this study, in regard to quality and depth. We	Digitalization is perceived as an ongoing change in society that creates external pressures for change within organizations. Digitalization was described as creating a fast-changing environment to which the organization needs to adapt in order to survive. Because the HR managers perceive digitalization as an on-going change the organization needs to adapt to, it inflicts on the sensemaking of the perceived implications this will have on HRM. The HRM function was described as having much stronger business focus, and that being a strategic partner in the organization is indisputable. This implies a long-term focus, seeking to achieve competitive	Previous research (Hunter, 1999; Schoonover, 2003; Lawler & Mohrman, 2003; Bell et al., 2006) showed that HR managers need technological expertise as part of their competencies. In addition to such technological expertise, this study shows that 'digital awareness' is an additional, and perhaps more significant competency that digitalization demands. This was described as an awareness of the technological development and how it has implications for the organization in a broader sense. Furthermore, it is shown that digitalization implies managing the unknown – since its implications are rather	The fast-paced characteristics of digitalization has a more wide-reaching impact than perhaps is expected, in the sense that it is changing human behavior and thus leads to profound domino effects for organizations. Therefore, it is of relevance for every human resource manager to relate to this. Lastly, an unexpected insight of our findings is the further consequence for HRM studies, since our study showed that the competency required of HR managers are of broader character today. Thus, the authors propose that the

					conducted 12 qualitative semi-structured interviews with HR managers. This implied in depth interviews of approximately 60 minutes each, where predetermined questions covering certain themes were asked as well as follow up questions regarding the interviewees' perceptions and understandings. The selection of a suitable sample for the study consisted of a request to interview HR managers. This was based on our interest to get a deeper understanding of how digitalization has implications for HR managers	advantage through taking the whole organization into account.	ambiguous. Therefore, HR managers need to be change agents. As digitalization permeates everything today it also infiltrates the other HR competency domains in the framework of Ulrich et al., (1989; 1995): HR expertise and business knowledge. Building upon this, this study shows that all HR competencies are interrelated, as digitalization is an ongoing development, requiring constant change management as well as understanding how it influences business knowledge and HR expertise. Another evident implication of digitalization was the enabling of, as well as the demand for new employment forms.	curriculum of HRM studies might have to be revised and updated in order to match the future HR competencies needed. Both since administrative and intellectual tasks will be increasingly replaced by computers, and because digitalization requires further competencies besides the traditional.

							Digitalization enables new employment forms through new ways of communicating and interacting globally with the use of digital tools.	
Evseeva, O., Kalchenko, O., Evseeva, S., & Plis, K. (2019, September). Instruments of human resource management based on the digital technologies in Russia. In International Conference on Digital Technologies in Logistics and Infrastructure (ICDTLI 2019). Atlantis Press.	The research question developed in this study is as follows: "what kind of digital instruments do Russian companies use in the process of recruitment to transform it into e-recruitment and what positive and negative effects or limitations they have per its use on different steps of recruitment?"	"The transition to digitalization is a new stage in the development of the HR industry and takes HR work to a new level of management, where they must apply modern digital tools." "We can distinguish 5 of the most popular areas in HR-Digital: automation, analytics (payroll, job openings), marketing (benchmarking), online training and recruitment (E-recruitment)"	Russia	The basic steps of recruitment investigated by authors in the research are: 1. Identifying the hiring need 2. Planning 3. Searching 4. Identifying viable candidates 5. Recruiting of A-level candidates 6. (Telephone) screening 7. (Face-to-face) interviewing 8. Offering of employment 9. Hiring of the candidate 10. Onboarding of the candidate	The authors conducted an exploratory study. The best Russian companies were selected on the basis of official statistics, correlating digital tools to the stages of the recruitment process. Seven HR technologies were identified which were described by comparative qualitative analyses.	.	The study shows that the use of robots within organizations increases the search speed of candidates several times, while the costs of processing primary data are reduced. However, non-standard responses may not be perceived by the robot and the system may exclude a good candidate from the sample.	The growing volume of investments confirms that "digital" HR is a serious and for a long time. Possession of his tools for the recruiter, and now it is necessary, and in the near future will form the basis of the profession. Except when a candidate needs to speak with a human being – in every sense of the word. Business will have to actively invest in employees: help them overcome the fear of the universal emergence of

								artificial intelligence and retrain, increasing digital literacy.
Démeijer Dionne (2017) Making Digital HRM work: A study in changes in perceived consequences of e-HRM in the past decade. MS thesis. University of Twente	The aim of this study is to get insights in the consequences of a digital HRM solution for an organization its HRM- and business performance. To achieve this aim, the central question is: 'What are the consequences of an e-HRM implementation'? Additionally, we will look at the changes in the development of perceptions of e-HRM consequences in the last 10- 12 years. Therefore, we have drawn the following sub-question: "What are the changes in the development of perceptions of e-HRM consequences in the past decade"?	E-HRM is defined as "the integration of IT and the HRM field of scholarly inquiry. This focuses on all the HRM content that is shared through IT that aims to make HRM processes distinctive and consistent, more efficient, high in quality and which create long term opportunities within and across organizations for targeted users" (Bondarouk et al., 2015, p. 2).	Netherland s	Based on the discussed literature, the following research map is drawn for this study (this study will focus on the e-HRM consequences operational, relational, and transformational) e-HRM implementation factors • Technology • Organization • People e-HRM implementation success e-HRM consequences • Operational • Relational • Transformational	In this study, a qualitative research method was used in 21 large Dutch organizations. In each participating organization were 3 interviews conducted: 1 with an HR professional, with a digital HR professionals/ IT professional, and 1 with a Business / Finance leader. This was done so not only the different experiences between numerous organizations could be analyzed and compared, as well as the opinions in 1 and the same organization. For this study, there are in total 40 interviews conducted. We	It becomes very important to have highly skilled HR analytics people in the organization. The respondents believe that they, by performing HR-analytics, become more capable to add value to the organization. It also became clear that the development of employees is more important than before. HRM is not only supporting risk and innovation, but also supports the development and growth of employees intensively.	Referring to the e-HRM goals presented in the introduction of this research, such as cost reduction, improvements in the service level for internal clients as well as external partners of HRM, and the strategic re-orientation of HRM, the authors found support for most of these goals by the respondents of this study. Efficiency is one of the consequences that is recognized by all the respondent groups. All 3 groups agree that efficiency consists of different underlying themes. The respondents in all groups mention	This study found that not only responsibility for administrative tasks is of importance anymore, but as well the responsibility for employees their own development. The respondents see that employees can manage their own development issues in consultation with their manager. The responsibility of the employees and managers about HRM processes expanded during the last few years. Further, nowadays employees can easily arrange,

66

	This research paper focuses on the consequences of an e-HRM implementation and is set up as follow. In the next session, the theoretical framework, focused on the history of e-HRM and the consequences of an e-HRM implementation are discussed. The insights of e-HRM decades ago, compared with the results of this study will help to get insight in the development and changes of e-HRM the last 10-12 years.				collected the data in this study with semi structured interviews. Most interviews were executed with 3 persons: 1 senior researcher and 2 peer researchers. The analysis of all 40 interviews with 47 participants was done in 3 steps. In order to be able to make a comparison, we divided the respondents into 3 groups: HR professionals, IT professionals and Business leaders. Each group of respondents is analyzed in 2 or 3 steps and after each round we discussed the steps in a research team of 3 people. The research analysis of the 32 HR professionals revealed 15 main themes and 43 perceived consequences.		that digital HRM made the HRM processes easier, faster and more simplified. HR professionals add that the system is more flexible. In comparison with the consequence service experience, some of the business leaders and HR professionals say the opposite about this. this study found many supports by HR professionals and business leaders for cost- and FTE reduction due to a digital HRM solution. The IT professionals did not mention this consequence. The basic e-HRM consequences stay the same, but there are some nuances in these basic e-HRM consequences. Time past make it clear that the above mentioned e-HRM consequences	for example declarations by an APP on their smartphone. So, the consequence efficiency has been expanding in the last recent years.

						may be refined. In the past few years, these consequences are seen and experienced differently.	
Savola, H., & Troqe, B. (2019). Recruiters just wanna have... AI? Implications of implementing AI in HR recruitment.	This study aims at understanding what is the current state of implementation of AI in recruitment processes, particularly in a Swedish organisational context. Additionally, we will try to uncover what could be some potential drivers and barriers in implementing AI solutions in partial or in the whole recruitment process. Finally, we would like to know, through the evaluation of results obtained so far, what could be some recommendations and learning points that organisations can use for their AI implementation	AI can have different meanings depending on its uses and its level of intelligence. Regardless, it can be broadly defined as an intelligent system with the ability to think and learn (Jarrahi, 2018). Internet of things (IoT) is defined by a network of devices connected through the internet, that communicate through the connection to other devices and to the owner of the device (Kaplan and Haenlein, 2019).	Sweden	-	Upon the initial research of the topic, it was observed that the discourse on AI in general, and in recruitment in particular, is two folded: on one side there are positive perceptions, and on the other side negative perceptions. Therefore, in order to get a better understanding of the application of AI in the recruitment processes, both sides of the coin need to be examined through (a series of) interviews. At this point of the research, it is important to keep an open mind in terms of data inclusivity, meaning that	There are different inclinations and motivations for applying more automation in recruitment processes, and most of them vary from organisational strategy, the purpose of the intelligent system to be implemented or the readiness and technological competence of the organisation. While these motivational factors can vary, four key factors seem to be the recurring focal point of the discussion on AI implementation: *decision-making, strategic innovation, control, and change.*	AI has been introduced as a part of the recruitment processes, and while the dilemma of AI producing biased decisioning, AI is still outperforming people in decision-making efficiency. In the context of recruitment, AI applications support human recruiters in many trivial tasks that would otherwise take too much time. The hiring process is accelerated, and that is very positive in terms of efficiency gains (Upadhyay & Khandelwal, 2018). In addition, by delegating these	-

	strategy in HR recruitment.				both organisations that currently use AI and organisations that do not use AI, should were targeted for the interviews. Moreover, it is equally important to keep an open mind in terms of thematic inclusivity, specifically regarding the recruitment process and general effects on the rest of the organisation. After a thorough research, taking into consideration all above mentioned factors, we decided to collaborate with Linköping municipality and use this organisation as a main source for the primary empirical data. The municipality is the perfect example of an organisation that has started experimenting		repetitive tasks to AI, recruiters can focus instead on more creative and strategic matters in their daily routines (The People Space, 2017; Upadhyay & Khandelwal, 2018). The recruiter's role is transformed and becomes more strategic. Instead of dealing with the single issues in the recruitment process, the recruiter spends more time building relationships with the new employees, as well as focuses more on talent identification and talent development.	

					with easier forms of AI, such as automation, but at the same time is considering developing and evolving more complex AI processes further in the future. Therefore, the retrieving of the empirical data was based on 3 interviews and was designed as follows.			
van Kruining I. (2017) The dis-app-earance of HRM: Impact of Digitization on the HRM Profession. Electronic HRM in the Smart Era, 311.	So the question remains as to what is exactly happening? Is HRM really on the verge of opening the way for the strategic HR business partner or Change agent? Are (parts of) HRM departments made redundant by the use of digital HRM applications? What does the current HRM profession look like? The key question for this paper is "What will be the effects of digitization on	Digital systems and robots are modifying services and manufacturing processes. They change our economic system. Communication and cooperation between companies in different countries is as easy as between neighbours. The labour market is changing; routine jobs are being automated or	Netherlands	The six Ulrich roles were analyzed in the light of content, competencies and the use of 21st century skills. The BBC web instrument 'Will a robot take your job? (based on the 2013 Frey & Osborne paper) was used to estimate the probability of computerisation for each role. Each Ulrich role was described (job content) based on the 'Competencies for HR professionals Working Outside-In' article (Ulrich et al. 2011). The description of each role was compared to at least three jobs in the BBC web instrument. For example the 'Technology proponent' was compared with BBC's 'HRM	In order to obtain feedback on theoretical concept of 'digitization and HRM' two sessions with HRM professionals were organised. The purpose was to hear from HRM practice professionals whether the conceptual view was recognized. The personal invitations were sent to over one hundred LinkedIn connections. The thirteen visitors	-	Automation would have replaced tasks like personnel registration, registration of absenteeism, employee benefits administration and contracts of employment. In addition employee self-service and the phenomenon of outsourcing would have amplified this effect. Digitization would free HRM professionals of the burden of	According to the author this research project is considering the effects of digitization on the HRM profession as constant. In reality the influence of digitization on HRM is probably two-sided. Not only the field of HRM changes as an effect of digitization. The digitization (personnel systems, recruitment platforms) may

the HRM profession?" The sub questions formulated are: "What is the primary role of the HRM Professional, associated with digitization?" "Which are the activities the HRM Professional is spending the most/least time at, associated with digitization" and "What is the label that HRM Professionals pick out to characterize their HRM department, associated with digitization?"	have already vanished with more jobs – also middle and high skilled - being threatened.		administrative worker' (likelihood of automation 90%) and 'National government administrative worker' (likelihood of automation 39 %) and 'Other administrative worker' (likelihood of automation 92%). As the reliability of this approach is limited two students followed the same approach independently and from the three estimates per role the average was calculated. Inter-rater reliability was thus applied to acquire more reliable assessment decisions.	of the first session on May 31st currently work as e-HRM or HRM advisor/self-employed (6), in Professional Services (4) or as HRM professional in non-profit (3). In the second session on June 15th eleven HRM professionals were present, working in sectors Non-profit (6), Professional Services (2) and e-HRM or HRM advisor/self-employed (3). Four students made observations and took notes and photographs in these dialogues. The session started by asking the HRM professionals for their general experience with digitization in their companies. They were then asked to write down three HRM		administrative activities. Finally the HRM professionals could devote themselves to the real thing: advising on a strategic level. Yet the data of the HRM Practice Monitor on the activity clusters do not confirm it.	also change as a result of opinions and changing HRM methods and procedures.

71

					activities within their responsibility in which digitization was a major issue. The next step was to stick the notes on one of six big papers on the wall (the Ulrich roles). In fact the six Ulrich roles were hanging on the wall like a portrait gallery and the participants stuck their notes on the role they found most appropriate. In this way the Ulrich roles were pasted with an amount of notes on digitization without explaining the theory beforehand and thus without manipulation.			

Abdali, M. (2019). The strategic use of digital learning solutions: An HRM perspective (Doctoral dissertation, Auckland University of Technology).	"How do human resource managers in New Zealand organisations conceptualise digital learning solutions?". However, to facilitate answering the overarching question, two rather focused sub questions were developed. 1. What potential do they see in digital learning solutions? 2. Which factors impact their decision to adopt digital learning solutions? The key objectives of this research are: 1. To identify the extent to which digital learning solutions are being used by HR managers in NZ 2. To understand whether they see	With the fourth industrial revolution in place, most organisations have undergone some level of digital transformation which has led to the emergence of new learning solutions (Vey, Fandel-Meyer, Zipp & Schneider, 2017). These new ways of learning are not only used in the education sector but are also being utilised in corporate environments. They have in some cases replaced the conventional classroom training and revamped the human resource development programs by	New Zealand	Resource-based view, human capital theory and the social exchange theory.	The research took the form of an exploratory study to explore this relatively unexplored research area. The qualitative data was gathered through conducting semi-structured interviews with HR managers of organisations in NZ. These were used to collect rich, in-depth insights about perspectives that may not have been achieved otherwise. Purposive criterion sampling method was used to contact the HR managers who possessed a minimum of 5 years of experience working within HR or L&D. This criterion	HR managers due to the strategic nature of their role and experience rationalised the use of digital learning solutions from the SHRM perspective. Their logic behind considering these digitalised options is to train their people in a way that they serve as a source of competitive edge to their organisation. Their view was closely aligned with Barney's (1991) resource-based view discussed in the literature review. The HR managers often brought up the idea of "self-directed learning" and "promoting a culture of learning". It was evident that the HR managers interviewed were	-	The HR managers must use their limited resources carefully to ensure they are contributing towards organisational performance and goals.

any potential in digital learning solutions or not 3. To outline the factors that HR managers consider important with regards to the adoption of digital learning solutions as part of their organisational learning strategy	offering digitalised solutions for onboarding and continuous training (Vey et al., 2017).			supported selection of only those participants who had sufficient experience to provide valuable insights for the research. The research involved interviews of six HR managers from different NZ organisations to understand how they strategically think about the digital learning solutions that have emerged overtime.	endeavouring to strike the right balance between focusing on both the strategic and operational fronts. Given the managerial nature of their role, they are liable for making strategically sound decisions. This also explains why establishing a link and proving the impact is of utmost importance to the HR managers because the onus is on them.

Nooruddin F. (2018). To Critically Evaluate How Digitisation/Automation Has Changed the Role of HR Department from Recruitment and Selection Perspective: The Case of Adecco in Middle East Market (Doctoral dissertation, Cardiff Metropolitan University).	"What is the impact of digitization and automation on HR?" "How has it changed recruitment trends and increased efficiency in the Middle East?" In this context, the purpose of the research study is to address the aforesaid research question; thus the following objectives were formulated, which are as follows; To comprehend the importance and role of recruitment and selection in the contemporary business environment To evaluate and investigate the difference in traditional and contemporary HR practices, especially in the technologically advanced era	Social Networks is a collective term for a wide range of online platforms that allow community members to interact. The foundation of these online communities and networks is sharing photos, music, interests, ideas and experiences. In addition to sites oriented more towards friendly and affective sociability, services have been developed which are known as "professional networking platforms" (Safko & Brake, 2009). These platforms are increasingly used for online identity and reputation management purposes.	Middle East Market	-	The research study has adopted quantitative research design, where the data was collected through the use of survey. In particular, the instrument used for the collection of data was self-administered questionnaire that was developed in accordance with the research aims and objectives. Since the dissertation has focused on the collection of primary data, the consent from the employees of Adecco was obtained, as well as from the company by exclusively highlighting the purpose for conducting the research, and the overall benefit that the firm could achieve by comprehending the importance of	-	The traditional HR practices were highly labour intensive; thus resulting in a time-consuming process in terms of screening and selecting the most appropriate applicant for the vacant position. On the contrary, the digitised HR practices reduced the intensity of work by screening the participants based on their skill sets and their expertise to meet the vacant position; thus resulting in less-time consuming process, and presenting the business with an ability to focus primarily on their core functions, rather than being concerned about the selection of the appropriate applicant at the right time and place within the organisation.	Companies operating in Middle East should consider the adoption of information technology in their HR practices, which could lead to the reduction of time and costs associated with the selection of appropriate candidate at the right time and place. Since companies are operating in an intensely competitive business environment, automation of HR practices can present the businesses to be regarded as 'employer of choice' based on their effective and efficient HR practices, rather than influencing the applicants to become part of

	To investigate the impact of digitisation and/or automation on the recruitment and selection function of Adecco To propose recommendations to the companies operating in Middle East based on the findings of the study, to enhance their recruitment and selection function by relying extensively upon information technology.				digitisation and/or automation of HR department, especially the recruitment and selection function. The questionnaire was based on the 5-point Likert Scale ranging from the frequency of strongly agree to strongly disagree. The data obtained from the questionnaire was analyse through the use of SPSS 20.0, where descriptive statistics along with correlation and regression were conducted to determine the strength of association between the variables, followed by the impact of independent variables on the dependent variable. More importantly, regression analysis was		The traditional HR practices were quite costly for the business, since the potential applicants were attracted through extremely expensive platforms like TV commercials, and print media. Though, it presented the companies with an opportunity to be presented with a variety of diverse applicants, but the cost for recruiting an applicant was significantly higher than the benefits associated with it. On the contrary, the use of digitised and automated system has brought significant improvement in HR practices. Not only it reduced the costs associated with the recruitment	competitor's workforce based on inefficiency (time consuming process) of the HR practices. Automation and digitisation of HR department would not only present the businesses to experience applications from just the locals, but it would present the company with an opportunity to open a new channel of communication between the applicants and the organisation; thus helping the business to develop relationship with them. As a result, the businesses would be able to overcome their challenge of sourcing and

					conducted to support the null hypothesis that indicated a significantly positive impact of digitisation and/or automation on the recruitment and selection function of Adecco. For the research study, a total of 50 participants were selected for filling the questionnaire. These participants were selected, since they were directly related to the HR department, and had sufficient knowledge about the company's HR practices, and the role of automation in reducing the intensity of workload on them.		and selection function, but also presented the business with diverse applicants, especially in the case of multicultural society.	attracting the best candidate for the organisation.

| 22. Chirag Thaker & Rashmi Pillai, (2018) Training and recruitment of workforce fit for digital era / Towards Excellence: An Indexed, Refereed & Peer Reviewed Journal of Higher Education / Page 93-105 | The objective of study is to understand the training and recruitment workforce fit in organization is to know the effectiveness of employee through digital training mode Digital Mode of training and effectiveness, to know employee satisfaction. | Digital is a key disrupting business factor and that affects largely HR and learning practices, the nature and role of HR function itself, talent management, culture, leadership and team engagement, just to name a few. It offers consulting and training services to organizations who wish to adjust to new era and release the potential of their teams. Business to analyse your current status and through a coherent stage methodology will help the organization to focus and change in the following areas or practices: - The update of the business digital agenda | India | Hypothesis H0: There is no impact of employees' performance in training and recruiting in digital era H1: There is impact of employees' performance in training and recruiting in digital era HO: There is no increases cost effectiveness in training and recruiting in digital era H1: There is increases cost effectiveness in training and recruiting in digital era | A qualitative study was conducted. Questionnaire is used as the instrument for collecting the Primary Data. Journals, Research Paper etc. is been used as the instrument for collecting the Secondary Data. The sample size is determined by the population frame. Total of 146 responses were received and all those responses are considered for the analysis. The units are the employees working in the organization. The employees of all the levels in hierarchy are targeted and considered for the study. The convenience sampling method is used for the study as the target geography is small and thus, can present | - | Digital Recruitment and training has impact on employees' performance. Digital Recruitment and Training take less time for recruitment and training. Digital Recruitment and Training is Cost Effectiveness. Digital Recruitment and Training is globally useful tool. After analysing the data it is concluded that there is positive effect of training and recruitment workforce fit for digital era thus it conducts the effectiveness of time, cost for doing training and recruitment of employees this research is been conducted for various organisation. | - |

		and the contribution of the HR function to its success.			similar information irrespective of sampling method.			
		- The design and execution of your organization's digital people agenda.			• Geographical scope: The geographical scope of the sample is limited to the city of Ahmedabad.			
		- The role of HR in facilitating and promote the transformation to a digital-native organization.			• Sampling instrument: Questionnaire is used to collect the data from the sample units.			
		- The change of HR practices like talent management, recruitment and selection, performance management to match the needs of the digital generation.						
		- The creation of a corporate culture which embraces new practices and agile ways of working.						
		- The introduction of tools and processes regarding HR analytics tools etc.						

23. Rakhy K. S. & Vijayan S. (2018). Digitalisation in Human Resource Management Process, the Opportunity for the Competence Management in Retail Sector. International Journal of Pure and Applied Mathematics, 119(12), 2569-2581.	This study is set out to examine at what extent digitalization is using in retail sector especially inhuman resource management process and also examine how digitalisation improved accuracy, time management and promptness in e-recruitment, e-communication and e-performance appraisal. This study is trying to explore the practise and effects digitalisation in human resource activities and mainly focusing on e recruitment, e- communication and e-performance appraisal. Objectives:	Through digitalised human resource, managers can easily communicate with employees and it changed various human resource activities into digital format like paper works, record keeping, payroll systems, performance management, recruitment and strategic orientation, the employee can also keep track of his/her achievements.	India	The hypotheses are established to justify the objectives of this study. There are three main hypotheses H0: There is no positive relationship between e– HRM activities and e-recruitment. H0: There is no positive relation between e- HRM activities and e-communication H0: There is no positive relation between e- HRM activities and e-performance appraisal.	The present study was descriptive and empirical in nature. Both primary and secondary data were used for the study. A sample size of 30 respondents was selected among human resource professionals from various retail outlets in Ernakulam district. Secondary data is collected from magazines, books, journals, newspapers the samples were selected through convenience sampling method. A structured questionnaire was used to collect the responses. The data consist of extent to which organisations are using this	.	Compare to traditional human resource practices, digitalised human resource management can do their work on time because of digital aids, activities can do without any delay.	-

1. To analyse the extent to which new technology in human resource management support the different HRM process within the organisations 2. To know the transformation in the work culture regarding the digitalisation of human resource management in the retail sector.				digitalisation in their human resource activities and further the researcher focus her study in what way the digital human resource influence the human resource activities like e-recruitment e-communication and e-performance appraisal in maintain time management, accuracy and promptness with the organisation. The collected data was analysed with the help of statistical tools like simple percentage analysis and paired sample t-test.			

24. Onayeva L. (2017) Digitalization and its impacts on the human resource management Thesis Empire State College	The aim of this work is to analyze the impact of digitalization on the shifts and changes in the employment environment, specifically on employees and employers.	Digitalization includes such aspects as automatization, robotization and the effect of the Internet on the development to society. The significantly rapid growth of technological innovations has dramatically shifted demand in the labor market. Digitalization is shifting the nature of employment. A significant number of occupations are at risk of automatization. Hence, many people assume it is a negative development; however, digitalization and the gig economy lead to the development of an economy and, in fact, provide a boost. Therefore,	United States		Two interviews were conducted in the study: a first interview was with the HR Manager from the Caspian Pipe Coating Company, Angelica Gamidova. She is working as an HR manager for 15 years and the author chose her because she saw how the labor market has been changing during the extended period. A second interview was with the entrepreneur and professor, Jeff Medeiros who is also speaking at the conferences about the digital entrepreneurship and digital revolution.		Trends such as digitalization significantly change the nature of employment, creating both challenges and opportunities for companies and workers. Digitalization is the main cause of the increasing gap in the relationships between employees and employers. The new types of employment may be seen as beneficial at first glance, however, after deeper analysis, obvious issues appear that can significantly harm employees. There are many positive aspects of digitalization that it has brought to workers and employers. The Internet allows employers to hire people from different locations, use robots to complete some tasks, reduce	

| | | companies have to change their cultures to embrace computerization and the task-based approach.

The shift that digitalization has brought to work has changed its nature, and as a result, the way companies treat their new employees, such as contractors, freelancers, etc., has significantly changed. The companies are empowered to reduce their liabilities towards such employees due to a lack of policies and regulations from the government's side. | | | | | costs and find more talent via online platforms. Digitalization also breaks the employment sector into the small gigs, and employees cannot rely upon one employer but have to constantly be searching for new jobs. This distance relationships between employers and employees is reflected in a lack of loyalty from workers towards companies. As a result, both employees and employers may experience negative consequences of digitalization in the employment sector. | |
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25. Okuneva N. (2018). Embracing digitalization in HR: theory and practice of HR Analytics.	The objective of this thesis is to elevate and amplify the knowledge related to HR Analytics phenomenon. In particular, the thesis aims to explore enablers, moderators, and outcomes resulting from the use of the HR Analytics practice within the organizational contexts of three case companies. Thus, the main research question can be formulated as follows: Q: How is HR Analytics applied within an organizational context? The main research question is supported by the following sub-questions aimed at guiding the study towards the objective: Q1: What are the technological and human enablers of HR Analytics	For the purposes of this thesis the author adopts the definition developed by Marler and Boudreau (2016) characterizing HR Analytics as "a HR practice enabled by information technology that uses descriptive, visual, and statistical analyses of data related to HR processes, human capital, organizational performance, and external economic benchmarks to establish business impact and enable data-driven decision-making". That study adopts the definition of SHRM developed by Wright and	Finland	The purpose of this study is to elevate and amplify the understanding of HR Analytics phenomenon based on the application of HR Analytics practice within the case companies. In addition, the thesis seeks to explore how the different aspects pertaining to HR Analytics are connected to each other and, through this, obtain a bigger picture of HR Analytics application within the organizational context. In order to do so, the sub-questions were formed that aim at discovering valuable insight regarding the use of HR Analytics, its enablers and moderating factors that affect the application of the practice. Based on the literature review, the theoretical frame of reference for this study was developed.	The author uses the case study as the main research method. The multiple-case design serves to elucidate the phenomenon of HR Analytics in the context of three case companies. The case companies, considered within the study, are represented by the large international corporations. The case companies are operating in the different industries, which contributes to the diversity of study. The semi-structured interviews are used as a technique for primary data collection in this thesis. Within the study, the author is focusing on three companies that are currently at different stages of their HR Analytics	In regard to skills, knowledge, and attitudes of HR professionals – the academic literature states that lack of business focus, analytical skills and analytical mindset among HR professionals are among the major hindrances for adoption and development of HR Analytics practice (e.g. Angrave et al., 2016; Bassi, 2011; Levenson, 2011; Rasmussen & Ulrich, 2015). Yet, the cases of the companies under study provide a vivid example of how the presence of the mentioned qualities among HR professionals facilitates the development of HR Analytics. Legal factors limiting and restricting the use of sensitive HR data were also identified during the research as having an effect on	HRIS serves as an enabler of more advanced analytics.	-

practice in the case companies? Q2: What are the positive and negative moderating factors affecting the application of HR Analytics in the case companies? Q3: What elements of HR Analytics practice do the case companies utilize? Q4: What are the outcomes resulting from the use of HR Analytics in the case companies?	McMahan (1992). According to them, SHRM represents "the pattern of planned human resource deployments and activities intended to enable an organization to achieve its goals"			journey. The case company 1 is one of the world's leading industrial companies providing technical products and services. The company has explored the descriptive HR Analytics realm and is currently moving towards predictive analytics. The case company 2, one of the leading service companies in Finland, has the headcount of approximately 5000 primarily local employees. The case company 3 is a leading industrial company focusing mainly on technical services and solutions.	HR Analytics practice.	

26. Khoreva, V., Vaiman, V., Bondarouk, T., & Salojärvi, S. (2019, July). Exploring the Influence of Digitalization on Global Talent Management. In Academy of Management Proceedings (Vol. 2019, No. 1, p. 10238). Briarcliff Manor, NY 10510: Academy of Management.	The purpose of this study is to increase the theoretical and empirical understanding of the unique and perceived importance of the Digitalization-GTM relationship, specifically from a business and management perspective, and examine whether, and in what ways, digitalization transforms GTM. This study advances the fields of digitalization and GTM in several ways. First, in line with the recent theoretical study of Bondarouk et al. (2017), it advances the scholarly discovery by identifying distinct types of impact of digitalization on GTM. Second, by supporting the existence of two competing	The digitalization of GTM may involve the transformation of previously existing activities and processes and may also introduce new activities. Hence, digitalization of GTM signifies a transformation from "analogue" to "digital" and to the facilitation of new forms of activity.	Finland	Hypothesis: 1. Digitalization of GTM is defined by the authors as something emerging and in the process of *becoming*, rather than something already achieved. They view digitalization of GTM as an open and dynamic concept that mirrors an ongoing process. 2. Following their discussion on GTM and its subsystems, they look to explore the potential impact of digitalization on GTM and each subsystem. Based on the logic and rationalization of the Bondarouk et al. (2017) study on the consequences of e-HRM, we present three types of impact of digitalization, namely transactional, relational and transformational, and argue how they may apply to the digitalization of GTM. 3. The relational benefits of e-HRM incorporate improved communication, cooperation, relationships and HR services (Bondarouk et al., 2017). Correspondingly, in accordance with its relational impact, digitalization of GTM can potentially move GTM to become more personal,	Given that the study explored an emerging field of practice, an explorative qualitative research design was adopted for its flexibility and ability to capture in-depth and nuanced data on context, meanings, processes, and effects. The initial stage of data collection was to identify the largest Finnish companies with corporate GTM systems in place. A total of 50 companies were viewed as potentially suitable and contacted in person, and the 40 companies that agreed to be interviewed provided the sample for the study. The authors sought to conduct key respondent interviews by	This study extends the existing knowledge on how digitalization interrelates with GTM approaches in companies. In particular, digi-imitators and digi-masters follow a pragmatic exclusive GTM approach with talent rating-based systems, implementing digital advanced programs into talent selection, talent identification, talent succession, and talent performance subsystems. Meanwhile, digi-followers and digi-trendsetters follow a holistic-inclusive GTM approach, skipping traditional talent rating based systems and moving towards a more human, holistic understanding of talent. This finding validates the conceptual study of Meyers and van	While digi-imitators and digi-masters mainly underline the functional impact of digitalization on GTM, they also state that due to digitalization, talent perform fewer routine duties, develop their competencies further, and have some flexibility to work remotely. Digi-followers and digi-trendsetters focus on the aspirational impact of digitalization on GTM, and talent aspires to use the science and data in tandem with their own capabilities to create unique value added. Both digi-followers and digi-trendsetters emphasize that digitalization alters their GTM subsystems through the	.

	perspectives on technology (Marler & Parry, 2016), the study explains the relationships between digitalization and GTM. Next, the study extends the existing knowledge on how digitalization interrelates with GTM approaches applied in companies (Collings & Mellahi, 2009).			flexible, interactive, engaging, and decrease interpersonal distance between talented individuals.	identifying the person most closely responsible for GTM matters within the sample companies. As a result, 40 participants were interviewed for the study.	Woerkom (2014), according to which some companies advocate exclusive TM approaches directed at a small, elitist percentage of the workforce (Collings & Mellahi, 2009), while others favor inclusive TM approaches directed at the whole workforce (Yost & Chang, 2009).	change of corporate values and increased importance of a culture of exploration. We therefore advocate that both digi-followers and digi-trendsetters highlight the unrealized aspirational impact of digitalization on GTM, which departs significantly from the functional status quo, and aims to enable companies to create unique value added. due to greater automation of administrative tasks and increasingly distributed access to data, employees may more effectively focus on complex, judgment-oriented and professionally demanding tasks and responsibilities	

							(Marler & Parry). In tandem with this perspective, digi-imitators and digi-masters view digitalization and GTM as separate terms. They perceive digitalization as something that takes place "outside" GTM and is then transferred to it. Digi-imitators and digi-masters perceive digitalization as a tool, which decreases the administrative burden and increases efficiency. In line with this perspective, digi-imitators and digi-masters adapt to the effects of new technological advances.	