SA Journal of Human Resource Management
ISSN: (Online) 2071-078X, (Print) 1683-7584

Perceived challenges: Unfounded reasons for not forging ahead with digital human resource management practices

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Dates:
Received: 22 Aug. 2022
Accepted: 08 Nov. 2022
Published: 20 Jan. 2023

How to cite this article:
Chapano, M., Mey, M.R., & Werner, A. (2023). Perceived challenges: Unfounded reasons for not forging ahead with digital human resource management practices. *SA Journal of Human Resource Management/SA Tydskrif vir Menslikehulpbronbestuur*, *21*(0), a2085. https://doi.org/10.4102/sajhrm.v21i0.2085

Orientation: Understanding the challenges that influence the adoption of digital human resource management (HRM) practices across the human resource (HR) value chain enables HRM departments and organisations to optimise HRM digitalisation.

Research purpose: The purpose of this study was to identify challenges that influence the adoption of digital HRM practices across the HR value chain in the South African workplace.

Motivation for the study: Challenges hindering the adoption of digital HRM practices needed to be identified and proactively addressed to accelerate the process of HRM digitalisation.

Research approach/design and method: A cross-sectional quantitative research design was adopted, with an on-line questionnaire as data collection tool. A purposive and snowball sampling method was used. Data were collected from 312 HRM professionals and line managers in the automotive industry in the Eastern Cape Province of South Africa. The data were processed using Statistical Package for Social Sciences (SPSS), version 27, and analysed using exploratory factor analysis (EFA), descriptive analysis, Pearson Product Moment correlations and regression analysis.

Main findings: The study revealed people, organisational, technological and environmental aspects that posed challenges to the adoption of digital HRM practices. However, these challenges did not become deterrents in the adoption of digital HRM practices in the automotive manufacturing organisations surveyed.

Practical/managerial implications: Organisations need to forge ahead with the digitalisation of HRM practices. The challenges experienced in the process should be addressed proactively.

Contribution/value-add: This study emphasises the challenges that should be monitored and addressed throughout the implementation of digital HRM practices in South Africa.

Keywords: digitalisation challenges; HRM digitalisation; digital HRM technologies; HR value chain; digital HRM practices; South Africa.

Introduction

An avalanche of digital technologies in the market engendered by the Fourth Industrial Revolution (4IR) can and should be exploited in various business functions (Kraus et al., 2022). The coronavirus disease 2019 (COVID-19) pandemic induced lockdown demonstrated the importance of digital technologies in the workplace in ensuring continuity in work processes and optimal service delivery to customers (Komm et al., 2021). Business leaders, human resource management (HRM) practitioners and employees were forced to work from home and had to meet and interact via various digital platforms. As a result of shifts in working operations and arrangements, technology vendors are inundating the market to meet the demand for technology (Bersin, 2021). Prior to COVID-19 pandemic, the adoption of digital HRM technology within organisations was increasing at a linear rate (Friedman, 2016) but had been projected to increase substantially (Komm et al., 2021).

Digital HRM practices, such as digital recruitment and selection, digital training and development and digital remuneration management, are observed as being mostly adopted within organisations compared with other digital HRM practices such as digital dispute resolution management and the digital management of change (Burbach, 2019; Parry & Battista, 2019). This indicates that there are challenges that deter organisations from digitalising HRM practices across the human resource (HR) value chain. Seeing that South Africa was the first country in the world to adopt national HR

standards, which outline seven broad HRM practice areas across the HR value chain (SABPP, 2014), the country should also be a leader in the adoption of digital HRM practices. The seven functional HRM practice areas identified comprise workforce planning, performance management, learning and development, reward and recognition, employee wellness management, employment relations management and organisational development (SABPP, 2018). Thus, in South Africa, HRM practitioners and leaders should plan and implement digitalisation in the seven HRM practice areas in a holistic manner to contribute to the attainment of an organisational strategy (SABPP, 2014). In support of the seven HRM value chain elements, 30 HRM professional practice standards were formulated. These include, among others, succession planning, culture management, coaching and mentoring and recruitment and selection (SABPP, 2014). These are therefore aspects of the HR value chain that could be digitalised. In addition, authors such as Jammulamadaka (2020), Thite (2020), Imperatori et al. (2019) and Kiron and Spindel (2019) propose that to meet the demands of the 4IR, digital HRM practices should be adopted to make the workforce technologically savvy and to enhance human–machine interaction (Thite, 2020).

However, there is a lack of empirical studies on the challenges that may impede the adoption of digital HRM practices in the South African workplace (SABPP, 2019). Most studies (although limited) in this domain had been conducted in European countries and developed nations, such as the United States of America, China, Russia and Germany (Bengtsson & Bloom, 2017; Bondarouk et al., 2016; Zavyalova et al., 2022). Identifying and effectively managing challenges that influence the adoption of digital HRM practices are imperative to enhance HRM digitalisation across the entire HR value chain and ensure return on investment in HRM technology. Also, understanding the challenges and being able to preempt them strengthens the position of HRM in planning for and arranging resource requirements for HRM digitalisation (Ulrich, 2018).

Objectives of the study

The objective of this study was to explore challenges that influence the adoption of digital HRM practices across the HR value chain in the South African workplace.

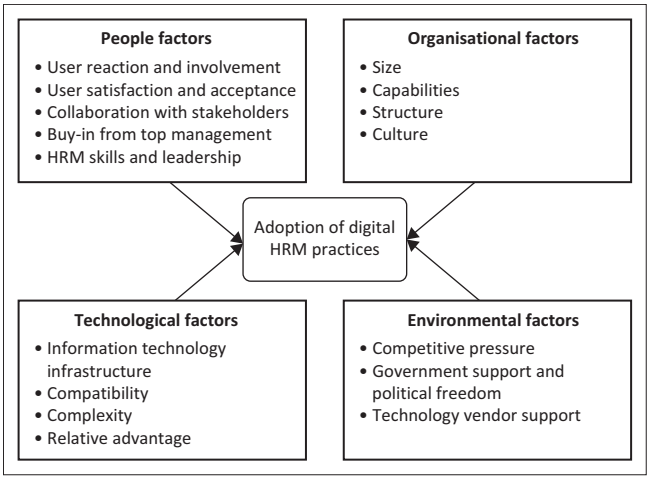
Literature review

The literature review explores challenges affecting the adoption of digital HRM practices. On the one hand, digital HRM technologies refer to technologies such as social, mobile, analytics, cloud (SMAC), robotic process automation, blockchain, gamification, artificial intelligence, virtual reality and machine learning adopted in digital HRM practices (Thite, 2019). On the other hand, digital HRM practices refer to HRM functions such as digital recruitment and digital selection that are adopted by applying digital HRM technologies (Barman & Das, 2019; Zavyalova et al., 2022). In addition, digital HRM refers the use of digital HRM technologies in the overall management of talent or HR within an organisation (Barman & Das, 2019; Strohmeier, 2020; Thite, 2019; Zavyalova et al., 2022). As the focus of this research is on challenges affecting the adoption of digital HRM practices, the term *adoption* is used interchangeably with the term *implementation*, whereas the term *HRM digitalisation* is used interchangeably with the terms *digital HRM or digital HRM practices*. The terms *adoption* and *implementation* refer to 'the use', meaning the use of digital HRM or digital HRM practices to enhance HR services delivery (Strohmeier, 2020; Thite, 2019).

Theoretical framework

The theoretical framework that depicts challenges influencing the adoption of digital HRM practices is illustrated in Figure 1. While there are many frameworks used to explain and understand issues related to technology adoption, the conceptual model developed by Tornatzky et al. (1990) is incorporated in this study. Early research into the challenges affecting the adoption of digital HRM practices revealed three categorical factors, namely people, technology and the organisation (Bondarouk et al., 2017). As further research was carried out, the environment was added as an additional categorical factor (Azhar, 2019; Burbach, 2019). As the theoretical framework presented by Tornatzky et al. (1990) refers only to technology, organisation and environment (TOE), the framework has been adjusted in this study to include people factors as well, as indicated in Figure 1.

Investigation of people factors is crucial to fully comprehend the challenges influencing the adoption of digital HRM practices across the HR value chain (Alam et al., 2016). To this end, considering the fast-evolving world of work and technological explosion as both an antecedent and product of the 4IR, new factors and more issues related to the four factors are likely to emerge. The following sections discuss the four categorical factors of the theoretical framework.



Source: Adapted from Tornatzky, L.G., Fleischer, M., & Chakrabarti, K. (1990). *Processes of technological innovation*. Lexington Books; 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. https://doi.org/10.1080/09585192.2016.1245672

HRM, human resource management.

FIGURE 1: Challenges in adopting digital human resource management practices.

People factors

More emphasis is placed on people issues when adopting digital HRM practices across the HR value chain (Bondarouk et al., 2017). This is because of every aspect of the business operation involving human beings and people being the end users of HRM service delivery. Hence, if people issues are ignored, the success rate and intended purpose of adopting digital HRM practices within organisations could be derailed. In this respect, Thite and Bhatta (2019) observe that the failure rate of digital technology projects is often caused by paying more attention to technology than to people and process issues. This failure correlates with a lack of executive support, emotional maturity, user involvement and the availability of skilled staff as four of the top five factors affecting the adoption of technology (Hastie & Wojewoda, 2015). These factors are all people factors, placing technology as a secondary issue. In managing the human aspect in the adoption of digital HRM, pertinent factors that require attention include user reaction, involvement, satisfaction and acceptance, communication or collaboration with stakeholders, buy-in from top management and HRM skills and leadership (Burbach, 2019). This suggest that HRM practitioners must consider the needs of employees and line managers when planning, designing and adopting digital HRM technology solutions across the HR value chain. The approach of designing processes and practices with the user experience in mind is called 'design thinking' (Thite & Bhatta, 2019).

Top management support is viewed as the most influential factor. Top management provides finance, support and emotional backing for the adoption of digital HRM (Bondarouk et al., 2017; Muhammad, 2018). Top management should not regard the adoption of digital HRM as a less important and costly investment (Bondarouk et al., 2017). It is therefore important that HRM practitioners gain the support and commitment of top management and provide regular feedback to them. In addition, HRM practitioners should build a strong business case for their digital HRM agenda to gain support and funding from top management, by illustrating the link between the digital HRM agenda and the overall business digital agenda (Ulrich, 2019). Ulrich (2019, p. xvi) underlines that 'HR is not about HR, but about delivering value to employees, organisations, customers, investors and communities'. Therefore, HRM practitioners should get clarity on their current digital HRM position in relation to where they want to be (audit and vision) and craft strategies to get there (Thite, 2019).

Users of digital HRM such as HRM practitioners, line managers and employees expect HRM solutions and service delivery that are easy to use, efficient and that add value (Burbach, 2019). Conversely, digital HRM solutions that do not empower end users will have a low adoption rate. It is expected that HRM practitioners themselves may not have all the skills required and therefore have to collaborate with essential other people, such as experts from information and technology (IT), in articulating the digital HRM agenda (Bondarouk et al., 2017). Line managers and general employees must be trained in the use of digital HRM practices (Hosain, 2019) to increase their motivation and a positive attitude towards the adoption of digital HRM.

It is a concern that HRM practitioners may not have the required expertise to articulate a digital HRM strategy (Dhanpat et al., 2020). Crummenerl et al. (2018) emphasise that, in the context of 4IR, HRM practitioners need digital skills to be agile enablers, innovation architects, data analysts and act as digital consultants in the adoption of digital HRM practices. To act as strategic partners in the new world of work, entry-level HRM practitioners also need to be competent in digital HRM processes, data processing and identifying trends (Joseph et al., 2021). However, it is a concern that HRM practitioners are believed to be mostly experts in the entry, editing and retrieval of data, tasks that demand less analytical and technical skills (Hannon et al., 2020). The upskilling or reskilling of these practitioners is essential for the successful adoption of digital HRM.

Data integrity is also indicated as challenge in digital HRM, with Subramaniyan et al. (2019) observing that transformation in technology in the new world of work has compounded issues related to the loss and leakage of data because of the vague ownership of data. As such, HRM practitioners, managers and employees are rendered vulnerable. In South Africa, laws such as the *Protection of Personal Information (Act 4 of 2013) (POPIA)* requires organisations to develop effective organisational policies, guidelines and practices, to ensure information security and privacy.

Organisational factors

Organisational factors such as size, capabilities, structure and culture could influence the rate at which digital technology is adopted. Organisations with large amounts of capital that trade on large scale find the adoption of digital HRM easier than those without such capital as the digitalisation of HRM requires a large financial investment (Hosain, 2019). As such, small businesses struggle to invest in digital HRM (Muhammad, 2018). Financial resources are required for technology, combat the risk of hackers and train HRM practitioners and employees (Brahma, 2020; Zavyalova et al., 2022). Similarly, bureaucratic structures as opposed to centralised organisational structures discourage the adoption of digital HRM. Thite (2019) stresses the importance of reducing red tape in the switch to technology and recommends the adoption of a centralised structure, which aids quick decision making and fosters agility.

However, it should be noticed that centralised structures are inflexible and susceptible to discouraging creativity and innovation within organisations (Büschgens et al., 2013). Zavyalova et al. (2022) boldly state that a lack of digital orientation within the organisational culture is a main barrier to the adoption of digital HRM. This view is supported by

Kokt (2019) who states that, in the new world of work, openness and flexibility are a prerequisite for change.

Other challenges cited are an unclear vision and ambiguous goals and competition in the allocation of resources (Burbach, 2019). In this regard, because of a lack of knowledge of digital HRM technologies, inadequate research and a lack of digital skills, HRM practitioners may adopt too ambitious digital HRM agendas that are likely to fail (Ghosh & Tripathi, 2018). Ghosh and Tripathi (2018) suggest a step-by-step approach to the implementation of digital HRM to meet the resource capacity of the organisation and reduce the risk of failure.

Technological factors

Larger organisations are more likely to deploy state-of-the-art technologies (Thite, 2019). Technological factors to consider include IT infrastructure, technological compatibility, technology complexity and the relative advantage of technology (Alam et al., 2016; Muhammad, 2018). Alam et al. (2016) argue that IT infrastructure is most significant in the adoption of digital HRM and refers to the availability of computers, software, hardware, data, networks, computing resources, applications and devices. This view is supported by Al-Mobaideen et al. (2013) who found a positive correlation between rich technological infrastructure and the successful adoption of digital HRM.

In addition, complex technology, which is difficult to understand and implement, is likely to face resistance from HRM practitioners and other users (Al-Mobaideen et al., 2013). This strengthens the assertion that the adoption of technology positively correlates with ease of use, benefit to the user and provision of support to the user (Andersson et al., 2016). Pillai and Sivathanu (2020) underscore that digital HRM technology solutions should enable users (HRM practitioners, line managers, employees) to easily execute their tasks.

For sufficient support in the implementation of digital HRM, in addition to having technological skills (Joseph et al., 2021; Schultz, 2021), the HRM team should collaborate with IT professionals who deal with technology in their daily operational tasks (Andersson et al., 2016). On the other hand, Muhammad (2018) posits that digital HRM technology should be compatible with the culture, values, overall strategy, practices and the organisation's other digital technology solutions. This challenges HRM practitioners to be both business partners and digital technology proponents to be successful in the implementation of digital HRM (Andersson et al., 2016).

Environmental factors

The degree of digital technology adoption varies across the world and continents and within countries. This is because of unevenness in the intensity and penetration of technology across the world (Thite, 2019). As such, organisations operating in different countries may do so at different levels to accommodate different technology adoption policies and practices in the different countries (Thite, 2019). Other environmental factors that impact the adoption of technology include legislation, social cultures, different levels of competitive pressure and political freedom, extent of support offered by government and the support offered by HRM technology vendors to their clients (Alam et al., 2016). In countries with restrictive laws for the adoption of technology and where the freedom of citizens is limited, organisations struggle to adopt digital HRM even if they are able to source global and digital talent (Ahmadi et al., 2015; Thite, 2020). This is despite the pressure exerted by the 4IR and subsequently the COVID-19, which forced many organisations to adopt digital HRM (Komm et al., 2021). In South Africa, for example, labour laws and the POPIA should be adhered to at all times and considered in the implementation of digital HRM.

Particularly small organisations without internal IT expertise and IT infrastructure may have to use external consultants or vendors to digitalise their HRM functions (Baykal, 2019). According to Bersin (2021) successful vendors of digital HRM technology are those supplying quality technological solutions that improve both the productivity and overall experience of employees. As such, HRM practitioners also require digital competencies to negotiate viable digital HRM technology to deal with vendors (Joseph et al., 2021; Schultz, 2021).

Table 1 presents a summary of challenges that organisations typically face in the adoption of digital HRM, as gleaned from the literature review.

Research methodology

The research was conducted from a positivistic paradigm, which assumes that a current reality or a truth can be revealed through objectively collecting and analysing data from a representative sample of a population (Hair et al., 2018). A cross-sectional survey design was adopted and data were collected by means of an on-line questionnaire of which the data were statistically processed and analysed.

Research population and sampling

The population for this study comprised 160 automotive manufacturing companies in the Eastern Cape Province of South Africa (NAACAM or NAAMSA, 2018). The participants for this study, namely representatives of these organisations, included HRM professionals and line managers who were recruited via purposive and snowball sampling methods. A total of 425 questionnaires were distributed to the targeted respondents.

Research procedure and ethical considerations

For this study, an online questionnaire administered on the platform QuestionPro was used to collect data. The questionnaire comprised three sections. The first section elicited demographic information and the second section measured challenges experienced in the adoption of digital HRM practices. This second section contained 22 items on a

TABLE 1: Summary of challenges in the successful adoption of digital human resource management.

Dimension	Challenges
People related	• Lack of senior management buy-in
	• Inadequate communication with stakeholders
	• Lack of involvement of diverse stakeholders
	• Lack of implementation of continuous training and awareness programmes
	• Lack of adopting visionary, supportive and transformational leadership
	• Unavailability of a confident and competent HRM team
	• Lack of incentives for adopting digital HRM
	• Not addressing security and privacy issues of the personal information
Organisational	• Culture not supportive of digital HRM
	• A lack of clear vision and clear goals for digitalising HRM
	• Failure to customise digital HRM to the resource capacity of the organisation and being too ambitious
	• A lack of adequate resources
	• Inappropriate decisive decision-making structure
	• Failure to prioritise both technology and people issues
Technological	• Digital HRM solutions not being compatible with the overall business strategy, HRM strategy and company culture
	• A lack of assessing the suitability of digital HRM solutions
	• Inadequate IT architecture
	• Not having digital HRM solutions of good quality and user friendly
Environmental	• Strict regulations and labour laws; POPIA
	• Competitive pressures as a result of 4IR and the COVID-19 pandemic
	• A lack of quality external support/services from HRM technology vendors
	• National unpreparedness for digital solutions/lack of government support
	• In South Africa, failure to upholding SABPP practice standards

Source: Adapted from Azhar, M.N. (2019). Factors affecting the acceptance of e-HRM in Iraq. International Journal of Academic Research in Business and Social Sciences, 9(2), 264 -276. https://doi.org/10.6007/IJARBSS/v9-i2/5542; Alam, M.G.R., Masum, A.K.M., Beh, L.S., & Hong, C.S. (2016). Critical factors influencing decision to adopt human resource nformation system (HRIS) in hospitals. PLoS One, 11(8), 1–22. https://doi.org/10.1371/journal.pone.0160366; Burbach, R. (2019). Strategic evaluation of e-HRM. In M. Thite (Ed.), e-HRM: Digital approaches, directions and applications (pp. 235–249). Routledge; 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. https://doi.org/10.1080/09585192.2016. 1245672; Ghosh, V., & Tripathi, N. (2018). Cloud computing and e-HRM. In M. Thite (Ed.), e-HRM: Digital approaches, directions and applications (pp. 106–122). Routledge; Masum, A.K.M. (2015). Adoption factors of electronic human resource management (e-HRM) in banking industry of Bangladesh. Journal of Social Sciences, 11(1), 1–6. https://doi.org/10.3844/jssp.2015.1.6; Thite, M. (2019). E-HRM: Digital approaches, directions and applications. Routledge; 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). Routledge and Tornatzky, L.G., Fleischer, M., & Chakrabarti, K. (1990). Processes of technological innovation. Lexington Books

IT, information and technology; HRM, human resource management; POPIA, Protection of Personal Information; 4IR, Fourth Industrial Revolution; SABPP, South African Board for People Practices.

five-point Likert rating scale with answer options ranging from not at all (1), small extent (2), moderate extent (3) great extent (4) to very great extent (5). Examples of items in this section included 'difficulties in customising to digital HRM', 'a lack of awareness or knowledge of HRM digitalisation', 'a lack of buy-in from senior or top management', 'data security concerns' and 'lack of conducting an audit for HRM technology suitability', as also depicted in Figure 2. As there was no existing validated questionnaire found, the items included in this section were derived from the literature review conducted on challenges that influenced the adoption of digital HRM. A Cronbach's alpha coefficient of 0.97 confirmed reliability of this scale.

The third section measured the extent to which digital HRM practices were adopted in the organisations of the respondents. This section included 34 items. Items for this section were based on the seven functional areas contained in the SABPP HRM System Standards Model, as well as 30 HR professional practice standards (SABPP, 2014), which are considered the architecture of HRM in South Africa. Examples of items included in this section were '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 also measured on a five-point Likert rating scale, ranging from not at all (1), small extent (2), moderate extent (3) great extent (4) to very great extent (5). This third section was included to ascertain, through regression analysis, the extent to which the identified challenges influenced the adoption of digital HRM practices. Cronbach's alpha coefficients for factors that emerged from this section ranged above 0.8, indicating reliability of the scale.

Ethical approval to conduct the study was obtained from the university from where the study was conducted. Ethical considerations included being transparent about the purpose of the study, voluntary participation of the respondents and the right to withdraw at any given time. Anonymity was ensured through using a web-administered survey instrument, which was accompanied by a cover letter and guidelines on how to complete the questionnaire. Consent was indicated and withdrawal was enabled through an exit button.

Statistical analysis

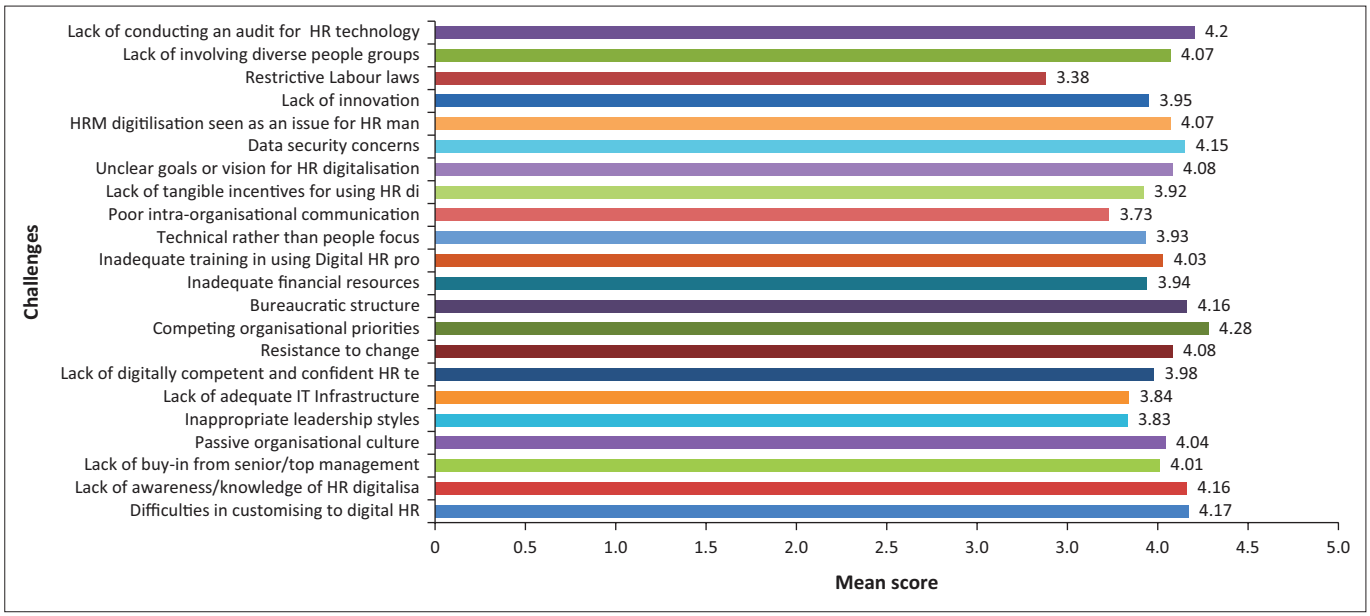
Descriptive and inferential statistics were used to analyse the collected data. Utilising the Statistical Package for Social Sciences (SPSS) version 27, exploratory factor analysis (EFA) was conducted to establish structures and latent factors underlying the item variables. The results of Kaiser–Meyer–Olkin (KMO) and Bartlett's Test of Sphericity (BTS) showed sampling adequacy and data suitability for EFA (Hair et al., 2018). The KMOs for the sections 'challenges' and 'digital HRM practices' were 0.959 and 0.929, respectively, and sphericity on the BTS was indicated at 0.000. The factor extraction method used was principal axis factoring (PAF) (Williams et al., 2012). Descriptive statistics were used to describe and explain the factors, while Pearson product-moment correlation and regression analysis were used to establish and explain relationships between the factors measured.

Ethical considerations

Ethical clearance to conduct this study was obtained from Nelson Mandela University Research Ethics Committee (H20-BES-HRM-016. 14 April 2020).

Results

Of a total of 425 questionnaires distributed, 328 were completed, and 312 were found usable. The response rate was 73.41%. The sample comprised mostly HRM professionals (63.77%) and line managers (34.94%). Most respondents (52.56%) reported a degree, followed by respondents with a



HR, human resource; IT, information and technology.

FIGURE 2: Challenges in adopting digital human resource management practices.

diploma (31.73%), masters (12.50%) or doctoral (0.64%) degree, and those without a tertiary qualification, reported a Grade 12 certificate (2.56%) as highest qualification. These demographics confirmed that the respondents suitably represented the targeted group.

Challenges experienced in the adoption of digital human resource management practices

The pattern matrix and related loadings produced one factor for the variables measuring challenges experienced in the adoption of digital HRM practices, and this factor was labelled 'Challenges'. These challenges were discussed in the literature review and are listed in Figure 2, with the mean scores obtained for each item. For sample sizes of 300, a factor loading of 0.30 is considered significant (Hair et al., 2018). In this study, all the items for 'Challenges' were valid as they revealed loadings higher than the acceptable 0.3, with the highest loading being 0.883 and the lowest 0.584 (Hair et al., 2018).

Figure 2 shows that the variable 'competing organisational priorities' accounted for the highest perceived obstacle in the adoption of digital HRM practices with a mean of 4.28, followed by 'a lack of conducting an audit for digital HRM technology suitability' (M = 4.20), 'difficulties in customising to digital HRM' (M = 4.17), 'bureaucratic structure' (M = 4.16), 'a lack of awareness or knowledge of HRM digitalisation' (M = 4.16), 'data security concerns' (M = 4.15), 'unclear goals or vision for HRM digitalisation' (M = 4.08), 'resistance to change' (M = 4.08), 'lack of involving diverse people groups' (M = 4.07), 'HRM digitalisation seen as an issue for HRM management only' (M = 4.07), 'passive organisational culture' (M = 4.04), 'inadequate training in using digital HRM processes' (M = 4.03) and 'lack of buy-in from senior or top management' (M = 4.01). Overall, all the variables obtained mean scores of above 3.00, with the factor 'restrictive labour laws' accounting for the least perceived obstacle in the adoption of digital HRM (M = 3.38). This shows that the respondents perceived these identified challenges as obstacles in the adoption of digital HRM practices across the HR value chain within their organisations.

Adoption of digital human resource management practices

Concerning the EFA, four factors were extracted from the variables measuring adoption of digital HRM practices. In examining the items that clustered together within each factor for 'Digital HRM Practices', the four factors were labelled as follows:

- Factor 1 (Digital Talent Management Practices).
- Factor 2 (Digital Organisational Design and Culture Practices).
- Factor 3 (Digital Employment Relations Management Practices).
- Factor 4 (Digital Media Practices).

All the items were valid as they loaded onto each factor, revealing loadings higher than 0.30, with the highest loading being 1.02 and the lowest 0.374 (Hair et al., 2018). Digital HRM practices clustered together on Factor 1 (Digital Talent Management Practices) relate to the digital acquisition, onboarding, remuneration, development, management of performance, succession planning and retention of talented people within the organisation, as well as digital leadership development and predictive HR analytics. Items that clustered together on Factor 2 (Digital Organisational Design and Culture Practices) relate to the digital management of organisational culture and design, including the use of HR dashboards and scorecards, development of programmes to coordinate human and machine interaction, use of chatbots to resolve employees' HR-related queries,

digital ethics and risk management and digitally enabling adaptability and flexibility. Factor 3 (Digital Employment Relations Management Practices) items relate to the digital management of the employment relationship, including digital management of employment relation processes, digital diversity management and digital management of grievance, disciplinary and collective bargaining processes, as well as the digital monitoring of employee wellness, and digital coaching and mentoring. Factor 4 (Digital Media Practices) items relate to everyday digital HRM practices, applications and platforms that keep employees connected, including the use of mobile applications to transact HR work, digital absenteeism management and the use of social media platforms such as Whatsapp, Facebook, Twitter and Linkedin, to advertise jobs and connect staff.

Descriptive statistics and Cronbach's alpha coefficients obtained for the factors Digital HRM Practices and Challenges are depicted in Table 2.

The Cronbach's alpha coefficients obtained for Challenges is 0.978 and for the Digital HRM practices range from 0.807 to 0.944. These coefficients indicate that both the questionnaire and data collected are reliable and valid. Challenges obtained the highest mean and standard deviation scores (M = 4.00; SD = 0.91), indicating that the respondents experienced to a 'great extent' the challenges as obstacles in the adoption of digital HRM practices, with consistency in the way they responded to the items loading onto this factor. Digital Media Practices obtained the highest mean score (M = 3.69; SD = 0.88), followed by Digital Talent Management Practices (M = 3.52; SD = 0.74), Digital Organisational Design and Culture Practices (M = 3.11; SD = 0.84) and lastly Digital Employment Relations Management Practices (M = 2.88; SD = 0.87). These mean scores with accompanying standard deviations (SDs) showed that the respondents to a 'great extent' experienced the adoption of Digital Media Practices and Digital Talent Management Practices, while they experienced to a 'moderate extent' the adoption of Digital Organisational Design and Culture Practices and Digital Employment Relations Management Practices in their organisations.

TABLE 2: Descriptive statistics for the factors.

Factor	*N*	*M*	SD	Cronbach's alpha
Digital HRM Practices				
Digital talent management practices	312	3.52	0.74	0.925
Digital organisational design and culture practices	312	3.11	0.84	0.944
Digital employment relations management practices	312	2.88	0.87	0.933
Digital media practices	312	3.69	0.88	0.807
Challenges	312	4.00	0.91	0.978

HRM, human resource management; M, mean; SD, standard deviation.

Pearson product-moment correlation

Pearson product-moment correlation statistics are outlined in Table 3 and indicate how the factor challenges relate to Digital HRM Practice factors as identified in the EFA. Interestingly, the results reveal weak correlations between challenges and all the digital HRM practice factors. Notably, while all the correlations are weak, positive correlations are identified between Challenges and Digital Talent Management Practices (0.01) and between Challenges and Digital Media Practices (0.115), with the latter being significant at a 0.05 level. This suggests that an increase, albeit a small one, in the adoption of Digital Talent Management Practices and Digital Media Practices correlates with a small increase in Challenges. On the other hand, negative and significant correlations (-0.166) were identified between Challenges and Digital Organisational Design and Cultural Practices and between Challenges and Digital Employment Relations Practices (-0.167) (see Table 3). This suggests that the adoption of these Digital HRM Practices were decreasing with every increase in Challenges, with significance at a 0.01 level.

Regression analysis: Effect of challenges on adoption of digital human resource management practices

To provide further insight into the relationship and connectedness between Challenges and Digital HRM practice factors, regression statistics were computed. As summarised in Table 4, Challenges as a predictor explains 0.00% of the variance in adoption of Digital Talent Management Practices. The F-value (F = 0.034), p-value (p = 0.854), (t = 0.185), unstandardised coefficient (β = 0.008) and standardised coefficient (β = 0.01) indicate that the Challenges insignificantly predict the variance in Digital Talent Management Practices.

As summarised in Table 5, Challenges as a predictor explained 2.7% of the variance in adoption of Digital Organisational Design and Culture Practices. The F-value (F = 8.754), p-value (p = 0.003), (t = -2.959), unstandardised

TABLE 3: Correlation analysis: Challenges and digital human resource management practices.

Factor	Digital talent management practices	Digital organisational design and cultural practices	Digital employment relations practices	Digital media practices	Challenges
Correlations					
Digital talent management practices	1.000	0.714**	0.651**	0.552**	0.001
Digital organisational design and cultural practices	-	1.000	0.822**	0.565**	-0.166**
Digital employment relations practices	-	-	1.000	0.507**	-0.167**
Digital media practices	-	-	-	1.000	0.115*

**, Correlation is significant at the 0.01 level (two tailed).

*, Correlation is significant at the 0.05 level (two tailed).

coefficient (β = -0.153) and standardised coefficient (β = -0.166) indicate that Challenges significantly predict the variance in Digital Organisational Design and Culture Practices. In addition, the negative nature of the unstandardised and standardised coefficients indicate that the Challenges is an obstacle to the adoption of Digital Organisational Design and Culture Practices in the organisations although with a small effect.

As summarised in Table 6, Challenges, as a predictor, explain 2.8% of the variance in adoption of Digital Employment Relationship Practices. The *F*-value (F = 8.853), *p*-value

TABLE 4: Regression analysis: Challenges and digital human resource management practices.

Model	*R*	*R* square	Adjusted *R* square	Standard error of the estimate	Durbin-watson	Sum of squares	df	Mean square	*F*	Significant	Unstandardised coefficients		Standardised coefficients	*t*
											B	Standard error	Beta	
Model summary†														
1	0.010‡	0.00	-0.003	0.74177	1.522	-	-	-	-	-	-	-	-	-
ANOVA†														
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Regression	-	-	-	-	-	0.019	1	0.019	0.034	0.854‡	-	-	-	-
Residual	-	-	-	-	-	170.571	310	0.550	-	-	-	-	-	-
Total	-	-	-	-	-	170.59	311	-	-	-	-	-	-	-
Coefficients†														
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(Constant)	-	-	-	-	-	-	-	-	-	0.000	3.487	0.189	-	18.481
Challenges	-	-	-	-	-	-	-	-	-	0.854	0.008	0.046	0.01	0.185

†, Dependent Variable: Digital Talent Management Practices.
‡, Predictors: (Constant), Challenges.
ANOVA, analysis of variance.

TABLE 5: Regression analysis: Challenges and digital human resource management practices.

Model	*R*	*R* square	Adjusted *R* square	Standard error of the estimate	Durbin-watson	Sum of squares	df	Mean square	*F*	Significant	Unstandardised coefficients		Standardised coefficients	*t*
											B	Standard error	Beta	
Model summary†														
1	0.166‡	0.027	0.024	0.8323	1.294	-	-	-	-	-	-	-	-	-
ANOVA†														
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Regression	-	-	-	-	-	6.064	1	6.064	8.754	0.003‡	-	-	-	-
Residual	-	-	-	-	-	214.747	310	0.693	-	-	-	-	-	-
Total	-	-	-	-	-	220.811	311	-	-	-	-	-	-	-
Coefficients†														
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(Constant)	-	-	-	-	-	-	-	-	-	0.000	3.718	0.212	-	17.562
Challenges	-	-	-	-	-	-	-	-	-	0.003	-0.153	0.052	-0.166	-2.959

†, Dependent Variable: Digital Talent Management Practices.
‡, Predictors: (Constant), Challenges.
ANOVA, analysis of variance.

TABLE 6: Regression analysis: Challenges and digital human resource management practices.

Model	*R*	*R* square	Adjusted *R* square	Standard error of the estimate	Durbin-watson	Sum of squares	df	Mean square	*F*	Significant	Unstandardised coefficients		Standardised coefficients	*t*
											B	Standard error	Beta	
Model summary†														
1	0.167‡	0.028	0.025	0.85726	1.543	-	-	-	-	-	-	-	-	-
ANOVA†														
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Regression	-	-	-	-	-	6.506	1	6.506	8.853	0.003‡	-	-	-	-
Residual	-	-	-	-	-	227.815	310	0.735	-	-	-	-	-	-
Total	-	-	-	-	-	234.321	311	-	-	-	-	-	-	-
Coefficients†														
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(Constant)	-	-	-	-	-	-	-	-	-	0.000	3.718	0.212	-	17.562
Challenges	-	-	-	-	-	-	-	-	-	0.003	-0.158	0.053	-0.167	-2.975

†, Dependent Variable: Digital Talent Management Practices.
‡, Predictors: (Constant), Challenges.
ANOVA, analysis of variance.

TABLE 7: Regression analysis: Challenges and digital media practices.

Model	*R*	*R* square	Adjusted *R* square	Standard error of the estimate	Durbin-watson	Sum of squares	df	Mean square	*F*	Significant	Unstandardised coefficients		Standardised coefficients	*t*
											B	Standard error	Beta	
Model summary†														
1	0.115†	0.013	0.01	0.87204	1.554	-	-	-	-	-	-	-	-	-
ANOVA†														
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Regression	-	-	-	-	-	3.132	1	3.132	4.119	0.043‡	-	-	-	-
Residual	-	-	-	-	-	235.739	310	0.760	-	-	-	-	-	-
Total	-	-	-	-	-	238.871	311	-	-	-	-	-	-	-
Coefficients†														
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(Constant)	-	-	-	-	-	-	-	-	-	0.000	3.718	0.212	-	17.562
Challenges	-	-	-	-	-	-	-	-	-	0.043	0.110	0.054	0.115	2.030

†, Dependent Variable: Digital Talent Management Practices.

‡, Predictors: (Constant), Challenges.

ANOVA, analysis of variance.

(p = 0.003), (t = -2.975), unstandardised coefficient (β = -0.158) and standardised coefficient (β = -0.167) indicate that the Challenges significantly predict the variance in Digital Employment Relationship Practices. In addition, the negative nature of the unstandardised and standardised coefficients indicate that the Challenges is an obstacle to the adoption of Digital Employment Relationship Practices in organisations although the effect is small.

As summarised in Table 7, Challenges, as a predictor, explain 1.3% of the variance in the adoption of Digital Media Practices. The F-value (F = 4.119), p-value (p = 0.043), (t = 2.03), unstandardised coefficient (β = 0.11) and standardised coefficient (β = 0.115) indicate that Challenges significantly predict the variance in Digital Media Practices. However, the positive signs of the unstandardised and standardised coefficients indicate that the Challenges are not an obstacle in the adoption of Digital Media Practices in organisations.

Discussion

Outline of the results

This study aimed at identifying challenges that influence the adoption of digital HRM practices across the HR value chain in the South African workplace. The following discussion focuses on the results for Challenges, Adoption of Digital HRM Practices and correlation and regression analyses.

Challenges experienced in the adoption of digital human resource management practices

The results for Challenges, as presented in Figure 2, suggest a range of challenges were perceived as obstacles in the adoption of digital HRM practices. These included issues such as a lack of a vision and goals for HRM digitalisation, digitalisation being seen as an HRM issue, not involving diverse people groups, data security concerns, inadequate training, bureaucracy, lack of top management support, competing priorities, a passive organisational culture and resistance to change. Challenges emerged as one factor in the EFA, with an aggregate mean score of 4.00 and SD of 0.91 and being indicative of the 'great extent' answer option (Table 2). The scale itself was found reliable with an alpha coefficient of 0.978 obtained option (Table 2).

Adoption of digital human resource management practices

The results for Digital HRM practices leaned towards the answer option 'great extent' for adoption of Digital Talent Management and Digital Media Practices and 'moderate extent' for adoption of Digital Organisational Design and Culture and Digital Employment Relations Management Practices. These factors emerged as the focus areas of HRM digitalisation across the HR value chain and could be seen as an emerging Digital HRM value chain. The scales for these factors were found reliable, with alpha coefficients ranging from 0.807 to 0.944 (Table 2). Considering the results, it is observed that even though challenges were experienced in the adoption of digital HRM practices, digital HRM practices were still adopted to a moderate or great extent (Figure 2 and Table 2). It was the intention of this study to determine whether the challenges experienced effected the adoption of digital HRM practices. The outcome could be that the challenges experienced hindered the adoption of digital HRM practices or that the challenges experienced spurred the adoption of digital HRM practices, with HRM digitalisation possibly being seen as a panacea for dealing with the challenges experienced. It was also plausible that no relationship existed between the Challenges and Digital HRM practices. As such, correlation analysis was performed and after that regression analysis.

Correlation analysis

Interestingly, the correlation analysis (Table 3) revealed weak correlations between Challenges and all four Digital HRM practice factors, with the correlation between Challenges and Digital Media Practices (0.115) found positive and significant. Negative, weak but significant correlations were found between Challenges and Digital Organisational Design and Culture Practices (-0.166) and between Challenges and

Digital Employment Relations Practices (-0.167). The very weak correlation between Challenges and Digital Talent Management (0.01) was found significant. As such, the correlation analysis could not convincingly illustrate a relation between Challenges and the adoption of Digital HRM practices.

Regression analysis

In addition, results from the regression analysis revealed that the Challenges had no effect (*R* square 0.00) on the adoption of Digital Talent Management Practices and predicted only 2.7% of the variance in Digital Organisational Design and Culture Practices, 2.8% of the variance in Digital Employment Relations Practice and 1.3% of the variance in Digital Media Practices (see Table 4 to Table 7). These results confirmed that, even though challenges were experienced, these did not have a meaningful impact on the adoption of digital HRM practices, either in a positive or a negative manner. As such, the following can be argued: the digitalisation of HRM practices will continue to occur on a moderate, great or even a very great extent, irrespective of challenges that may be associated with this process.

These results are somewhat surprising in the sense that the literature suggests that challenges in adopting digital HRM practices manifest when few stakeholders are involved in HRM digitalisation, when there is stiff competition in the allocation of resources within the organisation, when the HRM team does not have the appropriate expertise to use digital HRM and when there is a lack of top management buy-in, among others (Azhar, 2019; Bondarouk et al., 2017; Burbach, 2019; Masum, 2015).

In addition, Andersson et al. (2016) and Burbach (2019) stated that the challenge of competing organisational priorities results in poor planning and a lack of clear goals and vision for the implementation of digital HRM. Also, setting a clear digital HRM agenda and objectives should involve different stakeholders (Bengtsson & Bloom, 2017; Ghosh & Tripathi, 2018; Mosca, 2020; Thite & Bhatta, 2019). An additional challenge to address is data security in the implementation of digital HRM as was stressed by Hosain (2019) and Subramaniyan et al. (2019), especially in terms of personal information, data loss and leakage. It is apparent in this study that although challenges were experienced in the organisations as reported by the participants (Figure 2), these challenges were not deterrents in the adoption of digital HRM practices. However, although the effect is small, Challenges significantly and negatively predicted the variance in Digital Organisational Design and Culture Practices (2.7%) and Digital Employment Relationship Practices (2.8%) (Table 5 and Table 6). The small and negative effect on the adoption of these digital HRM practices cannot be ignored if organisations want to ingeniously leverage on these digital HRM practices, and the literature somewhat supports this.

Burbach (2019) and Parry and Battista (2019) indicated that it was difficult to digitalise employment relations and management-related practices, as HRM teams and leaders often resisted these practices because of a fear to losing face-to-face contact and making the environment less humane (Burbach, 2019; Parry & Battista, 2019). In this regard, while the use of digital platforms gives employees the option of engaging with HRM and line managers via digital platforms, the demerit is that the boundaries between working life and personal life could be blurred, resulting in time and personal strain, which cause stress (Parry & Battista, 2019). Even though Fenech et al. (2019) advocate for investment in digital HRM in attainment of the strategic goals of the organisation, they actually found that in most organisations digital HRM was less often used to support strategic organisational design, culture and change efforts. Moreover, Bersin (2021) confirmed that digital HRM technology was mostly utilised for HRM administration and payroll. Ulrich (2019) also stated that digital HRM technology was more often adopted to optimise administrative tasks and to modernise HRM practices, while less was performed to forge connections and promote the experience of employees. This suggested that challenges such as resistance to change, lack of knowledge, lack of digital competence and difficulties in customising to digital HRM could be obstacles in the adoption of these digital HRM practices. However, the results of this study showed that the digitalisation of HRM practices was not significantly hampered by the identified challenges, and therefore the results of this study are profound. Having said that it is possible that the organisations surveyed experienced the challenges but then dealt with these challenges sufficiently to enable the digitalisation of HRM practices.

Bersin (2021) pointed out that organisations are forced to adopt easy-to-use digital HRM solutions that interface via digital and mobile platforms despite challenges experiences. In addition, because of an acute shortage of talent in specific sectors and job types, caused by the 'war for talent', against all odds, organisations adopt digital HRM solutions that enhance the acquisition, appraisal, development and retention of the right talent (Bersin, 2021). This means that despite the challenges, organisations in general continue with adopting Digital Media Practices and Digital Talent Management Practices. Burbach (2019), and Parry and Battista (2019) observed that digital HRM practices that were mostly adopted within organisations were digital recruitment and selection, digital training and development and digital remuneration management (Burbach, 2019; Parry & Battista, 2019).

Practical implications

The implication of the results for organisations and specifically HRM departments or units is that organisations will increasingly adopt digital HRM practices to increase the effectiveness and efficiency of HRM services to support the organisational vision and goals. While some organisations' plans for digitalisation may be hampered because of challenges experienced and perceptions of the strength of

these challenges, other organisations will simply go ahead and digitalise, giving them a competitive advantage and elevating their HRM function to a level where it is recognised as being very professional and essential to the success of the organisation. The results of the study demonstrated that the identified challenges were not to be used as reasons or excuses for not forging ahead with HRM digitalisation, as it was evident from the results that the organisations surveyed in this study managed to digitalise to some or even a great extent irrespective of challenges observed.

The study also highlighted domains for HRM digitalisation, namely digital talent management, digital media practices, digital organisational design and culture and digital employment relations management practices. Organisations need to adopt suitable digital HRM practices in these focus areas to attract and retain talented employees, foster a flexible organisational design and culture to promote knowledge sharing, innovation and a sense of belonging, and foster constructive and collaborative relationships between management and employees and employees themselves. The adoption of digital HRM practices should promote collaboration, communication and cohesion among managers, in support of excellence and achievement. Organisational culture and design processes and practices related to the management of a productive employment relationship within the workplace should strengthen the strategic role of the HRM towards achieving organisational goals (Bissola & Imperatori, 2013; Ma & Ye, 2015; Thite, 2019). Instead of focusing too much on challenges, the positive outcomes of digital HRM practices should be emphasised.

However, it would be short sighted not to acknowledge the challenges, or perceptions of challenges, that could make the adoption of digital HRM practices challenging. These challenges, as presented in Figure 2, are related to technology, the organisation, people and environment factors (Azhar, 2019; Burbach, 2019; Masum, 2015). The empirical results also brought afore the challenges that were experienced or observed by HRM professionals and managers in automotive manufacturing organisations in South Africa.

It will also be futile to assume that digitalising HRM practices, specifically using Digital Media and Digital Talent Management Practices, will be a panacea for resolving organisational issues, the reason being that social dialogue and problem solving may be experienced as more authentic, interactive and effective, in face-to-face situations rather than in a digitalised space. However, these challenges need to be identified and strategies devised to overcome them as they manifest in organisations.

Attention should be given to the outcome of this study, in which it was proven that these challenges do not necessarily have to have a significant effect on HRM digitalisation. As such, a problem-solving mindset rather than a blame or fault-finding mindset is encouraged so that these identified and observed challenges can be dealt with proactively to smoothen the path to HRM digitalisation.

Limitations of the research

The population and sample surveyed in this study were limited to the South Africa's (SA's) automotive manufacturing industry in the Eastern Cape Province of South Africa. The results of this research could be expanded and deeper insight drawn if an investigation into the present phenomenon is conducted beyond the automotive manufacturing industry and beyond the Eastern Cape Province.

Recommendations

Based on the empirical findings of this study, as well as the related literature, the following priorities are proposed to organisations:

Organisations should prioritise the adoption of digital HRM practices to foster a flexible and adaptive organisational culture and optimise employee relationships by addressing the challenges proactively. To achieve this, HRM practitioners and leaders should be skilled enough to navigate the 4IR world of work disruptions and apply digital HRM technologies across all HRM critical practices (Crummenerl et al., 2018; Zavyalova et al., 2022). A digital culture, typically a developmental culture, should be adopted (Kokt, 2019; Zavyalova et al., 2022). Ulrich et al. (2017) urged HRM practitioners to be paradox navigators, strategic partners and credible activists, who have digital and data fluency to operate within a digital world of work (Dhanpat et al., 2020; Joseph et al., 2021; Schultz, 2021) and be able to conduct thorough research within the digital HRM technology market to enable them to adopt worthwhile digital HRM practices and digital HRM solutions with quality vendors of digital HRM technology (Andersson et al., 2016; Bersin, 2021; Colbert et al., 2016; Mazurchenko & Maršíková, 2019). In addition, this will assist HRM practitioners to adopt digital HRM practices that align with the culture and organisational structure aspirations of the organisation (Muhammad, 2018). In South Africa, it could be recommended that organisations use digital HRM technologies or vendors who are approved by the SABPP. Referring to digital and data fluency, Colbert et al. (2016) and Thite (2019) suggest that these skills can be sourced from the outside via the recruitment of digital talent or sourced from within the organisation through training (Rambe et al., 2022).

The buy-in of senior management can be gained by developing a compelling digital HRM agenda that has an impact on the overall business digital agenda. Digital HRM agendas that have a convincing bottom-line impact will rather attract attention and resources for implementation (Ulrich, 2019). However, Ghosh and Tripathi (2018) cautioned HRM practitioners to desist from adopting ambitious and risky digital HRM agendas but rather to adopt a staged approach to HRM digitalisation.

This suggests that HRM practitioners should develop viable digital HRM strategy frameworks, customised to their value needs and the resource capacity of the organisation. The digital HRM framework will basically spell out the vision, goals and the execution plan of the HRM function regarding HRM digitalisation (Thite, 2019).

To reduce resistance to digital HRM, interested employees and stakeholders with technological expertise, such as people from the IT department, should be involved in the HRM digitalisation process from the beginning to the end. This will enable HRM practitioners to tap into their expertise and win their trust (Burbach, 2019).

To address data security concerns, appropriate controls such as firewalls should be used to prevent personal data and security breaches. To achieve this, personal information should only be accessed by using a password or other security controls (Subramaniyan et al., 2019). The entire HRM staff and the workforce should be trained and alerted on ways to prevent security breaches when using digital HRM technologies. This training should be ongoing, and policies and guidelines on information pertaining to data security and privacy should be shared with the entire workforce (Lewis, 2014). Thus, adherence to the POPIA should be strictly enforced, while HRM practitioners and senior management should occupy a leading role in dealing with the threat of data and information security breaches to gain the confidence of lower-level managers and the entire workforce (Lewis, 2014).

Conclusion

This study aimed at identifying challenges that influence the adoption of digital HRM practices across the HR value chain in the South African workplace. The prolific advance in digital technologies and the inevitable need for quick solutions by business operations, call for the HRM function to adopt digital technologies across the HR value chain. However, the digitalisation of HRM practices come with challenges, as revealed in the study. These challenges should be monitored in the adoption of digital HRM. Various strategies had been proposed for addressing these challenges. The study also provided empirical evidence that the challenges do not have to be cited as excuses for not forging ahead with the digitalisation of HRM practices, based on the results of the survey performed among HRM professionals and managers in the automotive manufacturing industry in the Eastern Cape Province in South Africa.

Acknowledgements

The authors would like to acknowledge Ms Carmen Stindt who assisted with data processing.

Competing interests

The authors have declared that no competing interest exists.

Authors' contributions

M.C. was the main writer of the manuscript. M.R.M. and A.W. contributed to the writing of the manuscript.

Funding information

This research received no specific grant from any funding agency in the public, commercial or not-for profit sector.

Data availability

Data sharing is not applicable to this article as no new data were created or analysed in this study.

Disclaimer

The views and opinions expressed in this article are those of the authors and do not necessarily reflect the official policy or position of any affiliated agency of the authors.

References

Ahmadi, H., Nilashi, M., & Ibrahim, O. (2015). Organizational decision to adopt hospital information system: An empirical investigation in the case of Malaysian public hospitals. *International Journal of Medical Informatics, 84*(3), 166–188. https://doi.org/10.1016/j.ijmedinf.2014.12.004

Alam, M.G.R., Masum, A.K.M., Beh, L.S., & Hong, C.S. (2016). Critical factors influencing decision to adopt human resource nformation system (HRIS) in hospitals. *PLoS One, 11*(8), 1–22. https://doi.org/10.1371/journal.pone.0160366

Al-Mobaideen, H., Allahawiah, S., & Basio, E. (2013). Factors influencing the successful adoption of human resource information system: The content of Aqaba special economic zone authority. *Journal of Intelligent Information Management, 5*(1), 1–9. https://doi.org/10.4236/iim.2013.51001

Andersson, L., Lanvin, B., & Van der Heyden, L. (2016). Digitalisation initiatives and corporate strategies: A few implications for talent. In B. Lanvin & P. Evans (Eds.), *The global competitiveness index 2017: Talent and technology* (pp. 51–57). INSEAD.

Azhar, M.N. (2019). Factors affecting the acceptance of e-HRM in Iraq. *International Journal of Academic Research in Business and Social Sciences, 9*(2), 264–276. https://doi.org/10.6007/IJARBSS/v9-i2/5542

Barman, A., & Das, K. (2019). Businesses through human resource technology – Innovations and dominance. *London Journal of Research in Management and Business, 18*(10), Compilation 1.0.

Baykal, E. (2019). Digitalization of human resources: e-HR. In Y. Meral (Ed.), *Tools and techniques for implementing international e-trading tactics for competitive advantage* (pp. 268–286). IGI Global.

Bengtsson, C., & Bloom, M. (2017). *Human resource management in a digital era: A qualitative study of HR managers' perceptions of digitalization and its implications for HRM*. Unpublished Master's thesis, Lund University School of Economics and Management.

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

Bissola, R., & Imperatori, B. (2013). Facing e-HRM: The consequences on employee attitude towards the organisation and the HR department in Italian SMEs. *European Journal of International Management, 7*(4), 450–468. https://doi.org/10.1504/EJIM.2013.055282

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. https://doi.org/10.1080/09585192.2016.1245672

Bondarouk, T., Schilling, D., & Ruël, H.J.M. (2016). E-HRM adoption in emerging economies: The case of subsidiaries of multinational corporations in Indonesia. *Canadian Journal of Administrative Sciences, 33*(2), 124–137. https://doi.org/10.1002/cjas.1376

Brahma, G. (2020). *Technology at work: New challenges*. Human Capita Online. Retrieved from https://humancapitalonline.com/Tech/details/1258/technology-at-work-new-challenges

Burbach, R. (2019). Strategic evaluation of e-HRM. In M. Thite (Ed.), *e-HRM: Digital approaches, directions and applications* (pp. 235–249). Routledge.

Büschgens, T., Bausch, A., & Balkin, D. (2013). Organizational culture and innovation: A meta-analytic review. *Journal of Product Innovation Management, 30*(4), 763–781. https://doi.org/10.1111/jpim.12021

Colbert, A., Yee, N., & George, G. (2016). The digital workforce and the workplace of the future. *Academy of Management Journal, 59*(3), 731–739. https://doi.org/10.5465/amj.2016.4003

Crummenerl, C., Jacob, F., & Funk, L. (2018). *Now or never – HR's need to shape its own future. Results and insights from Capgemini's exploration: 'The Future Role of HR'*. Retrieved from https://www.capgemini.com/consulting-de/wp-content/uploads/sites/32/2018/05/nowor-never-hrs-need-to-shape-capgemini-consulting.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*, a1302. 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.

Friedman, T. (2016). *Thank you for being late: An optimist's guide to thriving in the age of accelerations*. Farrar, Straus & Gioux.

Ghosh, V., & Tripathi, N. (2018). Cloud computing and e-HRM. In M. Thite (Ed.), *e-HRM: Digital approaches, directions and applications* (pp. 106–122). Routledge.

Hair, J.F., Babin, J.B., Anderson, R.E., & Black, W.C. (2018). *Multivariate data analysis* (8th ed.). Prentice Hall.

Hannon, J., Jelf, G., & Brandes, D. (1996). Human resource information systems: Operational issues and strategic considerations in a global environment. *International Journal of Human Resource Management, 7*(1), 245–269. https://doi.org/10.1080/09585199600000127

Hastie, S., & Wojewoda, S. (2015). *Standish group 2015 Chaos report: Q&A with Jennifer Lynch*. InfoQ. Retrieved from https://www.infoq.com/articles/standish-chaos-2015

Hosain, M.S. (2019). The role of information technology on strategic HRM: Transformation of traditional mindset. *BizInfo (Blace) Journal of Economics, Management and Informatics, 10*(1), 15–27. https://doi.org/10.5937/bizinfo1901015H

Imperatori, B., Bissola, R., Butera, F., & Bodega, D. (2019). Work and HRM in the 4.0 era: Insights and research directions. *Studi Organizzativi, XXI*(2), 9–26. https://doi.org/10.3280/SO2019-002001

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). Emerald Publishing Limited.

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. https://doi.org/10.4102/sajhrm.v19i0.1327

Kiron, D., & Spindel, B. (2019). Rebooting work for a digital era. *MIT Sloan Management Review, 60*(3), 1–10.

Kokt, D. (2019). *The role of human resource professionals in navigating the new world of work*. SABPP. Retrieved from https://sabpp.co.za/the-role-of-human-resource-professionals-in-navigating-the-new-world-of-work-by-desere-kokt/

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

Kraus, S., Durst, S., Ferreira, J.J., Veiga, P., Kailer, N., & Weinmann, A. (2022). Digital transformation in business and management research: An overview of the current status quo. *International Journal of Information Management, 63*, 102466. https://doi.org/10.1016/j.ijinfomgt.2021.102466

Lewis, R. (2014). *What HR can do to prevent data breaches and cyber threats*. Human Resource Online. Retrieved from http://www.humanresourcesonline.net/hr-can-help-prevent-data-breaches-cyber-threats/

Ma, L., & Ye, M.L. (2015). The role of electronic human resource management in contemporary human resource management. *Open Journal of Social Sciences, 3*(4), 71–78. https://doi.org/10.4236/jss.2015.34009

Masum, A.K.M. (2015). Adoption factors of electronic human resource management (e-HRM) in banking industry of Bangladesh. *Journal of Social Sciences, 11*(1), 1–6. https://doi.org/10.3844/jssp.2015.1.6

Mazurchenko, A., & Maršíková, K. (2019). Digitally powered human resource management: Skills and roles in the digital era. *Acta Informatica Pragensia, 8*(2), 72–87. https://doi.org/10.18267/j.aip.125

Mosca, M. (2020). *Digitalization of HRM: A study of success factors and consequences in the last decade*. Master's thesis, University of Twente.

Muhammad, K. (2018). The effects of electronic human resource management on financial institutes. *Journal of Humanities Insights, 2*(1), 116–120.

NAACAM/NAAMSA. (2018, March 22). *Automotive export manual*. aBr Buzz. Retrieved from https://abrbuzz.co.za/publications/press-and-customers/naamsa/AutomotiveExportManual2018.pdf

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. https://doi.org/10.12688/emeraldopenres.12907.1

Pillai, R., & Sivathanu, B. (2020). Adoption of artificial intelligence (AI) for talent acquisition in IT/ITeS organizations. *Benchmarking: An International Journal, 27*(9), 2599–2629. https://doi.org/10.1108/BIJ-04-2020-0186

Rambe, P., Mpiti, N., & Khaola, P. (2022). Technology acquisition and the hair salon performance: The explanatory roles of human resources practices. *SA Journal of Human Resource Management/SA Tydskrif vir Menslikehulpbronbestuur, 20*, a1822. https://doi.org/10.4102/sajhrm.v20i0.1822

SABPP. (2014). *SABPP HRM standards*. Retrieved from https://www.sabpp.co.za/page/HR_Standards

SABPP. (2018). *An update on the South African #HRStandards and #HRAudits by Marius Meyer*. Retrieved from https://sabpp.co.za/an-update-on-the-south-african-hrstandards-and-hraudits-by-marius-meyer/

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

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. https://doi.org/10.4102/sajhrm.v19i0.1624

Strohmeier, S. (2020). Digital human resource management: A conceptual clarification. *Journal of Human Resource Management: Zeitschrift für Personalforschung, 34*(3), 345–365. https://doi.org/10.1177/2397002220921131

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). Routledge.

Tornatzky, L.G., Fleischer, M., & Chakrabarti, K. (1990). *Processes of technological innovation*. Lexington Books.

Thite, M. (2019). *E-HRM: Digital approaches, directions and applications*. 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. 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). Routledge.

Ulrich, D. (2018). *5 things that will help you sort through endless HR technologies*. Australian HR Institute. Retrieved from http://www.hrmonline.com.au/section/featured/5-help-sort-endless-hr-technologies/

Ulrich, D. (2019). Foreword and forward thinking of digital HRM. In M. Thite (Ed.), *e-HRM: Digital approaches, directions and applications* (pp. xxvi–xxiv). Routledge.

Ulrich, D., Kryscynski, D., Ulrich, M., & Brockbank, W. (2017). *Competencies for HR professionals who deliver outcomes*. Wiley Periodicals.

Williams, B., Brown, T., & Onsman, A. (2012). Exploratory factor analysis: A five-step guide for novices. *Australasian Journal of Paramedicine, 8*(3), 1. https://doi.org/10.33151/ajp.8.3.93

Zavyalova, E., Sokolov, D., Kucherov, D., & Lisovskaya, A. (2022). The digitalization of human resource management: Present and future. *Foresight and STI Governance, 16*(2), 42–51. https://doi.org/10.17323/2500-2597.2022.2.42.51