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Impact of Digital Human Resource Management Practices and Digital Transformation on Human Resource Management System Strength: Evidence from Insurance Industry

Hamidreza Nematollahi[1] | Hazratgul Mohammadi[2] | Ariyan Gholipour[3*] | Neda Mohammad Esmaeili[4]

1. Department of Leadership and Human Capital, Faculty of Management, University of Tehran, Tehran, Iran. Email: hr.nematollahi@ut.ac.ir
2. Department of Business Management Faculty of Business and Economics, Persian Gulf University, Bushehr, Iran. Email: hazratgul.salik22@gmail.com
3. Corresponding Author, Department of Leadership and Human Capital, Faculty of Management, University of Tehran, Tehran, Iran. Email: agholipor@ut.ac.ir
4. Department of Leadership and Human Capital, Faculty of Management, University of Tehran, Tehran, Iran. Email: nedaesmaeili@ut.ac.ir

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ABSTRACT

The Iranian insurance sector is progressively integrating digital transformation and digital human resource management strategies to enhance customer satisfaction and address market needs. This study seeks to investigate the influence of digital human resource management practices and digital transformation on the strength of the human resource management system, considering the mediating effects of perceived usefulness and perceived ease of use. The research follows an applied methodology, utilizing five questionnaires as the primary data collection tool. The study focuses on employees of leading insurance firms located in Iran's Fars Province. A random sample of 266 employees from these organizations underwent statistical analysis to evaluate the proposed hypotheses. The outcomes reveal that digital transformation and digital human resource management practices have a significant positive effect on the strength of the human resources system. Furthermore, the results confirm the mediating influence of perceived usefulness and perceived ease of use.

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Introduction

Electronic human resources management[1] practices encompass the use of digital technologies and relevant data to improve the efficiency and effectiveness of Human resources management[2] activities (Zhou et al., 2021). Despite various factors, such as technology, people, and organization influencing the adoption of E-HRM, HRM practices are progressively shifting towards digitalization (Bondarouk et al., 2017). Research across different domains is gaining momentum, focusing on HRM algorithms (Cheng & Hackett, 2021), algorithmic control (Kellogg et al., 2020), and people analytics (Gal et al., 2020). Furthermore, these concepts are often explored in conjunction with other phenomena or used interchangeably, such as Big Data (Garcia-Arroyo & Osca, 2019), AI (Tambe et al., 2019), and online labor platforms (Duggan et al., 2020), collectively known as 'digital HRM' (Veen et al., 2020).

Organizations can be categorized into four groups based on the level of digitalization in their strategies and operations (Strohmeier, 2020). The first category, labeled as "analog," does not leverage digital technologies to support their human resources[3] practices and strategy. The second category, termed "operational application," involves using digital technologies to automate HR practices with the aim of improving speed, quality, and cost-effectiveness. The third category, known as "strategic alignment," focuses on aligning technological capabilities with the organization's strategic objectives, applying digitalization across all business operations and some strategies. The final category, "strategic integration of digital technologies," involves directly integrating technology into the process of formulating organizational strategies (Strohmeier, 2020). In the digital era, anything that can be digitized and connected will be digitized and connected. This encompasses not only computers and humans but also services and products. To grasp digital transformation, effective management of computers and analysis of accumulated digital data are crucial (Ahmad et al., 2021). Digital transformation necessitates challenging the existing status quo and potentially modifying the current business model (Almaazmi et al., 2020). As digital transformation becomes more prevalent in organizations and ecosystems, it brings about various challenges. One of the significant challenges is the need for organizational change (Naqvi et al., 2021). Additionally, several studies have shown a positive relationship between perceived usefulness and perceived ease of use (Yarbrough & Smith, 2007). As expected, the implementation of digital HRM practices has an impact on the perceived ease of use[4] of E-HRM. This aligns with the findings of Voermans and Veldhoven (2007), who identified perceived ease of use as a determinant of digital HRM practices. This suggests that digital HRM practices influence the perceived usefulness[5] of E-HRM, which is consistent with Marler and Fisher's (2010) examination of the contextual variable of E-HRM. Wickramasinghe (2010) supports these findings by asserting that perceived usefulness is associated with E-HRM systems, indicating some form of compatibility.

The strength of the HRM system is widely recognized as a crucial aspect in the field of HRM. It represents the extent to which employees clearly perceive and identify the HR practices within an organization, forming a shared belief and understanding. This serves as an indicator of the success of HRM (Shin & Konrad, 2017). However, there is a lack of empirical and theoretical research on the concept of HRM system strength. To measure the effectiveness of HRM, four dimensions are utilized: employee perceptions of distinctiveness, consistency, and consensus of HRM practices (Zhou et al., 2021). Since employees are the recipients of HRM practices, it is essential to understand their perceptions of these practices. Their interpretations and understandings of HRM practices significantly influence their behavior, attitudes, and performance (Naqvi et al., 2021). Therefore, considering HRM system strength is crucial in both theoretical and practical research.

The insurance industry has demonstrated remarkable resilience and efficiency in the face of the global economic crisis, positioning itself as a standout sector. According to experts, the rate of transformation expected in the next five years is projected to match the transformation witnessed over

1. E-HRM
2. HRM
3. HR
4. PEU
5. PU

the past half-century (Gheidar & ShamiZanjani, 2021). This potential for transformation, combined with various factors and drivers, has resulted in a growing demand for digitization within the insurance industry. Today, customers anticipate receiving the same level of service in insurance as they do in other industries, such as retail, banking, and tourism. They seek the convenience of accessing services at their convenience, through various communication channels, and from anywhere (Gheidar & ShamiZanjani, 2021). Technological advancements are playing a pivotal role in making insurance faster and more affordable. By integrating technology into their operations, insurance companies have not only streamlined their processes but have also attracted new players who are reshaping the industry landscape (Parayil Iqbal & Sainudheen, 2023). These changes are not mere incremental improvements but rather fundamental shifts that are transforming the entire insurance value chain (Xiao & Liang, 2023).

In the wake of the pandemic, there has been a notable shift towards digitalization and transformation in all areas of businesses. Notably, the human resource function has emerged as a crucial player in this transformative process. The main drivers behind the transformation of HRM in the digital landscape include meeting the digital needs of internal customers, advancements in digital innovation within the industry, competition-related challenges and the governance of digital innovation. Extensive literature has explored the various aspects of digitalization and digital transformation in human resource management across different domains, sectors, and industries (Christian et al., 2023; Chen & Aklikokou, 2020; Eckert et al., 2022; Hidayat & Basuil, 2024). However, there is a dearth of studies that focus on a comprehensive framework for implementing digital transformation in human resource management within enterprises (Poulose et al., 2024; Zhang & Chen, 2023). In response to these developments, the insurance sector is deemed to capitalize on technology, particularly in the realm of HR management. Therefore, It is imperative to comprehend the effects of digital HRM practices and digital transformation, along with the perceived usefulness and perceived ease of use of digital HRM practices and digital transformation in major insurance firms. Hence, there is a necessity to analyze the repercussions of digital transformation and digital HRM practices on the strength of HRM system in leading insurance companies. This study endeavors to explore the incorporation of technology into HRM practices and digital transformation within the insurance sector and their impact on HRM system, specifically in Fars Province. The objective is to evaluate the impact of digital transformation and digital HRM practices on the strength of HRM system, with perceived usefulness and perceived ease of use acting as mediators in this association.

Literature Review

Digital HRM practices and HRM system strength

Bowen and Ostroff (2004) conducted a well-known study that delved into the effective administration and consideration of human resource management (HRM) systems. They emphasized the importance of a strong HRM system in providing clear indications and consistent behavioral expectations to employees. In contrast, a weak HRM system fails to effectively communicate these expectations. Consequently, the strength of an HRM system is closely intertwined with the psychological state of individuals (Cooper & Withey, 2009). Building upon the attribution theory from social psychology (Kelley, 1967), Ostroff and Bowen (2000) identified three critical elements that contribute to the strength of an HRM system: consensus, distinctiveness, and consistency. These dimensions collectively shape employee perceptions and contribute to the establishment of a robust organizational climate (Heffernan et al., 2021).

Research has demonstrated a positive correlation between the overall performance of a company and the strength of its HRM system (Russo et al., 2018). Strengthening the role of HR as a catalyst for change (Alfes et al., 2019) and fostering healthy employee relations (Cafferkey et al., 2019) are additional benefits of a strong HRM system. Scholars have also found that a strong HRM system significantly influences employee commitment (Cafferkey et al., 2019), engagement, and organizational citizenship behavior (Xiao & Liang, 2023). In the digital era, data and resource management within enterprises have become more systematic. The advent of the digital environment has enabled HR departments to carry out a significant portion of their work through digital media, leading to the transformation of HRM into E-HRM (Vardarlier, 2020). Previous

studies have confirmed the positive impact of digital HRM on the effectiveness of HRM practices (Obeidat, 2016).

The field of digital Human Resource Management has experienced significant transformations over the last ten years. The rise of E-HRM literature has solidified its position as a unique body of knowledge. This shift can be credited to the advancement of technology in human resource management, moving from conventional human resource information systems to digital HRM (Bondarouk & Ruel, 2009). Lepak and Snell (1998) identified three dimensions of digital HRM outcomes: operational, transformational, and relational. These dimensions play a role in reducing costs and enhancing service quality (Heikkilä et al., 2017). Organizations have adopted E-HRM to simplify and optimize their daily human resource functions (Johnson & Dimran, 2017). A key objective of integrating E-HRM in the workplace is to elevate HRM activities to a more strategic level (Marler & Fisher, 2013). Recent studies indicate that incorporating HRM (AI) into a company empowers HR professionals to contribute significantly to strategic decision-making by freeing them from administrative duties (Prikshat et al., 2023; Zhou et al., 2022). Nevertheless, the journey towards E-HRM is not devoid of challenges. Several obstacles impede the potential of E-HRM to enhance efficiency, HR data accessibility, and overall business strategy. These challenges can be classified into E-HRM technical issues, HR-related challenges, and E-HRM development hurdles (Ceric, 2017). Furthermore, factors influencing the adoption of E-HRM can be categorized into organizational, technological, and human elements. Among these factors, the "human factor" emerges as the most critical determinant influencing the adoption and consequences of E-HRM (Venkatraman, 2017; Myllymäki, 2021). Five factors are driving the digital transformation of human resource management, with one being the internal digital requirements of customers (Zhang & Chen, 2023). And therefore, successful implementation and adoption of digital HRM enhances effectiveness of HRM system strength (Wang et al., 2022). Hence, the first hypothesis is proposed.

> **H1:** Digital human resource management practices has significant positive impact on HRM system strength.

Digital transformation and HRM system strength

The response to the widespread adoption of digital technology in society has led to an increasing number of businesses prioritizing digital transformation (Verhoef et al., 2021). Digital transformation involves the integration of various digital innovations that introduce new actors and configurations of actors within organizations, workplaces, industries, or sectors. As a result, there are changes in structures, practices, values, and beliefs, which can either challenge, replace, or complement existing norms (Hinings et al., 2018). This shift in company strategy towards creating value through digital resources is closely tied to digital transformation, which requires businesses to adapt their core competencies and face significant strategic challenges (Mithas et al., 2013). Furthermore, although the positive impact of HRM system strength on organizational outcomes is acknowledged, there is still limited exploration of this concept (Ostroff & Bowen, 2016). To gain a more comprehensive and nuanced understanding of HRM system strength, it is crucial to not only examine it in isolation but also in conjunction with other critical constructs that can enhance its effectiveness. Therefore, the objective of this study is to investigate the impact of digital transformation on HRM system strength, thus proposing the second hypothesis.

> **H2:** Digital transformation has significant positive impact on HRM system strength.

Perceived usefulness, perceived ease of use and HRM system strength

Davis (1989) proposed the technology acceptance model, which suggests that the utilization of an IT system is influenced by the user's beliefs about its perceived usefulness (PU) and perceived ease of use (PEU). The concept of perceived usefulness has played a crucial role in the original formulation of the Technology Acceptance Model (TAM) and its various modified versions. It has been applied in predicting the acceptance of spreadsheet systems, user intent, telecommuting technology, measurement websites, wireless ease of use, and sustained system use (Alrafi, 2007). Perceived usefulness refers to individuals' belief in the extent to which using a system will enhance their work performance (Zhou et al., 2022), while perceived ease of use is determined by users' confidence in

the system's ease of use (Davis, 1989). Recent research in China's computer industry has demonstrated that perceived usefulness and perceived ease of use have a positive impact on consumers' loyalty, satisfaction, and trust (Wilson et al., 2021). Moreover, users' behavioral intentions are significantly influenced by perceived usefulness and perceived ease of use (Chen & Aklikokou, 2020).

In the context of Human Resource Management (HRM), employees' perceptions of HRM effectiveness play a crucial role in shaping their organizational behavior (Wang et al., 2022), ultimately impacting the strength of the HRM system (Agrawal, 2018). The effectiveness of an HRM system is influenced by the specific unit or organization in which it is implemented, as it serves as a means to communicate important information about culture, climate, priorities, and values at a higher level (Ostroff & Bowen, 2016). Employees' perceptions of this higher-level construct have been found to have a positive and significant relationship with their affective commitment (Presbitero et al., 2022). To facilitate the adoption and strength of an HRM system, it is believed that perceived usefulness and perceived ease of use are key factors (Davis, 1989). However, there is a gap in the literature regarding the empirical examination of the impact of perceived usefulness and perceived ease of use on HRM system strength, especially within the Iranian workplace context. As a result, the following hypotheses are put forward.

H3: Perceived usefulness has significant positive impact on HRM system strength
H4: Perceived ease of use has significant positive impact on HRM system strength

Digital HRM practices, perceived usefulness and perceived ease of use

Several studies have shown a strong correlation between Perceived Usefulness (PU) and Perceived Ease of Use (PEU) in the context of digital Human Resource Management (HRM) (Zhou et al., 2022). It is evident that E-HRM practices play a crucial role in influencing the perceived ease of use of digital HRM, which aligns with the findings of Yusliza and Ramayah (2012) who highlighted the relationship between E-HRM, PU, and PEU. Additionally, Marler and Fisher (2013) emphasized the significance of PU as a contextual variable for digital HRM, a notion supported by Wickramasinghe (2010) who associated PU with E-HRM systems. Moreover, the impact of perceived usefulness and ease of use on attitudes towards using digital HRM was found to be significant. The positive relationship between digital HRM and perceived usefulness was further confirmed in the study conducted by Yusoff et al. (2015). Thus, the following hypotheses are put forth.

H5: Digital HRM practices have significant positive impact on digital HRM Perceived usefulness
H6: Digital HRM practices have significant positive impact on digital HRM Perceived ease of use

Digital transformation, perceived usefulness and perceived ease of use

The current era is widely recognized as the "digital age," and businesses across the globe now acknowledge the inevitability of digital transformation. Technologies such as 5G, cloud computing, big data, artificial intelligence, the Internet of Things, blockchain, and others currently serve as the driving forces behind work (Yu & Jinajun, 2020). As a result of digital transformation, human resource management has evolved into digital human resource management, which is now employed in the execution of organizational human resource functions instead of the traditional approach (Vardarlier, 2020). To mitigate the negative impacts of digital work, it is advisable for the human resource department to adapt their personnel policies and provide educational and training programs to facilitate a seamless transition of employees into the digital era (Kitsios et al., 2021). A study conducted on small and medium-sized enterprises (SMEs) in India aimed to identify the factors influencing SME digital entrepreneurship, revealing that perceived usefulness and perceived ease of use significantly affect digital entrepreneurship (Chatterjee et al., 2022). Based on the review of existing literature, it becomes evident that perceived usefulness and perceived ease of use are crucial determinants of digital transformation. Consequently, the study proposes the following hypotheses.

H7: Digital transformation has significant positive impact on the perceived usefulness of digital HRM

H8: Digital transformation has significant positive impact on digital HRM PEU

Mediating role of perceived usefulness and perceived ease of use

In the realm of the digital economy, the potential for digitization and interconnection is vast. This includes not only computers and humans, but also services and products. To fully grasp the process of digital transformation, it is crucial to effectively manage all computers and analyze the digital data that is collected (Ahmad et al., 2021). Digital transformation requires challenging the existing status quo, or at the very least, modifying the current business model (Almaazmi et al., 2020). As organizations and ecosystems undergo increasing levels of digital transformation, they face various challenges, with one significant challenge being the need for existing organizations to adapt and evolve (Naqvi et al., 2021). Moreover, in the digital age, it is vital to understand how employees perceive the usefulness and ease of use of technological innovations within the context of digital transformation. As organizations transition to digital platforms, employees' perceptions of these new technologies can greatly impact their adoption and integration into daily workflows. The rapid advancement of information technology has revolutionized daily activities for many individuals, including the implementation of various mobile applications in local government agencies to achieve their objectives (Christian et al., 2023; Chen & Aklikokou, 2020). The significance of perceived utility and usability of emerging technologies cannot be overstated. The way employees perceive the advantages and user-friendliness of these new innovations significantly influences their willingness to embrace them (Yarbrough & Smith, 2007; Putri et al., 2022; Mazan & Çetinel, 2022). Additionally, perceived ease of use is identified as a key determinant of digital HRM practices. This suggests that digital HRM practices will influence the perceived usefulness of E-HRM in accordance with Marler and Fisher (2010), who linked the perceived usefulness of E-HRM to a contextual variable of E-HRM, this is supported by Wickramasinghe (2010), who argued that perceived usefulness is connected to E-HRM systems, indicating a level of compatibility, and the effectiveness of the HRM system is closely tied to a psychological state (Cooper & Withey, 2009). However, despite the positive impact of HRM system strength on organizational outcomes, this concept remains relatively unexplored (Ostroff & Bowen, 2016). Therefore, in order to gain a more comprehensive understanding of HRM system strength, perceived usefulness and perceived ease of use are proposed as mediators in the relationship between digital HRM practices, digital transformation, and HRM system strength.

H9: PU plays a positive mediating role in the relationship between Digital HRM practices and Digital transformation with HRM system strength.

H10: PEU plays a positive mediating role in the relationship between Digital transformation and Digital HRM practices with HRM system strength.

Conceptual framework

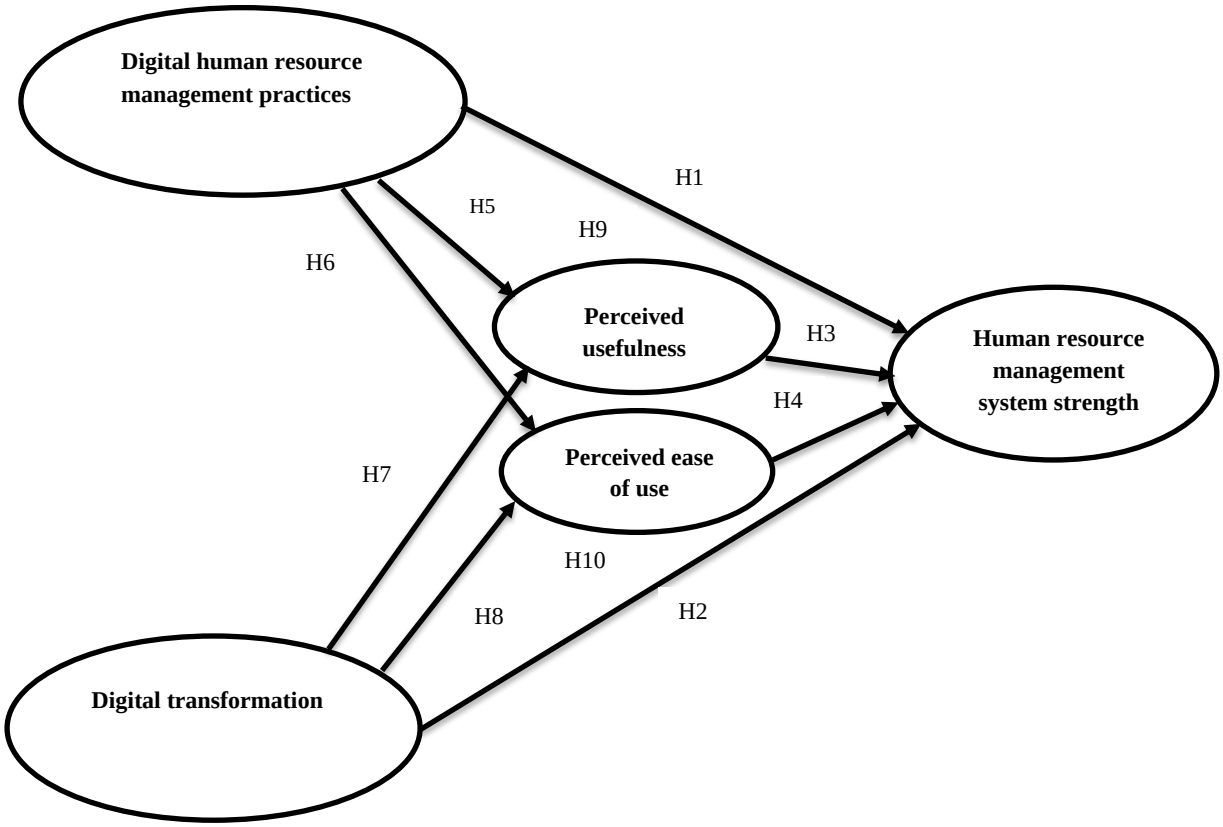

Fig. 1. Conceptual framework

Research Method

This study is classified as applied research based on its purpose, and it falls under the survey group category in terms of data collection criteria. To collect data, the researchers utilized five standardized questionnaires: Patel et al. (2013) for digital human resource management practices, Verhoef et al. (2021) for digital transformation, Davis (1989) for perceived usefulness and perceived ease of use, and Hauff et al. (2017) for human resource management system strength. A 5-point Likert scale was employed in the questionnaires.

The data analysis was conducted using SPSS and AMOS structural equation modeling software. The statistical population of this research consisted of employees from top insurance organizations in Fars Province. Specifically, employees from market development and after-sales services, financial and economic vice, human resources and technical support, planning and business development vice, and technical vice were included. Both supervisors and employees participated in the study. The selection criteria for the insurance organizations in Fars Province were based on the benefits of digital transformation and electronic services, as well as the researchers' access to these organizations. Additionally, questionnaires were distributed to individuals who possessed sufficient familiarity with the research topic. The researchers carefully and patiently selected all qualified individuals after conducting a detailed and comprehensive study of the statistical population. The research questionnaire was then provided to the selected participants.

The rationale behind selecting the insurance industry for this study is its remarkable resilience and continuous growth, even in the face of global economic crises. Despite the challenges posed by such crises, the insurance industry has managed to maintain its high efficiency. Experts predict that the rate of transformation in this industry over the next five years will be equivalent to the transformation it has undergone in the past fifty years (Vereinte, 2020). This potential for transformation, coupled with various factors and drivers, has led to an increased demand for digitization and the implementation of electronic human resources management within the insurance sector. Nowadays, customers expect to have a seamless experience in insurance, similar to what they encounter in the retail, banking, and

tourism industries. The necessity for digital transformation in insurance companies in Fars Province can be attributed to several factors. Firstly, digital transformation enables insurers to meet the evolving expectations and needs of customers by enhancing product development and providing digital-first experiences, along with round-the-clock support. Secondly, it facilitates the achievement of operational objectives, such as fraud prevention and integrated risk management. Moreover, digital transformation empowers insurers to gain a deeper understanding of their customers through data analytics, enabling them to develop personalized products and enhance customer retention. Additionally, it enables insurers to automate manual processes, leading to increased efficiency and reduced costs. Furthermore, digital transformation helps insurers identify new revenue opportunities and make informed decisions through data analytics. It also provides the insurance value chain with a comprehensive 360-degree view of the industry (Vereinte, 2020). The necessity of insurance companies embracing digital transformation has been driven by various factors. Furthermore, the researchers' ability to access insurance companies in Fars Province, which are recognized as leaders in digital transformation, further supports this notion (Kajouri Naftchali et al., 2023). Consequently, we have selected the top insurance companies in Fars Province based on this information.

To determine the sample size, the researcher utilized SPSS Sample Power, a software that considers research hypotheses and important statistical assumptions related to sampling. The research titled "Impact of digital human resource management practices and digital transformation on human resource management system strength" had impact-based hypotheses. The software examined various scenarios, including 2 independent variables, 1 dependent variable, and 2 mediating variable. These assumptions included a maximum probability of 5% for the first type of error (Alpha value), a maximum probability of 20% for the second type of error (Beta value), a test power of 80%, a confidence level of 95%, and a sample size large enough to accurately identify at least 4% of the coefficient of determination (R2) in the statistical population. Therefore, the sample size for this research, determined using SPSS SAMPLE POWER software, was 266 individuals. Random sampling was employed as the sampling method. In this study, a total of 300 questionnaires were distributed among the statistical population. The aim was to ensure that the final sample size would be proportional to the sample size calculated by the SPSS SAMPLE POWER software, which recommended a sample size of 266 individuals. Out of the 280 individuals who cooperated in the study, 14 questionnaires were deemed unsuitable for statistical analysis and were subsequently excluded. The remaining 266 questionnaires, which matched the recommended sample size, were analyzed. Notably, there were no instances of unanswered data in any of the final 266 questionnaires. The sampling method employed in the study is depicted in Figure 2.

To assess the relationship between variables and draw conclusions from a sample to a larger population, various models, such as simple regression, mediator, and path models were utilized to test research hypotheses and the conceptual framework. Ethical considerations were also integrated into the study through several measures, including ensuring participant confidentiality, using trustworthy sources, and emphasizing voluntary participation.

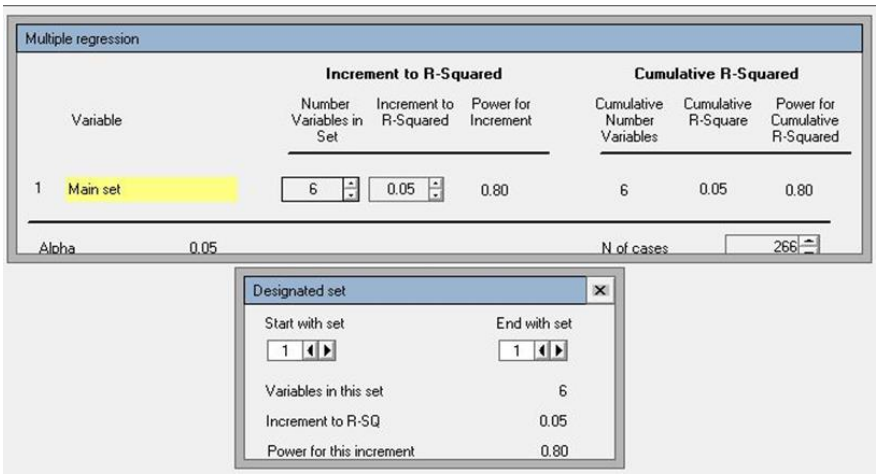

Fig. 2. SPSS SAMPLE POWER sample size estimation output

Results

The survey participants were predominantly male, accounting for 61.4% of the respondents, while the female participants comprised 38.6%. Moreover, a considerable proportion of the participants totaling 47.3%, were in the age group of 30 to 40 years, whereas a mere 4.4% were above the age of 50 and majority of them possessed a master's degree; details are demonstrated in Table 1.

Table 1. Frequency of respondents according to demographic variables

Characteristics	Category	Percentage
Gender	Male	61.4
	Female	38.6
Age	Bellow 30 years	35.2
	30 to 40 years	47.3
	41 to 50 years	13.1
	Above 50	4.4
Education level	Associate degree and below	14.1
	Bachelor	40.4
	Masters and above	45.5
Position	Managers	17.1
	Employees	53
	Supervisors	29.9

Table 2. Central tendency and dispersion statistics (mean and standard deviation) of the variables of digital HRM practices, digital transformation, PU, PEOU, and HRM system strength.

Variables	Mean	Standard dev.
Digital Human Resource Management Practices	3.98	0.65
Digital Transformation	3.44	0.87
Perceived Usefulness	3.82	0.61
Perceived Ease of Use	3.77	0.44
Human Resource Management System Strength	3.71	0.8

The criteria for acquiring changes in digital human resources management practices, digital transformation, perceived usefulness, perceived ease of use, and the strength of human resource management systems were indicated to have an average and standard deviation of (3). The population reported a maximum value of (3), suggesting an optimal level of effectiveness

Table 3. Kolmogorov-Smirnov test to check the normality distribution of variables

Variables	Sig. level	Test Result
Digital Human Resource Management Practices	0.3	Confirmed
Digital Transformation	0.18	Confirmed
PU	0.2	Confirmed
PEU	0.19	Confirmed
Human Resource Management System Strength	0.16	Confirmed

As per the above test, and the significance levels of all variables are reported to be greater than 0.05, it can be concluded that all variables follow normal distribution, and parametric tests should be used in this research.

Investigating the effect of mediation using regression model (path) with manifest variable to evaluate research hypotheses

"In the impact of digital human resources management practices and digital transformation on the human resources management system strength, variables of perceived usefulness and perception of ease of use play a mediating role"

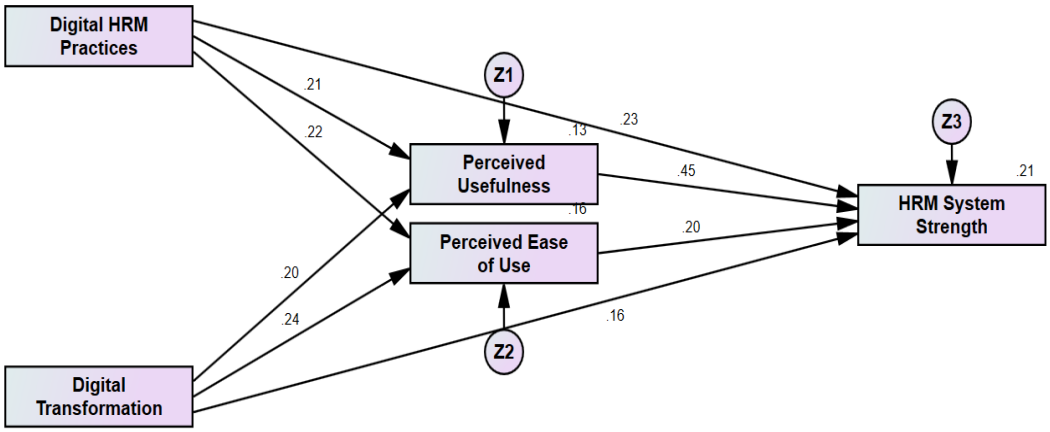

Fig. 3. Research correlation model

Table 4. Standardized output of regression weights

Measures	Standardised Values	Critical Points	Significance Level
The impact of digital human resource management practices on HRM system strength	0.23	5.73	0.0001
The impact of digital HRM practices on perceived usefulness	0.21	3.99	0.0001
The impact of digital human resource management practices on perceived ease of use	0.22	4.25	0.0001
The impact of digital transformation on the strength of the human resource management system	0.16	3.04	0.002
The impact of digital transformation on PU	0.20	4.28	0.0001
The impact of digital transformation on PEOU	0.24	4.72	0.0001
The impact of PU on the strength of the human resource management system	0.45	8.63	0.0001
The impact of PEOU on the strength of the human resource management system	0.20	4.32	0.0001

Table 5. Significance levels of indirect effects using bootstrap test

Measures	Indirect Impact
The impact of digital human resource management practices on the strength of the human resource management system through the mediation of perceived usefulness	0.03
The impact of digital human resource management practices on human resource management system strength mediated by perceived ease of use	0.03
The impact of digital transformation on the strength of human resource management system through the mediation of perceived usefulness	0.03
The impact of digital transformation on human resource management system strength mediated by perceived ease of use	0.02

Table 6. significance level (R2)

Indicators	R2	significance level
The impact of digital human resource management practices and digital transformation on the strength of the human resource management system with the mediation of perceived usefulness and perceived ease of use.	0.2	0.02

The bootstrapping test applied to this model indicated an overall coefficient of determination of 0.21. Furthermore, in accordance with the principles related to mediation within structural equation modeling, it can be inferred that the indirect effects of digital human resource management practices and digital transformation on the robustness of the human resource management system are statistically significant. Consequently, it can be affirmed that mediation exists, with perceived usefulness (PU) and perceived ease of use (PEOU) serving as partial mediators in the relationship between digital human resource management practices and the HRM system strength. Thus, the hypothesis presented above is validated.

Table 7. Reliability and Validity of constructs

Variables	Dimensions	Factor loadings	Cronbach's alpha	Convergent validity	Composite reliability
Digital Human Resource Management Practices	Employee selection	0.69	0.73	0.6	0.79
	Comprehensive education	0.63			
	Performance appraisal	0.71			
	Fair reward system	0.66			
	Flexibility of human resources	0.73			
	Organizational ambivalence	0.6			
Digital Transformation	Stages of digital transformation	0.74	0.74	0.65	0.83
	Digital resources	0.75			
	Organizational Structure	0.69			
	Digital growth strategy	0.7			
	Criteria and objectives	0.63			
Human Resource Management System Strengh	-	-	0.77	0.68	0.85
Perceived Usefulness	-	-	0.71	0.6	0.8
Perceived Ease of Use	-	-	0.76	0.66	0.86

The findings indicate that all values conform to the established standards, and the adequacy of the measurement models has been evaluated using three reliability indicators: factor loadings, Cronbach's alpha, composite reliability (CR), and convergent validity (AVE), all of which are deemed optimal.

Discussion

The impact of digital HRM practices and digital transformation on HRM system strength in the insurance industry will be the main focus of this discussion. Specifically, we will delve into how perceived usefulness and perceived ease of use play a mediating role in this context. It is worth noting that previous studies have not explored these two aspects simultaneously, highlighting the need for further research in this area to enhance the effectiveness of human resource management systems in the insurance industry. Digital HRM practices encompass a wide array of technological tools, including HR information systems, talent management software, employee self-service portals, and virtual recruitment platforms. These tools enable organizations to automate HR functions, streamline processes, and enhance communication and collaboration within the HR department and across the organization. In service-based industries like insurance, human capital plays a crucial role in driving success. By implementing digital HRM practices, insurance companies can effectively manage their workforce, data, and procedures, ultimately strengthening their HRM systems. Real-time data collection, analytics, and reporting facilitated by digital tools empower HR professionals to make data-driven decisions on recruitment, performance management, training, and succession planning. This not only improves the speed and accuracy of decision-making but also ensures alignment with the organization's strategic objectives (Bondarouk & Ruel, 2009; Johnson & Dimran, 2017; Yu & Jinajun, 2020; Prikshat et al., 2023; Zhou et al., 2022).

The result of the first and second hypotheses are in line with research conducted by Xiao Liang (2023) and Vardarlier (2020) which demonstrated that digital HRM practices, such as e-recruitment, e-training, and e-performance appraisal, have a positive correlation with operational efficiency across various industries. Similarly, in the insurance industry, digital HRM practices have been found to have a positive impact on employee satisfaction, retention, and performance. The incorporation of digital technologies in HRM processes not only enables organizations to adapt to the changing dynamics of the job market but also enhances their competitive advantage (Verhoef et al., 2021). For instance, the utilization of HRIS & e-communication, e-personal profile, and e-performance appraisal systems can reinforce the digital human resources system, thereby contributing to the overall success of the

organization. To summarize, the integration of digital HRM practices and digital transformation can significantly bolster HRM systems in the insurance industry, resulting in enhanced organizational performance and competitiveness. Nevertheless, it is crucial to take into account the unique context of the organization and the potential challenges associated with the adoption of digital technologies.

According to the hypothesis test, H3 suggests that the strength of the HRM system is positively impacted by perceived usefulness. This aligns with the technology acceptance model proposed by Davis (1989), which states that the utilization of an IT system is influenced by the user's beliefs about its perceived usefulness and ease of use. Additionally, the users' behavioral intentions are greatly influenced by their perception of the product's usefulness, as highlighted by Chen and Aklikokou (2020). The result of the fourth (H4) hypothesis formulated that perceived ease of use has significant positive impact on HRM system strength is in line with (Davis, 1989), who stated that perceived ease of use is a good determinant of users' confidence in the system. Additionally, users' satisfaction, trust and loyalty are significantly impacted by the system's ease of use (Wilson et al., 2021). Therefore, the strength of Human Resource Management (HRM) systems in the insurance industry is greatly influenced by the perceived ease of use (PEU) of digital HRM systems. As digital technologies are integrated into HRM practices, such as online training modules and automated performance management tools, employees' perceptions of the user-friendliness and accessibility of these systems becomes crucial. A high level of perceived ease of use indicates that employees find these digital HRM systems intuitive and easy to navigate. This ease of use contributes to higher acceptance and adoption rates among employees, ultimately enhancing the overall strength of HRM systems within insurance companies. By embracing and effectively utilizing these digital HRM systems, the industry can experience improved efficiency, streamlined processes, and enhanced decision-making capabilities, thereby gaining a competitive edge in the market.

The findings of the fifth and sixth hypotheses (H5 and H6) which propose digital HRM practices have significant positive impact on digital HRM perceived usefulness and digital HRM practices have significant positive impact on digital HRM perceived ease of use, in congruence with previous studies by (Zhou et al., 2022; Yusliza & Ramayah, 2012; Marler & Fisher, 2013; Yusoff et al., 2015; Levenson, 2018; Bondarouk et al., 2017; Van Esch et al., 2019; Shin & Konrad, 2017) acknowledging the relationship between clarity of digital HRM goals, user satisfaction and digital HRM, perceived usefulness, perceived ease of use, user support, social influence, and facilitating conditions that can influence attitude towards digital human resource management. When organizations incorporate digital HRM practices, like utilizing HRM software, online training platforms, or digital performance management tools, employees view these systems as valuable and advantageous for their work responsibilities. For example, employees may discover that digital HRM systems assist in streamlining administrative tasks, providing access to valuable information and resources, or facilitating communication with HR personnel. Consequently, they perceive these systems as beneficial tools that enhance their effectiveness and efficiency in carrying out HR-related activities (Christian et al., 2023; Chen & Aklikokou, 2020; Putri et al., 2022; Mazan & Çetinel, 2022; Yusoff et al., 2015; Bahiroh & Imron, 2024).

Hypotheses H7 and H8 posit that the introduction of digital transformation has a significant and beneficial influence on both the perceived usefulness (PU) and perceived ease of use (PEU) of digital Human Resource Management (HRM) systems. Digital transformation has led to the evolution of human resource management into digital human resource management, which is now utilized in the execution of organizational human resource functions instead of the traditional approach (Vardarlier, 2020). The integration of digital technologies into various facets of an organization, known as digital transformation, is believed to enhance the PU of digital HRM systems by boosting their efficiency, effectiveness, and alignment with organizational goals. Through the incorporation of automation, data analytics, and improved communication channels, digital transformation empowers HRM systems to offer valuable features and functionalities that bolster HR processes, decision-making, and employee engagement (Yu & Jinajun, 2020; Vardarlier, 2020; Strohmeier, 2020; Cheng & Hackett, 2021). Moreover, digital transformation is indicated to have a positive impact on the PEU of digital HRM systems by simplifying their intricacy and enriching the user experience. By optimizing workflows, presenting intuitive interfaces, and furnishing user-friendly tools, digital transformation facilitates employees in navigating and utilizing digital HRM systems more effortlessly. Consequently, this

enhances user acceptance and satisfaction, resulting in increased rates of adoption and more efficient utilization of digital HRM systems within the organization (Yu & Jinajun, 2020; Vardarlier, 2020; Stromeyer, 2020).

The findings of hypotheses ninth (H9) and tenth (H10) confirm the mediating role of perceived usefulness and perceived ease of use in the relationship between digital HRM practices, digital transformation and HRM system strength. The results are in conformity with (Almaazmi et al., 2020; Naqvi et al., 2021; Christian et al., 2023; Chen & Aklikokou, 2020; Yarbrough & Smith, 2007; Putri et al., 2022; Mazan & Çetinel, 2022). Digital transformation requires challenging the status quo or modifying the existing business model. As organizations and ecosystems undergo digital transformation, they face various challenges, including the need to adapt and evolve. In the digital age, it is crucial to understand how employees perceive the usefulness and ease of use of technological innovations during digital transformation. Employees' perceptions of new technologies can greatly impact their adoption and integration into daily workflows as organizations transition to digital platforms. The rapid development of information technology has revolutionized daily activities such as the implementation of mobile applications in local government agencies to achieve their goals. The perceived usefulness and perceived ease of use of emerging technologies play a vital role in their acceptance. Employees' views on the advantages and user-friendliness of these innovations significantly influence their willingness to embrace them (Cho & Cheung, 2003). Therefore, the intermediary function of PU and PEU indicates that how employees view the usefulness and ease of use is pivotal in influencing the effectiveness of HRM systems within the realm of digital transformation and digital HRM practices.

Theoretical and practical implications

The impact of digital human resource management (HRM) practices and digital transformation on the strength of the HRM system in the insurance industry has significant theoretical and practical implications. The integration of digital HRM practices into the HRM system can enhance its strength by increasing efficiency, improving employee engagement, and enhancing organizational competitiveness. From a theoretical perspective, the adoption of digital HRM practices can be seen as a strategic response to the challenges posed by the digital age. It involves the use of technology to streamline HR processes, improve communication, and enhance employee experience. This can lead to increased employee satisfaction and commitment, which are critical factors in maintaining a strong HRM system. In the insurance industry "The impact of human resource management on organizational brand by the mediating role of employee competence, commitment, and satisfaction in the insurance industry" was conducted, the adoption of digital HRM practices can be particularly important. The study found that factors such as employee competence, commitment, and satisfaction play a crucial mediating role in the relationship between HRM and organizational brand. Digital HRM practices can help to enhance these factors by providing employees with the tools and training they need to perform their jobs effectively, and by fostering a culture of engagement and commitment (Rashidi et al., 2020).

From a practical perspective, the implementation of digital HRM practices can have significant benefits for insurance companies. For example, digital HRM systems can automate many HR processes, freeing up HR professionals to focus on more strategic and high-value activities. Additionally, digital HRM systems can provide real-time insights into HR metrics, enabling data-driven decision-making and improved HRM system strength. The study "Perceived challenges: Unfounded reasons for not forging ahead with digital human resource management practices" highlights the importance of understanding the challenges that influence the adoption of digital HRM practices. It emphasizes the need for HRM departments and organizations to proactively address these challenges to accelerate the process of HRM digitalization (Chapano et al., 2023). In the context of the insurance industry, the study "Effect of human resource management practices on employee retention and performance in Nigerian insurance industry" underscores the significance of HRM practices in employee retention and performance. It suggests that HRM practices can have a positive impact on employee retention and performance, which are critical factors in maintaining a strong HRM system. Finally, the study "Consolidating the theoretical foundations of digital human resource management acceptance and use research: meta-analytic validation of UTAUT" provides a comprehensive framework for understanding the acceptance and use of digital HRM practices. It highlights the

importance of considering factors such as performance expectancy, effort expectancy, and social influence in the adoption of digital HRM practices (Theres & Strohmeier, 2023).

To summarize, the study's findings have been used to draw conclusions and apply them to the insurance industry. The effectiveness of the HR system in this industry greatly depends on how employees perceive its usefulness and ease of use. If they view it as beneficial and user-friendly, they are more likely to adopt and utilize it, leading to enhanced HR processes and overall performance (Christian et al., 2023; Chen & Aklikokou, 2020; Yarbrough & Smith, 2007; Cho & Cheung, 2003). Consequently, it can be argued that the utilization of digital transformation and digital human resource management functions enables employees to accomplish tasks more efficiently, leading to improved job performance and increased profitability. Moreover, these advancements and functionalities enhance the effectiveness of work processes and simplify them. In today's world, electronic government has become an essential requirement pursued by numerous countries. The electronic insurance industry, which relies on advanced software and hardware technologies, as well as network and telecommunications systems, facilitates the electronic exchange of resources and financial information without the need for customers to be physically present at a branch (Emran & Elhony, 2023; Bahiroh & Imron, 2024).

Insurance companies need to be cognizant of the impact of digital transformation, incorporate digital human resource management practices that promote desired employee behaviors, and integrate a human resource management system that aligns with digital transformation strategies. This strategic alignment enhances the effectiveness of the HRM system in driving superior performance (Eckert et al., 2022; Hidayat & Basuil, 2024). A critical aspect influencing the strength of insurance systems across various branches in Fars Province is their human resource management system. Therefore, in addition to digital human resources management, establishing a digital transformation platform to prepare the necessary groundwork for digitalization is crucial. Moreover, developing a robust HR management system can streamline communication among different insurance departments, simplifying day-to-day operations. These improvements lead to enhanced performance and increased productivity (Schwarzbach et al., 2023; Hidayat & Basuil, 2024). The perceived utility of digital human resource management and the ease of implementing digital human resource management practices within the insurance sector of Fars Province are pivotal in reinforcing the human resources management system. Thus, it is advisable to strengthen collaboration between the human resources department and other organizational departments to bolster the human resources management system by enhancing service delivery in insurance branches through electronic channels, thereby improving task efficiency.

Limitations and directions for future research

The current research has faced some limitations. Therefore, while mentioning the limitations, suggestions for future studies will be discussed.

The novelty of digital transformation and electronic human resource management in Iran, along with the emergence of insurance companies embracing these advancements, posed a challenge in selecting a representative sample due to the lack of a clearly defined population. Consequently, a limited number of companies were chosen as a statistical sample for this experimental research. It is recommended to explore these developments in specific companies encompassing various levels of employees and managers. The relatively small sample size in this study suggests the need for broader investigations, possibly at the scale of all branches of an insurance company, to conduct a comparative analysis. Moreover, the reliance on cross-sectional data in this study may not capture the dynamic nature of digital transformation and its effects on HRM systems. Therefore, examining the results over different time periods is advised. Another constraint is the potential lack of generalizability to other countries or regions, given the focus on the Iranian insurance industry. To address this, future studies could explore these aspects in different countries or compare findings across multiple regions. Additionally, the data collection in this research was solely based on questionnaires and analyzed using a single method. For future studies, it is recommended to gather data from diverse sources and compare the perspectives of employees and managers. Furthermore, it is crucial to conduct a case study or new research that incorporates in-depth interviews and gathers opinions from various perspectives in order to comprehensively analyze the different dimensions of digital transformation and electronic human

resource management. It is recommended to utilize a structured model for qualitative text analysis, such as the method proposed by Sandlovsky and Barroso, to extract concepts and conduct a comprehensive review of the research topic. However, it is important to note that this research is specific to the insurance industry and may not fully represent the experiences of other industries undergoing digital transformation. Therefore, it is advisable to compare the findings with similar studies conducted in different industries to gain a more comprehensive understanding of the impact of digital transformation on the strength of the human resource management system. Additionally, longitudinal studies would be beneficial to examine the long-term effects of digital transformation on human resource management systems. Another important factor to consider is the absence of a control group and limited consideration of external factors in this study. The inclusion of a control group would help determine whether the observed changes in HRM system strength are solely attributed to digital transformation or influenced by other factors. Additionally, the research does not thoroughly explore the impact of external factors on the human resource management system. Factors such as government policies, market conditions, and technological developments, which could potentially impact this relationship, are not taken into account. Therefore, it is recommended that future studies be conducted to address these intervening variables and consider the role of factors, such as government policies and regulations. Additionally, it is crucial to pay attention to the role of employees in this context. The current research does not explicitly examine the role of employees in the relationship between digital transformation and the strength of HRM systems. This is a significant aspect to consider, as employees play a vital role as key stakeholders in organizations, and their well-being and participation are crucial for the success of digital transformation initiatives; hence, it is suggested that the UTAUT framework (Theres & Strohmeier, 2023) can serve as a theoretical foundation for understanding the acceptance and utilization of digital HRM practices in the insurance industry.

Conclusion

Perceived usefulness and perceived ease of use play a vital role in mediating the impact of digital HRM practices and digital transformation on HRM system strength. The impact of digital human resource management practices and digital transformation on human resource management system strength in the insurance industry has been significant.

Compared to other research in the field (Christian et al., 2023; Chen & Aklikokou, 2020; Eckert et al., 2022; Hidayat & Basuil, 2024; Putri et al., 2022; Mazan & Çetinel, 2022), this study offers a unique perspective by focusing on the insurance industry. It also emphasizes the importance of digital HR practices and digital transformation in enhancing the strength of HR management systems. The research uses a quantitative approach, which provides a structured and systematic way to analyze data and draw conclusions. In terms of methodology, the study uses a survey to collect data from professionals in the insurance industry. This approach allows for a large sample size, which increases the reliability and validity of the findings. The study also uses statistical techniques to analyze the data, which further strengthens the credibility of the results.

The research also contributes to the existing body of knowledge by providing specific recommendations for HR professionals in the insurance industry. These recommendations can be applied to other industries undergoing digital transformations, making the research relevant and useful for a wide audience. Research has indicated that the implementation of digital human resource management (HRM) practices, including e-recruitment, e-learning, and e-performance appraisal, has resulted in enhanced efficiency and effectiveness within HR operations. In the context of organizational digital transformation, HRM strategies play a pivotal role in ensuring the success of companies as they navigate the challenges brought about by the digital era (Gadzali et al., 2023). Digital transformation has also resulted in the integration of various HR functions, leading to a more streamlined and efficient HR system. For example, the use of HR software and digital platforms has enabled better communication, increased transparency, and improved decision-making processes. Furthermore, the implementation of digital HRM strategies has played a significant role in enhancing the agility and responsiveness of HR systems within insurance companies (Wilson et al., 2021). This has enabled them to swiftly adjust to evolving market dynamics and customer requirements. The significance of this has been particularly evident amidst the COVID-19 crisis, where the adoption of remote work and digital communication has become imperative (Ulatowska et al., 2023). Also when

employees perceive digital HRM practices as beneficial and valuable, they are more likely to embrace and utilize them effectively. The perceived usefulness of digital HRM practices enhances employee satisfaction, engagement, and motivation, leading to improved HRM system strength. Similarly, when employees find digital HRM tools easy to use and navigate, their adoption and usage rates increase, further strengthening the HRM system. The insurance industry, with its complex and constantly changing regulations, can greatly benefit from digital HRM practices in managing compliance and documentation (Jayabalan et al., 2021). Digital transformation enables the automation and integration of various HR processes, ensuring regulatory compliance, reducing errors, and facilitating efficient audits. Moreover, digital HRM practices enable remote work capabilities, which have become increasingly important. Remote work tools, virtual collaboration platforms, and online training and development resources have allowed insurance companies to maintain productivity and ensure employee well-being. In conclusion, the impact of digital HRM practices and digital transformation on HRM system strength in the insurance industry is significant. Digital tools have revolutionized the HRM field in organizations within the services sector by offering automation, integration, and real-time data capabilities. These tools, including chatbots, dashboards, application software systems, and a virtual HRM assistant, enable organizations to streamline their HR processes, enhance decision-making, and strengthen their overall systems. The introduction and development of these digital tools have significantly improved the efficiency and effectiveness of HRM services in modern conditions (Liu et al., 2024).

The mediating role of perceived usefulness and perceived ease of use further strengthens the impact of digital HRM practices on HRM system strength. As the insurance industry continues to evolve, organizations that invest in digital HRM practices will gain a competitive advantage by effectively managing their human capital and maintaining compliance in an increasingly digital landscape (Tackie et al., 2022). The success of this industry is a motivation and stimulus for other industries and increases the efficiency of companies. The use of information technology as one of the distribution channels in the insurance industry is on the agenda. The insurance industry is turning to digital technologies to maintain current revenue and create new revenue opportunities. Digital platforms facilitate the possibility of strengthening communication and providing new services to customers. In light of this matter, selected companies within the insurance industry have implemented measures. Furthermore, the emergence of electronic insurance as a novel avenue for distributing insurance products necessitates expediting the exchange process, which in turn gives rise to numerous opportunities for fraudulent activities and deceit (Ulatowska et al., 2023; Liu et al., 2024). Therefore, regulatory bodies should change the regulatory methods to react quickly in protecting the interests of consumers. Of course, the emergence of digital transformation and its perceived benefits do not fundamentally change the principles of current supervision in the insurance market. It is impossible to think that we can develop the insurance industry at an acceptable level without the use of modern technology, and on the other hand, if we are going to put digital transformation on the agenda, but our human resources process has problems, this project should definitely be reviewed because it is impossible to create digital transformations and electronicization of the insurance industry without the electronicization of human resources. In line with digitalization and benefiting from electronic human resources management, the insurance industry needs to pursue this issue in various fields, including insurance supply, supervision, investment and all the issues in which we are active today, so that the capacities of the technology field can be used. In this direction, the mission of strengthening the human resource management system is essential (Okuzu et al., 2022). In this regard, new business strategies (Tajeddini et al., 2013), knowledge management (Karami et al., 2015), operating models, dynamic marketing activities (Mahavarpour et al., 2022) and innovative products are all considered essential competitive components. Insurers must develop critical capabilities necessary for digital transformation. Speed in product delivery to the market and organizational agility are essential. Business and technology leaders, after observing the rapid changes in the short term, create a clear vision of transformation; through this vision, organizations will be able to pursue digital transformation plans in the long term.

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