

# Adoption Of Digital Human Resource Management: Effect of Perceived and Observed Value

Munodani Chapano<sup>1,\*</sup>, Michelle R. Mey<sup>2</sup>, Amanda Werner<sup>3</sup>

<sup>1</sup>Department of Human Resources Management, Nelson Mandela University, Gqeberha, South Africa, Orcid: 0000-0003-4417-5964

<sup>2</sup>Department of Human Resources Management, Nelson Mandela University, Gqeberha, South Africa, Orcid: 0000-0001-5093-2162

<sup>3</sup>Department of Human Resources Management, Nelson Mandela University, Gqeberha, South Africa, Orcid: 0000-0002-6849-6781

## Keywords

HRM Digitalisation

Digital HRM

Digital HRM Systems

Perceived and Observed Value of digital HRM

---

## Abstract

The digitalisation of the Human Resource Management (HRM) function is increasingly considered to be one of the most effective ways to enhance HRM service delivery. Understanding the factors that influence the adoption of Digital HRM Systems can assist in reducing resistance to change and support the adoption of HRM technology within organisations. This study empirically examined the extent to which the perceived and observed value of digital HRM influenced the adoption of Digital HRM Systems in a sample of HRM professionals and line managers (n = 312), obtained from the South African automotive industry through purposive and snowball sampling methods. Using Statistical Package for Social Sciences (SPSS) version 27, exploratory factor analysis (EFA), descriptive analysis and regression analysis were used to analyse the data. The findings of this study revealed that both the perceived and observed value of digital HRM influenced the adoption of Digital HRM Systems. The greatest value for digital HRM was found among stakeholders and employment relations. Thus, managers can increase the adoption of Digital HRM Systems if they focus on stakeholders and employee relations.

---

---

Corresponding author

<sup>1\*</sup>munodani.chapano@mandela.ac.za

<sup>2</sup>michelle.mey@mandela.ac.za

<sup>3</sup>amanda.werner@mandela.ac.za

# 1. Introduction

## 1.1 Background

Digitalisation has become typical for executing business operations within the workplace. Digitalisation, which refers to the purposeful use of digital technologies in the production and delivery of organisational products and services to improve efficiency and effectiveness, is prevalent in many workplaces globally (Verma et al., 2023). Most organisations, be they large or small, private or public, have adopted some form of digitalisation; the only difference among these organisations lies in the extent to which they have digitalised (Bondarouk et al., 2017). HRM, as a critical support function in the organisation, should also been seen in this context, with some organisations adopting and utilising Digital HRM Systems more than others (Al-Alawi et al., 2023).

The adoption of Digital HRM Systems increased during the Covid-19 lockdown period as businesses were forced to digitalise to remain operational. Across the HRM value chain, this digitalisation was mostly evident in the domain of performance management and onboarding (Sani et al., 2023; Komm et al., 2021). Before the adoption of digital HRM, most HRM services were paper-based and several reasons have been cited for the reluctance to digitalise HRM. Chief among these reasons was that the digitalisation of HRM was not directly operational and therefore a costly investment for the business (Bondarouk et al., 2017). Services offered by HRM were often perceived to be of less value to the business than its core operational functions, with the HRM function being assigned to a cost centre (Bondarouk et al., 2017).

However, this archaic view is opposed by a change in the understanding of HRM as a strategic function in business (Armstrong & Taylor, 2020). Strategic HRM is aimed at aiding the business to achieve its strategic objectives, in alignment with its vision and values. Through implementing competitive strategies, policies and practices that are aligned with overall business strategy, strategic HRM fosters the achievement of organisational strategic goals (Marler & Parry, 2016; Wright & Ulrich, 2017). Adopting digital HRM to support the attainment of the strategic objectives of the organisation in a knowledge-intensive workplace, is regarded as a competitive HRM strategy investment (Sivathanu & Pillai, 2018).

Drawing lessons from the aforementioned, digitalised HRM systems should be seen by stakeholders as enabling innovative practices and processes that enable high performance, in alignment with the strategic goal of contributing to the attainment of organisational goals. Armstrong and Taylor (2020) posit that HRM strategies contribute to organisational goal attainment by influencing HRM outcomes such as skills, motivation, engagement and the commitment of employees, which then influence business outcomes such as productivity, quality and customer satisfaction. In this respect, the contribution of digitalised HRM systems entails the effective and efficient collection, processing and utilisation of human resource (HR) data, leading to the identification and enabling of talent that make a pivotal contribution to business results (Amla & Malhotra, 2017).

## **1.2 Problem Statement**

The debate on whether and how digital HRM adds value to the organisation is inconclusive and this deadlock has stagnated the adoption of digital HRM within organisations (Strohmeier, 2020; Zehir et al., 2020; Fenech et al., 2019; Bondarouk et al., 2017; Priyashantha et al., 2022). It is opined that if organisations become aware of the value they obtain from investing in HRM technology, the adoption of Digital HRM Systems within many workplaces will be enhanced (Strohmeier, 2020; Thite, 2019; Bondarouk et al., 2017). However, there is a paucity of empirical research about the perceived and observed value of digital HRM and the extent to which it influences the adoption of Digital HRM Systems (Amoako et al., 2023; HR World, 2019). For the purposes of this study, the perceived value of digital HRM refers to the benefits that individuals believe could be derived from adopting and implementing Digital HRM Systems. However, the observed value of digital HRM refers to the objective experience of benefits (such as cost, time and error reduction) generated by adopting Digital HRM Systems.

There is a lack of theoretical frameworks for the deployment of digital HRM (HR World, 2019) and specifically an absence of an integrated approach to digital HRM in South Africa (SABPP, 2019). While many scholars highlight the advantages of HRM digitalising, there is a dearth of evidence for the advantages of digitalised HRM (Strohmeier, 2020; Zehir et al., 2020; Bondarouk et al., 2017; Priyashantha et al., 2022). Therefore, the aim of this study was to address this gap by empirically examining the extent to which the perceived and observed value of digital HRM influences the adoption of Digital HRM Systems in South African organisations. As such, the results of this study could guide HRM practitioners and leaders both in South African and international organisations, by increasing efforts in investing in HRM technology solutions that maximise value for the organisation.

## **1.3 Research Objectives**

The main objective of this study was to empirically examine the extent to which the perceived and observed value of digital HRM influenced the adoption of Digital HRM Systems in organisations in South Africa. The following sub-research objectives were formulated for the study:

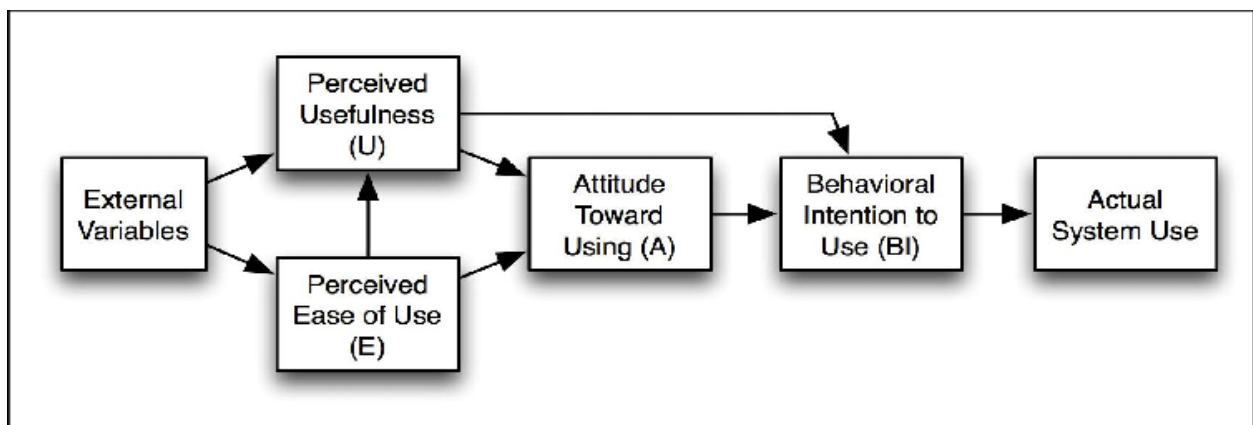
- To empirically identify the perceived value of adopting Digital HRM Systems.
- To empirically identify observed evidence of value derived from implementing Digital HRM Systems.
- To empirically examine the extent to which the perceived value of digital HRM influences the adoption of Digital HRM Systems.
- To empirically examine the extent to which the observed value of digital HRM (e.g., cost, time and error reduction) influences the adoption of Digital HRM Systems.

## 2. Literature Review

Digital HRM Systems entail using digital technologies associated with 4IR, such as artificial intelligence (AI), across the HR value chain in recruitment and selection, onboarding, talent management, performance management, remuneration, employee relations and wellness, with the purpose of optimising HRM service delivery (Kucherov & Tsybova, 2022). Thus, Digital HRM Systems incorporate digital HRM functions such as digital performance management, digital recruitment, digital learning and development and digital wellness management (Strohmeier, 2020). There is a plethora of technologies that can be applied to the Digital HRM value chain, including social media, mobile devices, analytics, cloud computing (SMAC), AI, blockchain, machine learning, Internet of Things (IoT), virtual reality, gamification and robotic process automation (Thite, 2019).

### 2.1 Theoretical framework

There are many models that can be used to explain and understand issues related to technology adoption. In this study, the Technology Acceptance Model (TAM) (Figure 1) developed by Davis (1989) is used to gain insight in how the perception of value of digital HRM could serve as a basis for the adoption of Digital HRM Systems in organisations.



**Figure 1:** Technology Acceptance Model (TAM)

*Source:* Davis (1989)

As depicted in Figure 1, there are two factors that affect the adoption of digital technologies, namely (i) perceived usefulness and (ii) ease of use. Davis (1989, p. 320) defines perceived usefulness as “the degree to which a person believes that using a particular technological system will enhance his or her job performance,” and perceived ease of use as “the degree to which a person believes that using a particular system would be free of effort”. Thus, the users’ attitudes and behaviours toward using digital technologies within the workplace are influenced by their perception that digital technology is useful and will enable them to execute their tasks effectively and efficiently. Therefore, this theoretical model suggests that Digital HRM Systems can be adopted if users believe that they could gain value or if they observe evidence of value by implementing Digital HRM Systems within the workplace.

The SABPP Systems Standards Model that was launched in South Africa in 2012 is used as the bedrock of HRM service delivery in South Africa (SABPP, 2014). The model sets minimum standards for HRM systems, including the seven cross-functional HR value chain systems that operationalise the HRM strategy. These comprise workforce planning, learning and development, performance management, reward, wellness, employee relations management and organisational development (SABPP, 2014). Specific HR professional practice standards include recruitment, selection, career management, succession planning and performance measurement (Meyer, 2016). The cross-functional chain HRM systems and focus areas can be digitalised to increase efficiency and effectiveness in HRM service delivery and add value in the workplace. For a smooth digitalisation process, Verma et al. (2023) and Thite (2020) add that a learning culture should be adopted across the HRM value chain and employees should be empowered with technological and human-machine interaction skills.

## **2.2 Value to be gained from adopting Digital HRM Systems**

### **2.2.1 Digital workforce planning**

Digital workforce planning facilitates real-time retrieval of employee information and the application of workforce analytics to gain insights about the talent pool in the organisation (Verma et al., 2023; Vardarlier, 2020). It facilitates the application of talent metrics to establish a link with organisational outcomes such as quality standards, customer satisfaction and sales. Digitalising workforce planning enhances effective decision-making about the upskilling or reskilling of employees in alignment with the current and future goals of the organisation (Vardarlier, 2020). Crucial HR information for organisations in South Africa include biographical details and the skill profile of employees in terms of race, gender, age and disability to foster employment equity and transformation. A critical issue is effective data governance to promote the privacy and security of employee information (Subramaniyan et al., 2019).

### **2.2.2 Digital recruitment and selection**

It is proposed that digital recruitment and selection enable HRM practitioners to spend less time and save money on sourcing and screening candidates (Burbach, 2019). Internet-based and technology-enabled solutions such as job portals, corporate websites, AI and social media can perform these activities more speedily than traditional methods such as job advertisements in printed media, employee referrals and conducting interviews at the premises of the company (Al-Alawi et al., 2023). AI enables matching the skills of potential candidates against the required skill sets (Verma et al., 2023). Candidates can therefore be shortlisted or eliminated by using machine learning and robotic process automation, which also automatically generate success or regret letters to applicants (Mallik & Patel, 2020). To facilitate this, however, employers need to have the necessary technology systems and digital competencies, and applicants need digital skills and access to the Internet (Holm & Haar, 2019).

### **2.2.3 Digital performance management**

Digital performance management has led to the abandonment of paper-based performance management, allowing aspects of employee performance such as setting performance targets, performance evaluation and performance feedback to be digitalised (Tripathi et al., 2021). Robotic process automation, AI-powered social robotics and HR metrics provide HRM practitioners and line managers with real-time updates on employee performance, thus facilitating timely feedback and early intervention if necessary (Shrivastava et al., 2022). Interventions such as coaching and rewarding exceptional performance can also be done in real-time, thereby enhancing employee experience and motivation (Shrivastava et al., 2022). Digitalised employee performance management fosters the availability of a transparent, objective and accessible employee performance management system within an organisation (Rondeau, 2019). However, employees may lack trust in digitalised employee performance evaluations, resulting in resistance (Rondeau, 2019). Potential bias should be acknowledged and dealt with as some decisions may require human cognition and judgement (Rondeau, 2019).

### **2.2.4 Digital remuneration and reward management**

Digital remuneration and reward management is facilitated through robotic process automation, remuneration software, digital recognition and Employee and Management Self-Service platforms (Rondeau, 2019). A digitalised remuneration and reward management system enables fair and transparent remuneration, the personalisation of rewards, alignment of rewards with organisational goals and real-time access to rewards by employees and managers (Vardarlier, 2020), which stimulate employee engagement and improve retention (Zehir et al., 2020). Moreover, digitalised reward management minimises payroll calculation errors (Silva & Lima, 2018). However, potential bias and inequalities can occur if there is an over-reliance on algorithms to make crucial decisions (Zehir et al., 2020). A robust governance framework is required to safeguard and control access to sensitive employee data (Subramaniyan et al., 2019).

### **2.2.5 Digital employee wellness management**

Digitalised employee wellness management entails tracking employee health, designing and delivering wellness programmes, and providing personalised wellness solutions to employees using digital technologies such as wearables, wellness applications and portals to support the well-being of employees (Deloitte, 2018). Digitalised wellness management gives employees easy access to wellness resources irrespective of time or location (Nguyen et al., 2023). The use of analytics enables organisations to design and deliver wellness programs aligned to the needs and preferences of employees, inducing employee agency, engagement and motivation (Goh, 2018). Nevertheless, over-reliance on technology is risky and can result in resistance (Imison et al., 2016). Complex well-being issues still require human interaction (Nguyen et al., 2023). Moreover, ethical issues arise regarding the privacy and security of employee personal information as the digitalised practice involves the collection, storage and processing of sensitive information about employees (Subramaniyan et al., 2019).

### **2.2.6 Digital employment relations management**

Digitalised employment relations management focuses on relationships between the organisation, employees and trade unions, and between trade unions and employees within the workplace, using digital technologies (Parry & Battista, 2019). These relationships are complex and need to be well-managed (Armstrong & Taylor, 2020). Digital technologies streamline many of the processes involved in regulating these relationships (Vardarlier, 2020). For instance, the use of digital technologies such as mobile apps and social media improves communication, information sharing, collective bargaining and collaboration between the parties as they engage in matters of mutual interest (Vardarlier, 2020). Concerns related to digitalised employment relations management include reduced human interaction and potential dehumanising processes, which are not conducive to building trusting and thriving relationships (Burbach, 2019; Parry & Battista, 2019). Organisations should therefore plan digital employment relationship management carefully to digitalise mundane and repetitive processes without compromising relationship building.

### **2.2.7 Digital learning and development**

Digital learning and development involve the use of digital technologies such as AI, mobile learning, gamification, virtual reality and learning management systems to administer and deliver training and development programmes (Verma et al., 2023). Digital learning and development facilitate learning anywhere and at any time, making it also cost effective (Mwita, 2020; Vardarlier, 2020). This flexibility gives employees an opportunity to learn at their own pace (Johnson & Stone, 2019). Learning can also be customised to the specific needs of training participants, thus promoting the transfer of skills in the workplace (Verma et al., 2023). Digital learning and development do have disadvantages as not all employees may have access to various technologies (Vardarlier, 2020) and interaction (collaboration and feedback) between learners and trainers may be limited (Tan, 2019). As such, a blended learning and development strategy is proposed (Tan, 2019).

### **2.2.8 Digital organisational development**

Digital organisational development supports the improvement of functions and systems, including organisational design, organisational culture, communication, ethics and knowledge management to increase performance, employee engagement and job satisfaction (Verma et al., 2023; Tripathi et al., 2020). In this domain, data analytics are used for assessing ethical and cultural practices and decision making, thus enabling remedial actions and change initiatives to be affected in real-time to enhance organisational agility and adaptability in the ever-changing business environment (Bhatt & Muduli, 2022; Tripathi et al., 2020). A potential disadvantage is that digital organisational development could potentially perpetuate inequalities and discrimination if some employees are not digitally literate and/or have limited access to technologies (McAfee & Brynjolfsson, 2016; Schwab, 2016). Over-reliance on technology can dwindle the in-person interaction and connectivity of people, accentuating social isolation with consequences for both the culture of the organisation and employee well-being (Verma et al., 2023).

### **3. Research Methodology**

As stated, the main objective of this study was to empirically examine the extent to which the perceived and observed value of digital HRM influenced the adoption of Digital HRM Systems in organisations in South Africa. A positivistic paradigm was adopted. The study was cross-sectional and quantitative with a structured, online questionnaire used to collect data.

#### **3.1 Population, sampling and participants**

The population for this study was HRM professionals and line managers drawn from automotive manufacturing companies in the Eastern Cape Province of South Africa. This sector was targeted because digital transformation was considered more profound in automotive manufacturing companies in comparison to other organisations in South Africa (Deloitte, 2016). In addition, 4IR was first applied in the manufacturing industry, albeit in Germany, but this led to the production of intelligent networked products in manufacturing (Pfeiffer, 2017). In this study, purposive and snowball sampling was used to gain access to potential respondents. These two sampling techniques were used because Hair et al. (2018) point out that the sample of a study should enable the researcher to address the research objectives. Thus, purposive and snowball sampling ensured this in that it allowed the researcher to contact prospective respondents of the sample (population), who possess specific characteristics required for the study, who in turn through snowball sampling, identify other prospective members of the sample whom they believe had the knowledge of the phenomenon under study to participate in the study (Hair et al., 2018). Thus, these methods are more resource efficient as they allow the researcher to commit resources and effort to respondents who are likely to provide important information. A total of 425 questionnaires were distributed online, of which 328 were completed and 312 were deemed usable. The response rate was 73.41%. Most of the respondents were HRM professionals (63.77%) and line managers (34.94%). Most respondents (52.56%) indicated a degree as highest qualification, followed by a diploma (31.73%), master's degree (12.50%), doctorate (0.64%) and Grade 12 certificate (matric) (2.56%). These results demonstrate that a suitably represented target group participated in this study.

#### **3.2 Measuring instrument and administration procedure**

The online questionnaire comprised four sections, namely Demographics, Perceived Value, Observed Value and Adoption of Digital HRM Systems. The Perceived Value scale contained 34 items measuring the extent to which respondents believed that adopting Digital HRM Systems contributed to the improvement of specific HRM focus areas. The items were measured on a five-point Likert rating scale ranging from *not at all* (1), *small extent* (2), *moderate extent* (3) *great extent* (4) and *a very great extent* (5). Examples of the 34 items were *value for the stakeholders (such as the organisation, HRM department, employees, unions and managers)* and *value for HRM value chain elements (such as recruitment and selection, training logistics and administration, salary and wage reviews)*. A score of 5 implied that the stakeholders and service delivery across the HRM value chain elements could be enhanced to a very great extent due to HRM digitalisation. The Observed Value scale contained 25 items measuring observed



evidence of value (impact) by adopting Digital HRM Systems. These items were measured on a five-point Likert scale ranging from *substantially increased* (1), *slightly increased* (2), *remained the same* (3) *slightly decreased* (4) and *substantially decreased* (5). A score of 5 implied that cost and expenses, and effort had been substantially decreased in practice due to HRM digitalisation. Examples of the 25 items are *training logistics and administration costs, number of employees that left during onboarding/probationary period, time and costs involved in implementing change, and HRM administrative and operational costs*. Adoption of Digital HRM Systems contained 34 items and included items such as *digital recruitment, digital selection, digital management of grievance procedure, digital management of remuneration practices, and digital instilling of a culture of adaptability and flexibility*. These items were measured on a five-point Likert rating scale ranging from *not at all* (1), *small extent* (2), *moderate extent* (3), *great extent* (4) and *to very great extent* (5). A score of 5 implied that the Digital HRM Systems were adopted to a very great extent in the organisations.

Since no validated scales existed to measure the variables in this study, the items for the sections were derived from the literature review. For the Adoption of Digital HR Systems, the SABPP HRM System Model, depicting 7 HRM value chain elements and 30 HR professional practice standards were used (SABPP, 2014). Items for Perceived Value and Observed Value were also derived from this model. Jammulamadaka (2020) and Thite (2020; 2019) posit that Digital HRM Systems should contribute value to the management of HRM systems, the business and various stakeholders. The empirical study examined the extent to which Perceived Value and Observed Value influenced Adoption of Digital HRM Systems. The Cronbach Alfa Coefficients for Perceived Value factors ranged from 0.891 to 0.957; for Observed Value the alphas ranged from 0.872 to 0.928; whilst for Adoption of Digital HRM Systems the alphas ranged from 0.807 to 0.944. These statistics rendered the questionnaire and data collected as reliable.

### **3.3 Ethical considerations**

An ethics approval letter was obtained from the university where this study was based. Ethics protocols pertaining to this study, which were observed, included full disclosure about the purpose of the study, voluntary participation, anonymity and the right to withdraw from the study. Collected data was automated onto a MS Excel spreadsheet.

### **3.4 Statistical analysis**

Descriptive and inferential statistics were computed utilising Statistical Package for Social Sciences (SPSS) Version 27. To establish structures and latent factors underlying the item variables, Exploratory Factor Analysis (EFA), utilising Principle Axis Factoring (PAF) (Williams et al., 2012) was employed. The sample and data were found to be adequate as revealed in the Meyer-Olkin (KMO) and Bartlett's Test of Sphericity (BTS) (Hair et al., 2018). The KMOs for the sections Perceived Value and Observed Value were 0.917 and 0.896 respectively, whilst for Adoption of Digital HRM Systems it was 0.929. Factor analysis indicated a suitable 0.000 on BTS. Regression analysis was employed to determine the extent to which Perceived Value and Observed Value influenced Adoption of Digital HRM Systems.

## **4. Results and Findings**

### **4.1 Factor analysis and operationalisation**

The pattern matrix and related loadings produced four factors for Perceived Value items, three factors for Observed Value items and four factors for Adoption of Digital HRM Systems items. In examining the items that clustered within each factor for Perceived Value, the four factors were labelled as follows:

**Factor 1** (Value for performance) encompasses value outcomes such as employee commitment, satisfaction and creativity, which are conducive to fostering employee and organisational performance.

**Factor 2** (Value for stakeholders) incorporates value for stakeholders, such as managers, employees, the HRM department, trade unions, the community, job searchers, the government, and the organisation, who collectively benefit from Adoption of Digital HRM Systems.

**Factor 3** (Value for employees) reflects the value of promoting employee health and safety, quality of work and well-being.

**Factor 4** (Value for talent creation) refers to attracting, identifying, developing and deploying effective and competent talent at the right place and time.

**The three factors for Observed Value were labelled as follows:**

**Factor 1** (Value for employment relations - ER) pertains to promoting a healthy, engaged and committed workforce.

**Factor 2** (Value in time and cost savings) covers reduced time and costs related to HRM service delivery, such as for training and development, and organisational change.

**Factor 3** (Value for HR admin control) involves reduction of data inaccuracies, and less administration and operational costs.

**The four factors for Adoption of Digital HRM Systems were labelled as follows:**

**Factor 1** (Digital Talent Management Systems) comprises items related to the acquisition, appraisal, development and retention of the right people.

**Factor 2** (Digital Organisational Design and Culture Systems) relates to ethics and risk management, enhancement of human and machine interaction, and instilling an organisational culture of adaptability and flexibility.

**Factor 3** (Digital Employment Relations Management Systems) includes the digital management of grievances, disputes, disciplinary inquiries, collective bargaining processes and diversity management, promoting a constructive employment relationship within an organisation.

**Factor 4** (Digital Media Systems) encompasses the transacting of HRM work using mobile applications and social media platforms such as Whatsapp, Twitter, LinkedIn and Facebook.

## 4.2 Descriptive statistics for the extracted factors

In terms of perceived value, the factor Perceived Value (Value for talent creation) obtained the highest mean (M) of 4.13 and a standard deviation (SD) of 0.64, followed by Value for performance (M = 3.88; SD = 0.76), Value for employee (M = 3.72; SD = 0.83) and Value for stakeholders (M = 3.71; SD = 0.74). The aggregate mean for Perceived Value (M = 3.86) indicated that digital HRM was perceived to add value *to a great extent*.

In addition, for Observed Value, the Value for HR admin control (M = 3.82; SD = 0.61) accounted for the highest value, followed by Value for ER (M = 3.81; SD = 0.63) and Value for time and cost saving (M = 3.70; SD = 0.75). The results, and the aggregate mean score of 3.78, indicated that adopting Digital HRM Systems *substantially decreased* cost and time related to HRM administration and the implementing of HRM practices and policies.

Of Adoption of Digital HRM Systems factors, Digital Media Systems (M = 3.69; S = 0.88) obtained the highest mean score, followed by Digital Talent Management Systems (M = 3.52; SD = 0.74), Digital Organisational Design and Culture Systems (M = 3.11; SD = 0.84) and Digital Employment Relations Management Systems (M = 2.88; SD = 0.87). The aggregate score or Digital HRM Systems (M = 3.30) reflected *moderate extent*.

## 4.3 Regression Analysis

To determine the extent to which Perceived Value and Observed Value influenced Adoption of Digital HRM Systems, regression statistics were computed. As reflected in Table 1, overall Perceived Value as a predictor explained 39.6% of the variance in Adoption of Digital HRM Systems. The F-value (F = 203.186), p-value (p = 0.000), (t = 14.254), the unstandardised coefficient ( $\beta = 0.698$ ) and standardised coefficient ( $\beta = 0.629$ ) all indicated that the overall Perceived Value significantly predicted variance in Digital HRM Systems.

**Table 1: Regression Analysis: Effect of overall Perceived Value on Adoption of Digital HRM Systems**

<i>Model Summary b</i>						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	
1	.629a	0.396	0.394	0.5516	1.573	
a. Predictors: (Constant), Perceived Value						
b. Dependent Variable: Adoption of Digital HRM Systems						
<i>ANOVA a</i>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	61.822	1	61.822	203.186	0.000
	Residual	94.322	310	0.304		
	Total	156.144	311			
a. Dependent Variable: Adoption of Digital HRM Systems						
b. Predictors: (Constant), Perceived Value						
<i>Coefficients a</i>						
Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.607	0.191		3.173	0.002
	Perceived Value	0.698	0.049	0.629	14.254	0.000
a. Dependent Variable: Adoption of Digital HRM Systems						

Table 2 reflects the regression analysis results for the influence of Perceived Value factors on Adoption of Digital HRM Systems. Perceived Value as a predictor and consisting of four factors, explained 44.5% of the variance in Adoption of Digital HRM Systems. Value for stakeholders ( $t = 7.921$ ;  $p = 0.000$ ) was the most significant predictor of the variance, followed by Value for employees ( $t = 1.91$ ;  $p = 0.057$ ), the latter specifically reflected employee well-being. Value for performance ( $t = 1.001$ ;  $p = 0.318$ ) and Value for talent creation ( $t = 0.956$ ;  $p = 0.34$ ) were not significant and also had a small effect ( $p > 0.05$ ).

**Table 2: Regression Analysis: Effect of Perceived Value factors on Adoption of Digital HRM Systems**

<i>Model Summary b</i>						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	
1	.667a	0.445	0.438	0.5312	1.616	
a. Predictors: (Constant), Value for talent creation, Value for employee, Value for stakeholders, Value for performance						
b. Dependent Variable: Adoption of Digital HRM Systems						
<i>ANOVA a</i>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	69.516	4	17.379	61.59	0.000
	Residual	86.627	307	0.282		
	Total	156.144	311			
a. Dependent Variable: Adoption of Digital HRM Systems						
b. Predictors: (Constant), Value for talent creation, Value for employee, Value for stakeholders, Value for performance						
<i>Coefficients a</i>						
Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.617	0.198		3.119	0.002
	Value for stakeholders	0.465	0.059	0.487	7.921	0.000
	Value for performance	0.069	0.069	0.074	1.001	0.318
	Value for employee	0.096	0.05	0.113	1.91	0.057
	Value for talent creation	0.08	0.084	0.073	0.956	0.34
a. Dependent Variable: Adoption of Digital HRM Systems						

Table 3 illustrates the regression analysis results for the effect of overall Observed Value on Adoption of Digital HRM Systems. As summarised in Table 3, overall Observed Value, as a predictor explained 11.2% of the variance in Adoption of Digital HRM Systems. The F-value ( $F = 39.106$ ), p-value ( $p = 0.000$ ), ( $t = 6.253$ ), the unstandardised coefficient ( $\beta = 0.409$ ) and standardised coefficient ( $\beta = 0.335$ ) indicated that Total Observed Value significantly predicted the variance in Digital HRM Systems.

**Table 3: Regression Analysis: Effect of overall Observed Value on Adoption of Digital HRM Systems**

<i>Model Summary b</i>						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	
1	.335a	0.112	0.109	0.66878	1.418	
a. Predictors: (Constant), Observed Value						
b. Dependent Variable: Adoption of Digital HRM Systems						
<i>ANOVA a</i>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	17.491	1	17.491	39.106	0.000
	Residual	138.653	310	0.447		
	Total	156.144	311			
a. Dependent Variable: Adoption of Digital HRM Systems						
b. Predictors: (Constant), Observed Value						
<i>Coefficients a</i>						
Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.755	0.25		7.026	0.000
	Observed Value	0.409	0.065	0.335	6.253	0.000
a. Dependent Variable: Adoption of Digital HRM Systems						

Table 4 illustrates regression analysis results for the effect of Observed Value factors on Adoption of Digital HRM Systems. Observed Value, consisting of three factors and as a predictor, explained 18.7% of the variance in Adoption of Digital HRM Systems. However, Value for ER ( $t = 6.644$ ;  $p = 0.000$ ) was the only factor affecting variance, with positive and significant effects. The other factors Value for HR admin control ( $t = -0.761$ ;  $p = 0.447$ ) and Value for time and cost saving ( $t = -0.573$ ;  $p = 0.567$ ) insignificantly and negatively predicted the variance in Adoption of Digital HRM Systems.

**Table 4: Regression Analysis: Effect of Observed Value factors on Adoption of Digital HRM Systems**

<i>Model Summary b</i>						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	
1	.432a	0.187	0.179	0.64217	1.43	
a. Predictors: (Constant), Value on HR admin control, Value on time and cost saving, Value on ER						
b. Dependent Variable: Adoption of Digital HRM Systems						
<i>ANOVA a</i>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	29.132	3	9.711	23.548	0.000
	Residual	127.012	308	0.412		
	Total	156.144	311			
a. Dependent Variable: Adoption of Digital HRM Systems						
b. Predictors: (Constant), Value on HR admin control, Value on time and cost saving, Value on ER						
<i>Coefficients a</i>						
Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.598	0.247		6.476	0.000
	Value for ER	0.556	0.084	0.495	6.644	0.000
	Value for time and cost saving	-0.039	0.068	-0.041	-0.573	0.567
	Value for HR admin control	-0.073	0.096	-0.062	-0.761	0.447
a. Dependent Variable: Adoption of Digital HRM Systems						

#### 4.4 Discussion of Results

The objective of this study was to empirically examine the extent to which Perceived Value and Observed Value (impact) of digital HRM influenced Adoption of Digital HRM Systems. First, and interestingly, the means scores show that in comparison to Perceived Value (mean 3.86) and Observed Value (3.78), Adoption of HRM Systems had the lowest mean (3.30). This could mean a disjuncture between Perceived and Observed Value, and the utilisation of a Digital HRM System in the workplace.

Based on the regression analysis conducted, both Perceived Value and Observed Value positively and significantly influenced Adoption of Digital HRM Systems, with 39.6% and 11.2% of the variance in adoption explained respectively. In both instances, the p-value is 0.000. As seen in the percentages, Perceived Value (39.6%) as compared to Observed Value (11.2%) had a stronger influence on Adoption of Digital HRM Systems.

In addition, the findings from the regression analysis showed that Perceived Value, consisting of Value for performance, Value for stakeholders, Value for employees and Value for talent creation factors, collectively explained 44.5% of the variance in Adoption of Digital HRM Systems, with Value for stakeholders ( $t = 7.921$ ;  $p = 0.000$ ) having a positive and significant effect. Value for performance, Value for employees and Value for talent creation showed smaller effects which are insignificant. Value for employees ( $t = 1.91$ ;  $p = 0.057$ ) showed a slightly positive yet insignificant effect ( $p > 0.05$ ). However, Observed Value, consisting of Value for HR admin control, Value for time and cost saving, and Value for ER, collectively explained 18.7% of the variance in Adoption of Digital HRM Systems, with Value for ER ( $t = 6.644$ ;  $p = 0.000$ ) having a positive and significant effect. Value for HR admin control and Value for time and cost showed no significant effect.

The results revealed that when it is perceived that Adoption of Digital HRM Systems adds value to stakeholders (organisation, managers, employees, the HRM department, trade unions, the community, the government, customers, investors, suppliers and job searchers), organisations are more likely to adopt Digital HRM Systems. In addition, when organisations observe evidence of value added through the adoption of Digital HRM Systems in terms of managing and improving employment relations, they are more likely to adopt Digital HRM Systems. This added value relates to a reduction in employee grievances and reported disputes, lower employee disengagement and dissatisfaction, reduced employee turnover, less health issues, speedy recruitment and appointment of successful candidates, and reduced duplication and payroll errors.

These results are not surprising when compared to results from the literature study. Ulrich (2019) emphasises that digital HRM should add value to stakeholders such as employees, employers, customers, the business, managers, investors and the community. In fact, it is posited that the highest level of value that digital HRM can add to a business is access to HRM information, enabling stakeholders to make effective and efficient decisions and augment the employee experience in pursuing the goals of the organisation (Ulrich, 2019). It is advised that HRM practitioners secure top management buy-in before embarking on and rolling out a digital HRM system (Muhammad, 2018; Bondarouk et al., 2017), to ensure

that the necessary funding sources for these projects are available (Banu, 2019; Ulrich, 2019). Senior management is more likely to invest in Digital HRM Systems if they see a cost benefit and direct support for organisational goal attainment (Muhammad, 2018). Line managers and employees are also less likely to resist digital HRM implementation if the proposed HRM technology solutions are easy to use, efficient and enhance service delivery (Burbach, 2019). An organisation can attract quality talent if prospective job searchers find digital recruitment and selection solutions easy to navigate (Priyashantha et al., 2022).

Furthermore, value observed in improving employment relationships is a drawcard for Adoption of Digital HRM Systems. For example, Sani et al. (2023) highlight that digital onboarding and digital performance management improve employee engagement, well-being and the employer-employee relationship. Vardarlier (2020) points out that Digital HRM Systems using social media, mobile, robotic process automation, AI, machine learning and data analytics technologies facilitate the involvement of employees and trade unions in decision-making. This is especially important for enabling the voice of employees and that of trade unions in a remote work environment. Social media can improve the employer-employee relationship, and build collaboration, trust and engagement (Triantafillidou & Koutroukis, 2021).

Digital media can also counteract toxic relationships between employees and employers, and trade unions as representatives of employees, which are detrimental to organisational success (Triantafillidou & Koutroukis, 2021). Hence, there is a scramble for Adoption of Digital HRM Systems that enhance peaceful and productive employment relationships within workplaces (Bersin, 2021).

However, this study showed that even when value is perceived in terms of performance, employee well-being and talent creation, it does not significantly translate into Adoption of Digital HRM Systems. In the same vein, observed evidence of value in terms of time and cost savings or HR admin control, insignificantly motivates organisations to adopt Digital HRM Systems. A deeper analysis of these results could reveal that if the Perceived Value of Digital HRM Systems is for the HR function itself rather than for said stakeholders, that value may not significantly influence organisations to adopt Digital HRM Systems. Also, if value is experienced in the form of reduced time and costs involved in HRM functions/systems, such as performance management, training and development, change management, promotion of flexible working practices, absenteeism and turnover management, it will not significantly motivate organisations to adopt Digital HRM Systems.

In addition, it was found that if administrative and operational costs, and HR inaccuracies, are seen to be minimised (i.e., Value for HR admin control), it still does not mean that organisations will promote Adoption of Digital HRM Systems. However, Junejo et al. (2021) and Murugesan et al. (2023) highlight that Digital HRM Systems ease most of the administrative and operational duties of HRM professionals, allowing them to focus on activities that add more direct value within the organisation. Digital HRM Systems free HRM professionals to focus on strategic value-adding activities that strengthen employment relationships and support the performance of the business (Junejo et al., 2021; Thite, 2019). An implication of this finding and these authors' comments is that one should not only look at the direct value of Digital HRM Systems, but also consider the downstream value.

## 5. Managerial Implications

The results of this study have critical implications for HR management and organisational decision-makers. Descriptive statistics in this study showed that despite managers and HRM practitioners believing that Digital HRM Systems add value to the organisation and observing the value in practice, Adoption of Digital HRM Systems (mean 3.30) still seemed to be sluggish in organisations. The use of Digital Media Systems (mean 3.69) for transactions of HRM activities was indicated as used mostly, followed by the use of Digital HRM Systems for talent management. HRM could thus expand on these practices, but also identify new or better ways to use Digital HRM Systems more purposefully to drive organisational design and culture and enhance employment relations. HRM departments could draw value from convening a task team that can reconfigure the adoption and use of Digital HRM Systems to ensure that these are optimised for the benefit of the organisation. Such a task team should be representative of important stakeholders in the organisation, but should also include information and technology experts, and HR data and analytics experts.

The study showed that Adoption of Digital HRM Systems was more driven by Perceived Value than Observed Value, as Perceived Value explained 39.6% of the variance in adoption while Observed Value explained only 11.2% of the variance in adoption. This may reflect that decisions related to the Adoption of Digital HR systems are not always evidence-based, which means that there is a need for more research to be done to collect hard evidence of the value of Digital HRM Systems and how they contribute to decisions in the organisation. Within organisations, this also calls for the greater utilisation of HR metrics and diagnostics to provide hard evidence of how HRM decisions contribute to the betterment of the organisation in pursuit of organisational goals.

The study showed the impact (Observed Value) of Digital HR Systems in terms of HR administration control, time and cost reductions and employment relations, yet that the adoption of HRM systems was mostly driven by the Observed Value in terms of employment relations. The implication of this finding is that to promote Adoption of Digital HRM Systems, HR must not only use cost and time savings as the reason, but they must in addition demonstrate how the use of Digital HRM Systems contributes to more constructive employment relations. The use of Digital HRM Systems is therefore not only to improve the HRM function, but also to serve the needs of the organisation in terms of constructive relationships. Improved HR administrative control, and cost and time savings assist HRM to focus more on their strategic role in the organisation as a business partner and change agent, in the purposeful pursuit of organisational goals. Providing hard evidence of the impact of their contribution will promote Adoption of Digital HRM Systems within the organisation. For instance, digital HRM value experienced in the form of improved administrative efficiency, and time and cost savings has been considered by many authors as operational value (Verma et al., 2023; Murugesan et al., 2023). Operational value is the least important benefit that digital HRM can add to the workplace. These benefits range from ensuring that employee records and information are up to date, a reduction in HRM administrative costs, time and costs involved in booking and approving leave applications and sickness absence, to aspects such as ease of access to HRM documents such as policies and information (Al-Alawi et al., 2023). Therefore, HRM practitioners need to ensure that



largely operational activities executed within the major digital HRM practices such as leave and absence administration, compensation and benefits administration, query handling and internal recruitment processes are all aligned with the organisation's goals to deliver more value-added HRM services.

In general, the descriptive results of the study revealed that both the HRM practitioners and managerial respondents Perceived Value in terms of talent creation and performance, as well as value for employees (well-being) and stakeholders. In this respect, HRM and line managers should continue to collaborate to utilise Digital HRM Systems that support the recruitment, selection, employment and onboarding of talent, and foster talent development, employee well-being and employee retention, in alignment with the HRM value chain promoted by the SABPP. To promote Digital HRM Systems adoption, HRM should be able to demonstrate to various stakeholders, using concrete examples, the positive impact digital HRM has on providing best employee and management experiences, while improving stakeholder experiences and relationships with the organisation, thus contributing to business outcomes such as employee satisfaction and engagement (Ulrich, 2019).

Additionally, HRM practitioners should develop a strong business case to convince stakeholders such as top management to support HRM technology investment (Al-Alawi et al., 2023). The business case should translate HRM technology investment into business performance outcomes and productivity improvement. Ulrich (2019) opines that a lucrative digital HRM agenda is one that has a robust impact on the business's overall digital agenda. To achieve this, HRM practitioners need to be skilled in digital and data fluency and be effective researchers in the digital HRM technology market to work with suppliers of technology in providing worthwhile HRM technology solutions that fulfil the needs of various stakeholders (Joseph et al., 2021; Schultz, 2021; Dhanpat et al., 2020).

However, since HRM practitioners may not have all of these skills, it is advised that they continue to develop their skills and knowledge through reskilling and upskilling in these competencies and to collaborate with their counterparts in the Information and Technology (IT) department, thus tapping into their expertise in the articulation of the digital HRM agenda (Al-Alawi et al., 2023; Verma et al., 2023; Burbach, 2019). It is asserted that successful HRM digitalisation significantly depends on stakeholders' embracement of Digital HRM Systems (Bansal et al., 2023).

This study also found that Adoption of Digital HRM Systems is positively influenced by objective digital HRM's value experienced in improving employment relationships. Thus, to increase digital HRM adoption in organisations, there should be objective evidence that employment relations are being improved and associated risks, such as labour legislations and wage contractual non-compliance strikes, lockouts, unfair dismissals, workplace discrimination, health and safety risks, skills shortages and retrenchments are minimised and managed well as a result of HRM technology implementations. During Covid-19, for example, some employees were psychologically distressed and anxious due to the impact of the pandemic (Nguyen et al., 2023). This can result in mental health problems and low job performance experienced among employees (Nguyen et al., 2023). To alleviate this, HRM could use technology to gauge the sentiments of employees in real-time and provide assistance programmes aligned to the identified needs of

employees (Bersin, 2021). There is a need, therefore, for HRM practitioners to provide HRM technology solutions tailored to regulate and stabilise aspects of the employment relationship that exist between employees, managers, the organisation and trade unions.

## 6. Conclusions, Limitations and Future Research

The objective of this study was to empirically examine the extent to which the perceived and observed value of digital HRM influenced the adoption of Digital HRM Systems. This study demonstrated the importance of stakeholders' belief in the value of Digital HRM Systems for their adoption. Also, organisations need to provide objective evidence of value experienced in enhancing employment relationships as a result of implementing Digital HRM Systems to enhance their adoption. The fact that perceived value has a stronger influence than the observed value on the adoption of Digital HRM Systems strengthens the underpinnings of the Technology Acceptance Model (TAM) used as the theoretical framework in this study, which emphasises key determinants that influence individuals' intentions and attitudes to use technology, namely perceived usefulness and perceived ease of use (Amoako et al., 2023; Davis, 1989). Therefore, HRM practitioners should concentrate on communicating the value of digital HRM to all stakeholders and provide objective benefits experienced, especially in enhancing employment relationships due to digital HRM implementation. This will enhance the adoption of Digital HRM Systems and the achievement of organisational goals. In addition, since this study was conducted within the automotive manufacturing industry in the Eastern Cape Province of South Africa, future research could be conducted in other regions or beyond the borders of South Africa to tap into possible new insights that could be obtained concerning the present phenomenon.

## REFERENCES

- Al-Alawi, A. I., Messaadia, M., Mehrotra, A., Sanosi, S. K., Elias, H., & Althawadi, A. H. (2023). Digital transformation adoption in human resources management during COVID-19. *Arab Gulf Journal of Scientific Research*. Retrieved from <https://doi.org/10.1108/AGJSR-05-2022-0069>
- Amla, M., & Malhotra, M. (2017). Digital transformation in HR. *International Journal of Interdisciplinary and Multidisciplinary Studies (IJIMS)*, 4(3), 536-544.
- Amoako, R., Jiang, Y., Adu-Yeboah, S. S., Frempong, M. F., & Tetteh, S. (2023). Factors influencing electronic Human Resource Management implementation in public organisations in an emerging economy: An empirical study. *South African Journal of Business Management*, 54(1), a2937. Retrieved from <https://doi.org/10.4102/sajbm.v54i1.2937>
- Armstrong, M., & Taylor, S. (2020). *Armstrong's handbook of Human Resource Management practice* (15<sup>th</sup> ed.). Kogan Page.
- Bansal, A., Panchal, T., Jabeen, F., Mangla, S. K., & Singh, G. (2023). A study of human resource digital transformation (HRDT): A phenomenon of innovation capability led by digital and individual factors. *Journal of Business Research* 157, 113611-113611.
- Banu, S. H. R. (2019). HR digital transformation. *Journal of The Gujarat Research Society*, 21(13), 946-951.
- Bersin, J. (2021). *HR Technology 2021: A definitive guide*. ISA. Retrieved from [https://isaconnection.org/wpcontent/uploads/2021/04/Bersin\\_HR\\_TechMarket\\_2021\\_v6.pdf](https://isaconnection.org/wpcontent/uploads/2021/04/Bersin_HR_TechMarket_2021_v6.pdf)

- Bhatt, P. K., & Muduli, A. (2022). Artificial intelligence in learning and development: A systematic literature review. *European Journal of Training and Development*, 248781691. <https://doi.org/10.1108/ejtd-09-2021-0143>.
- 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.
- Burbach, R. (2019). Strategic evaluation of e-HRM. In M. Thite (Ed.), *e-HRM: Digital approaches, directions and applications* (pp. 235-249). London: Routledge.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use and user acceptance of information technology. *MIS Quarterly: Management Information Systems*, 13(3), 319-339.
- Deloitte. (2016). *Industry 4.0: Is Africa ready for digital transformation?* Retrieved from <http://www.deloitte.com/content/dam/deloitte/za>
- Deloitte. (2018). *The rise of the social enterprise. 2018 Deloitte Human Capital Trends*. Deloitte University Press. Retrieved from [https://www2.deloitte.com/content/dam/insights/us/articles/HCTrends2018/2018-HCTrends\\_Rise-of-the-social-enterprise.pdf](https://www2.deloitte.com/content/dam/insights/us/articles/HCTrends2018/2018-HCTrends_Rise-of-the-social-enterprise.pdf)
- Dhanpat, N., Buthelezi, Z. P., Joe, M. R., Maphela, T. V., & Shongwe, N. (2020). Industry 4.0: The role of human resource professionals. *SA Journal of Human Resource Management/SA Tydskrif vir Menslikehulpbronbestuur*, 18(0), a1302. Retrieved from <https://doi.org/10.4102/sajhrm.v18i0.1302>
- Fenech, R., Baguant, P., & Ivanov, D. (2019). The changing role of Human Resource Management in an era of digital transformation. *Journal of Management Information and Decision Sciences*, 22(2), 166-175.
- Goh, C. (2018, March 16). *Why adopting digital is such a smart move*. Workplace Health. Retrieved from <https://www.workplacehealthsg.com/blog/why-adopting-digital-is-such-a-smart-move>
- Hair, J. F., Babin, J. B., Anderson, R. E., & Black, W. C. (2018). *Multivariate data analysis* (8<sup>th</sup> ed.). Upper Saddle River, NJ: Prentice Hall.
- Holm, A. B., & Haahr, L. (2019). E-recruitment and selection. In M. Thite (Ed.), *e-HRM: Digital approaches, directions and applications* (pp. 172-195). London and New York: Routledge.
- HR World. (2019). *HR in 2020 - A new employment landscape*. George Bragadireanu. Retrieved from <https://georgebragadireanu.ro/wp-content/uploads/2019/01/HRWorld-HR-in-2020-study.pdf>
- Imison, C., Castle-Clarke, S., Watson, R., & Edwards, N. (2016, February). *Delivering the benefits of digital health care*. Nuffield Trust. Retrieved from <https://www.nuffieldtrust.org.uk/files/2017-01/delivering-the-benefits-of-digital-technology-web-final.pdf>
- Jammulamadaka, N. (2020). Digital reverse mentoring as a strategic HRM tool: Case study of an Indian Firm. In P. Kumar, A. Agrawal & P. Budhwar (Eds.), *Human and Technological Resource Management (HTRM): New Insights into Revolution 4.0* (pp. 89-109). Bingley: Emerald Publishing Limited.
- Johnson, R. D., & Stone, D. L. (2019). Advantages and unintended consequences of using electronic Human Resource Management (e-HRM) processes. *Human Resource Management Review*, 25(2), 216-231.
- Joseph, R. M., Thomas, A., & Abbott, P. (2021). Information technology competencies for entry-level human resource strategic partners. *SA Journal of Human Resource Management*, 19, a1327. Retrieved from <https://doi.org/10.4102/sajhrm.v19i0.1327>
- Junejo, I., Shaikh, S., Thebo, J., & Salahuddin, S. (2021). Workforce diversity and organizational performance during COVID-19: Evidence from pharmaceutical companies. *Journal of Pharmaceutical Research International*, 33(60A), 801-808. <https://doi.org/10.9734/jpri/2021/v33i60a34550>
- Komm, A., Pollner, F., Schaninger, B., & Sikka, S. (2021). *The new possible: How HR can help build the organization of the future*. McKinsey & Company. Retrieved from <https://www.mckin->

sey.com/business-functions/organization/our-insights/the-new-possible-how-hr-can-help-build-the-organization-of-the-future

- Kucherov, D., & Tsybova, V. (2022). The contribution of e-recruitment practices to e-recruitment outcomes in Russian companies. *Measuring Business Excellence*, 26(3), 366-377. Retrieved from <https://doi.org/10.1108/MBE-02-2021-0017>
- Mallik, A., & Patel, A. (2020). Social posting in Covid-19 recruiting era-milestone HR strategy augmenting social media recruitment. *Dogo Rangsang Research Journal*, 10(6), 82-89. <https://doi.org/10.13140/RG.2.2.36745.67684>
- Marler, J. H., & Parry, E. (2016). Human Resource Management, strategic involvement and e-HRM technology. *International Journal of Human Resources Management*, 27(19), 2233-2253.
- McAfee, A., & Brynjolfsson, E. (2016). *The second machine age: Work, progress and prosperity in a time of brilliant technologies*. New York: W.W. Norton and Company.
- Meyer, M. (2016, February 16). *Employment relations standards for SA. SABPP*. Retrieved from <https://www.slideshare.net/SABPP/employment-relations-standard-for-sa>
- Muhammad, K. (2018). The effects of electronic Human Resource Management on financial institutes. *Journal of Humanities Insights*, 2(1), 116-120.
- Murugesan U., Subramanian P., Srivastava S., & Dwivedi A. (2023). A study of artificial intelligence impacts on human resource digitalization in industry 4.0. *Decision Analytics Journal*, 7, 100353. <https://doi.org/10.1016/j.dajour.2023.100249>
- Mwita, K. (2020). Effects of coronavirus pandemic (Covid-19) on selected Human Resource Management practices in Tanzania. *East African Journal of Social and Applied Sciences*, 2(2), 252-259.
- Nel, P. S., Kirsten, M., Swanepoel, B. J., Erasmus, B. J., & Poisat, P. (2012). *South African employment relations: Theory and practice* (7<sup>th</sup> ed.). Pretoria: Van Schaik.
- Nguyen, M., Rundle-Thiele, S., Malik, A., & Budhwar, P. (2023). Impact of technology-based knowledge sharing on employee outcomes: Moderation effects of training, support and leadership. *Journal of Knowledge Management*. Retrieved from <https://doi.org/10.1108/JKM-07-2022-0552>
- Parry, E., & Battista, V. (2019). The impact of emerging technologies on work: A review of the evidence and implications for the human resource function. *Emerald Open Research*, 1(5). Retrieved from <https://doi.org/10.12688/emeraldopenres.12907.1>
- Pfeiffer, S. (2017). The vision of 'Industrie 4.0' in the making - A case of future told, tamed and traded. *Nanoethics*, 11(1), 107-121. Retrieved from <https://doi.org/10.1007/s11569-016-0280-3>
- Priyashantha, K.G., De Alwis, A.C., & Welmilla, I. (2022). Disruptive human resource management technologies: a systematic literature review. *European Journal of Management and Business Economics*, Ahead-of-print. <https://doi.org/10.1108/EJMBE-01-2022-0018>
- Rondeau, K. V. (2019). E-performance management and reward. In M. Thite (Ed.), *e-HRM: Digital approaches, directions and applications* (pp. 196-213). London: Routledge.
- SABPP. (2014). *SABPP HRM standards*. Retrieved from [https://www.sabpp.co.za/page/HR\\_Standards](https://www.sabpp.co.za/page/HR_Standards)
- SABPP. (2019). *The official communication for all HR practitioners*. HR voice. Retrieved from [https://sabpp.co.za/wp-content/uploads/2019/02/HR-Voice\\_February-2019\\_with-active-links.pdf](https://sabpp.co.za/wp-content/uploads/2019/02/HR-Voice_February-2019_with-active-links.pdf)
- Sani, K. F., Adisa, T. A., Adekoya, O. D., & Oruh, E. (2023). Digital onboarding and employee outcomes: Empirical evidence from the UK. *Management Decision*, 61(3), 637-654. Retrieved from <https://doi.org/10.1108/MD-11-2021-1528>
- Schultz, C. M. (2021). The future and the role of Human Resource Management in South Africa during the fourth industrial revolution. *SA Journal of Human Resource Management*, 19, a1624. Retrieved from <https://doi.org/10.4102/sajhrm.v19i0.1624>
- Schwab, K. (2016). *The Fourth Industrial Revolution*. Geneva, Switzerland: World Economic Forum.

- Shrivastava, G., Kataria, N., Chabani, Z., Tongkachok, K., & Salameh, A.A. (2022). Role of e-HRM practices on business effectiveness in the digital era – An empirical study. *Academy of Entrepreneurship Journal*, 28(S2), 1-9.
- Silva, M.S.A., & Lima, C. G. S. (2018). The role of information systems in Human Resource Management. In M. Pomffyova (Ed.), *Management of information systems* (pp. 113-126). Intechopen. Retrieved from <https://dx.doi.org/10.5772/intechopen.79294>
- Sivathanu, B., & Pillai, R. (2018). Smart HR 4.0-How Industry 4.0 is disrupting HR. *Human Resource Management International Digest*, 26(4), 7-11.
- Strohmeier, S. (2020). Digital Human Resource Management: A conceptual clarification. *Journal of Human Resource Management: Zeitschrift für Personalforschung*, 34(3), 345-365.
- Subramaniyan, S., Thite, M., & Sampathkumar, S. (2019). Information security and privacy in e-HRM. In M. Thite (Ed.), *e-HRM: Digital approaches, directions and applications* (pp. 250-267). Abingdon, UK: Routledge.
- Tan, C. (2019). E-Learning and development. In M. Thite (Ed.), *e-HRM: Digital approaches, directions and applications* (pp. 215-231). London and New York: Routledge.
- Thite, M. (2019). *e-HRM: Digital approaches, directions and applications*. New York, NY: Routledge.
- Thite, M. (2020). Digital human resource development: Where are we? Where should we go and how do we go there? *Human Resource Development International*, 25(1), 87-103. Retrieved from <https://doi.org/10.1080/13678868.2020.1842982>
- Thite, M., & Bhatta, N. M. K. (2019). Soft systems thinking approach to e-HRM Project Management. In M. Thite (Ed.), *e-HRM: Digital approaches, directions and applications* (pp. 42-56). Abingdon, UK: Routledge.
- Triantafillidou, E., & Koutroukis, T. (2021). Navigating between the clashing rocks: Employee relations in the era of Covid-19. In Bhavna Mehta (Ed.), *The Impact of COVID-19 on Human Resource Management* (pp. 33-44). Proud Pen. Retrieved from [https://doi.org/10.51432/978-1-8381524-4-4\\_3](https://doi.org/10.51432/978-1-8381524-4-4_3)
- Tripathi, A., Srivastava, R., & Sankaran, R. (2020). Role of learning agility and learning culture on turnover intention: An empirical study. *Industrial and Commercial Training*, 52(2), 105-120, <https://doi:10.1108/ICT-11-2019-0099>. ISM and MICMAC analysis.
- Tripathi, R., Thite, M., Varma, A., & Mahapatra, G. (2021). Appraising the revamped performance management system in Indian IT MNEs: The employees' perspective. *Human Resource Management*, 60(5), 825-838.
- Ulrich, D. (2019). Foreword and forward thinking of digital HRM. In M. Thite (Ed.), *e-HRM: Digital approaches, directions and applications* (pp. xxvi-xxiv). London: Routledge.
- Ulrich, D., Kryscynski, D., Ulrich, M., & Brockbank, W. (2017). *Competencies for HR professionals who deliver outcomes*. Wiley Periodicals. Retrieved from <https://onlinelibrary.wiley.com/doi/epdf/10.1002/ert.21623>
- Vardarlier, P. (2020). Digital transformation of Human Resource Management: Digital applications and strategic tools in HRM. In U. Hacıoglu (Ed.), *Digital business strategies in blockchain ecosystems: Transformational design and future of global business* (pp. 239-264). Switzerland: Springer International Publishing.
- Verma, S., Rana, N., & Meher, J. R. (2023). Identifying the enablers of HR digitalization and HR analytics using ISM and MICMAC analysis. *International Journal of Organizational Analysis*. Retrieved from <https://doi.org/10.1108/IJOA-01-2023-3611>
- Williams, B., Brown, T., & Onsman, A. (2012). Exploratory factor analysis: A five-step guide for novices. *Australasian Journal of Paramedicine*, 8(3), 1. Retrieved from <https://doi.org/10.33151/ajp.8.3.93>
- Wright, P. M., & Ulrich, M. D. (2017). A road well-travelled: The past, present and future journey of strategic Human Resource Management. *Annual Review of Organizational Psychology and Organizational Behavior*, 4, 45-65.

Zehir, C., Karabođa, T., & Bařar, D. (2020). The transformation of Human Resource Management and its impact on overall business performance: Big data analytics and AI technologies in strategic HRM. In U. Hacıođlu (Ed.), *Digital business strategies in blockchain ecosystems: Transformational design and future of global business* (pp. 265-279). Switzerland: Springer International Publishing.