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A Framework for Future Human Resource Management Individual Competencies: An Integrative Review

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The advent of automation, artificial intelligence and disruptive technologies has affected the role of the Human Resource Management (HRM) professionals and taken over some HRM functions thereby imposing new sets of competencies for HRM professionals. Yet, there is limited research on the full spectrum of competencies needed to execute the HRM function successfully in an increasingly technologically dynamic environment. Hence, the purpose of this research was to develop a framework for future HRM individual competencies. This study used a qualitative integrative review approach. A thematic analysis approach using manual colour coding in Microsoft Excel was used to analyse the secondary data. The following four competency themes were found in this study: Intrapersonal and interpersonal competencies; information and technology competencies; ability to advance human capabilities and lastly, value-adding business competencies. The developed framework contributes to new future HRM knowledge and practical knowledge in the sense that HRM professionals are now made aware of the competencies needed to be future-ready.

Keywords: *competencies, framework, future, human resource management, technological disruptions*

Introduction

Digitalisation and automation have birthed major challenges within the workplace (Sima et al. 2020, Summerfield 2022), thereby compelling leaders to acquire new capabilities and competencies to be productive and efficient within a technological, virtualised, and competitive work environment (Morandini et al. 2023, Ross & Maynard 2021). Likewise, the execution of the HRM role has changed significantly to adapt to the ongoing disruptive transformations and the role of people practitioners is impacted by technology.

Thus, new sets of competencies are now required to fulfil the HRM role (Bryndin 2020, Margherita 2021). For these reasons, HRM practitioners need to evolve and learn to adapt, reframe, reshape, and rearticulate their roles and capabilities to be relevant in this digital era and beyond (Coetzee & Veldsman 2022, Meduri & Yadav 2021).

Few HRM professionals are "future-proofed" (Van Vulpen & Veldsman 2022, Radonjić et al. 2022) and much work is required to prepare people practitioners for

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sustainable success (Ekuma 2023, Orosoo et al. 2023). This lack of preparedness has created an urgent need to accelerate the upskilling, reskilling, and professional development of people practitioners to meet the changing business needs in the digital age (Coetzee & Veldsman 2022). Although HRM has great organisational prominence and is increasingly becoming a corporate priority, HRM professionals' capabilities, skills, and competencies still need to be upgraded (Paschen et al. 2020). The limited integrated research on future requirements for the HRM role (Cayrat & Boxall 2023, Pan & Froese 2023, Schultz 2021a) necessitates an elucidation of the competencies required by HRM professionals for the current and future technological disruptions (Ekuma 2023, Radonjić et al. 2022, Ulrich et al. 2021).

This research contributes to the current academic discourse on how the current technological revolution will affect the future of HRM. This article uses diverse literature around the world and leans on the role theory and AI job replacement theory to identify the competencies required to perform the HRM role in the technological era. Thus, adding to the theoretical knowledge of HRM competencies. Moreover, this paper highlights the need for the HRM professional to be multidisciplinary, with information and technology competencies and value-adding skills being critical for their success. Organisations can leverage the practical framework provided in this study to hire HRM practitioners in workplace environments where humans and technology increasingly coexist. The framework can also be used to assess current HRM professionals and their preparedness for the future. This can inform the design of relevant development initiatives to upskill HRM professionals and enable them to execute their roles successfully in an increasingly digitalised era. The framework can also guide educational institutions and professional bodies in aligning their HRM curriculum and qualifications to future competencies required to effectively perform the HRM role.

Research Problem and Objective

It is clear from the literature review that there is limited research conducted on the future of HRM individual competencies. This leads to the following research question: what competencies are required to successfully execute HRM roles in the future? The objective of this research was consequently to develop a framework for the future competencies of HRM professional using an integrative review approach which allowed us to obtain relevant and rich data on future HRM competencies from reliable sources as discussed later in the methodology section. Next, the literature review is presented.

Literature Review

Theoretical Background

This research is underpinned by two main theories: the role theory and the theory of artificial intelligence (AI) job replacement. Firstly, the role theory purports that every role has duties, expectations, norms, behaviours, and rights that the person who assumes that role must fulfil. Within the HRM context, a role refers to a pattern of behaviours reflecting the duties and responsibilities of any job/role occupant expected by others (Truss et al. 2002, Pritchard 2010). In this study the role theory allows the researchers to examine the competencies needed for the HRM professionals to successfully perform their duties and fulfil their role in this digital era.

Secondly, the theory of AI job replacement formulated by Huang and Rust (2018) and supported by Chen et al. (2024) and Shen (2024), specifies four facets of intelligence to deliver a service task – namely the mechanical, analytical, intuitive, and empathetic facets. Mechanical intelligence learns or adapts at the minimum, analytical intelligence learns and adapts systemically based on data, intuitive intelligence learns and adapts intuitively based on understanding, and empathetic intelligence learns and adapts empathetically based on experience. AI job replacement occurs primarily at the task level and not the job level, moving from lower intelligence tasks that are easier for AI to perform to higher intelligence levels over time. As mechanical tasks are automated and AI progressively takes over analytical tasks, intuitive and empathetic skills will become more important for service employees (such as HRM professionals) before the tasks are eventually taken over by AI, which will result in innovative ways of human-machine integration or, alternatively, threaten human employment (Huang & Rust 2018).

Concerning this study, the role theory helps to explain the changing role and expectations from HRM professionals as aligned to the new competency requirements to fulfil their roles. Likewise, the theory of AI job replacement clarifies the evolving role of the HRM professional based on the types of intelligence and competencies required for execution. Hence providing the rationale for the use of these two theories to support this research.

Conceptual Background

The Evolution of the HRM Profession

The emergence of the HRM function can be traced back to the late 19th century with the appointment of "welfare workers" whose roles were to improve the socio-economic well-being, financial and medical needs of workers in American and British factories (Kaufman 2014). However, the First World War and advances in scientific management repositioned the function as that of labour problem mitigators (e.g., labour turnover, high levels of absenteeism and accidents) and promoters of human productivity (Kaufman 2014, Niven 1967). From the early 20th century, progressive legislation, unionisation, growth, and complexity in workforce size increased the employment of personnel specialists and establishment of personnel departments (Kaufman 2014, Niven 1967) which began to perform a wider range

of functions such as recruitment, performance management, remuneration, training, joint consultation, and collective bargaining. However, it was a low-status occupation with predominantly administrative and advisory functions and therefore played a secondary and sometimes disrespected role. The personnel department was perceived as serving the needs of workers, giving transactional advice with no power to make decisions. Personnel managers only made decisions in conflict situations and in silos which clashed with the business. The lack of HRM metrics and analytics limited their power and resources because they were not able to prove that they made significant contributions to the organisation's success. However, the occupation's proponents advocated its recognition as a profession (Hodson & Sullivan 2012). This led to specialist educational courses with certification and accreditation procedures, professional associations, and the championing of personnel work as a fully-fledged profession (Kaufman 2014, Niven 1967). Later, the HRM role evolved into that of strategic partners who formulate, participate in, and execute business strategies; administrative experts who perform HRM processes; employee champions who advocate for employees; and change agents (Ulrich et al. 2021).

The HRM function is currently transitioning from being operational to being strategic in the sense that it is expected to create value and contribute towards shareholder returns (Cayrat & Boxall 2023, Bryndin 2020, Saha 2021, Schultz 2022). Also, technological disruptions have transformed the profession (Gallardo-Gallardo & Collings 2021, Laker 2022, Malik et al. 2020, Meduri & Yadav 2021) and the future of HRM seems to merge the human and digital elements (Margherita 2021, Schultz 2021a). HRM processes are increasingly AI-driven, and HRM supports the general digital transformation of the viable competitiveness of companies (Böhmer & Schinnenburg 2023). Generative AI, digitalisation and other technology can be a helpful HRM assistant for both strategic and operational tasks (Aguinis et al. 2024, Joseph et al. 2021). Most mechanical HRM tasks have been automated, and AI is progressively taking over analytical tasks; even intuitive and empathetic tasks may eventually be performed by AI (Chen et al. 2024, Huang & Rust 2018, Shen 2024). Although there are negative effects of the transition of HRM, workplaces processes and workers' organisations, these disadvantages are outweighed by its potential for competitive advantage of augmentation and automation of work (Böhmer & Schinnenburg 2023). The change in role requirements coupled with advances in technology requires HRM professionals to be equipped with new sets of competencies that will enable them to function within a perpetually disrupted environment (Ekuma 2023, Schultz 2021a).

Human Resource Competencies

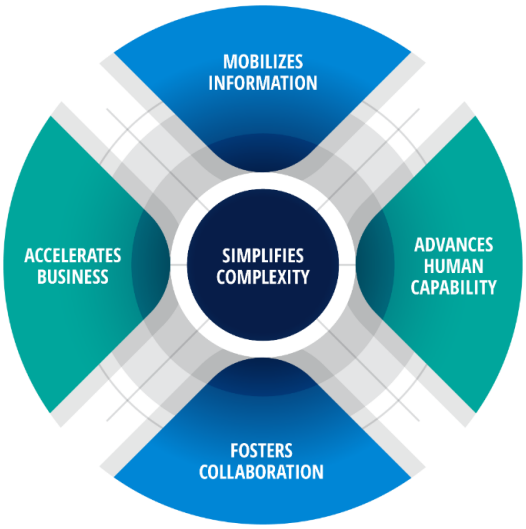
Competencies are a combination of demonstrable skills, knowledge, personal characteristics/traits, attitudes, self-concept, motives, and critical behaviours needed to effectively operate in a position, perform specific work tasks or functions, and increase job performance (Macchi Silva & Ribeiro 2020, Wong 2020). When matched with organisational goals, competencies can help to determine performance standards and evaluate the achievement and efficacy of employees and teams against the organisation's objectives (Macchi Silva & Ribeiro 2020). Competent human resources are very important for driving innovation, improving the HR department and being

proactive in meeting the future needs of the organisation and employees (Suša Vugec et al. 2024).

Scholars have proposed different competency models over the years. Katz and Kahn (1966) classify competency components as technical and functional, managerial, human and conceptual, while Carroll and McCrackin (1997) demarcate competency dimensions as core, leadership/managerial and functional. Also, Cheetham and Chivers (1998) describe competencies as either cognitive, functional, personal, ethical/values or meta-competencies. Le Deist and Winterton (2005) classify competencies as meta-competence, social competence, functional competence, and personal competence. Young and Chapman's (2010) review of generic competencies across Australia, New Zealand, the United States of America, Canada, the United Kingdom, and other European countries yielded basic skills, conceptual skills, personal skills, people skills, business skills and other skills such as understanding health and safety and freedom from substance abuse.

Koenig (2011) identifies the future HRM competencies and clusters them into intrapersonal and interpersonal competencies. Intrapersonal competencies are internal abilities that enable people to solve issues and socialise while interpersonal competencies help to relate and interact with others. A generic competency framework for labour/industrial relations management competencies was developed by Botha et al. (2018) and they found that strategic management and leadership, labour relations expertise, business acumen, collective bargaining management, change innovation, interpersonal relations, communication, emotional management and jurisprudence/labour codes are essential labour/industrial relations management competencies. Van den Berg et al. (2020) explore key human resource competencies and highlight the ability to: understand, extract, analyse, interpret, apply, and design information; learn continuously; manage stakeholder relationships; and cultivate positive organisational practices. McCartney et al. (2021) develop a competency for the HRM analyst and identify consulting abilities that add value to stakeholders, storytelling and communication, technical knowledge of technological systems, data fluency and data analysis, business acumen, and research and discovery. Ulrich et al. (2021) propose an HRM competency model consisting of 5 major roles. The first HRM role pertains to accelerating business by generating competitive insights, influencing the business, driving agility, and getting the right things done. The second role centres on advancing human capability by elevating talent, delivering HRM solutions and championing diversity, equity, and inclusion. Thirdly, the HRM professional must simplify complexity through critical thinking to harness uncertainties. Fourthly, the HRM professional is expected to mobilise information by leveraging information technology and guiding the social agenda. The last HRM role is to foster collaboration, which involves self-management and relationship building. Hence, HRM practitioners need to: be self-aware and manage themselves effectively; relate with others and manage people; source, understand and process data for decision-making; be technologically savvy; possess value-adding knowledge that benefits the business and its stakeholders; and manage and develop people. The conceptual framework for this study is based on the HRM competency model of Ulrich et al. (2021).

Figure 1. *Conceptual Framework*



Source: Ulrich et al. 2021.

Dave Ulrich's influence on HR is evident in recent research. His model of HR roles has been applied to study employee engagement in remote work settings, demonstrating the significant impact of HR managers as employee champions, change agents, and strategic partners (Swaroop & Sharma 2022). Ulrich's work on organisational logic continues to shape an understanding of how organisations deliver value (Ulrich 2021). A systematic review of HR roles over 50 years revealed that while Ulrich's work has stimulated increased interest in HR roles, the transition to more strategic roles has been influenced by complex factors. This review also highlights the ongoing tensions in HR roles and the potential for synergy between strategic and operational functions (Cayrat & Boxall 2023). In addition, Ulrich is widely regarded as one of the most influential thought leaders in the field of Human Resources, often referred to as the "guru" of modern HR for his transformative contributions. He reshaped HR from a primary administrative function to a more strategic partner in organisational success. Ulrich is best known for developing the HR Business Partner model and rich HR competency model, which emphasises four key roles for HR professionals: strategic partners, change agents, employee advocates, and administrative experts. His model encourages HR to align practices with organisational goals, manage change, support employee engagement and well-being, and optimise administrative processes through technology. This comprehensive, adaptable framework remains highly relevant in the fast-evolving business landscape, helping HR professionals to navigate current and future challenges. Ulrich's work has had a profound and lasting impact on HR practices worldwide, and his contributions continue to shape both academic research and practical applications. As of December 12, 2024, Ulrich's academic influence was reflected in his impressive citation metrics on Google Scholar, with a total of 48,776 citations, including 13,206 since 2019. His h-index of 94, with 53 of these citations occurring since 2019, and an i10-index of 281, with 158 occurring since 2019, underscores his ongoing prominence and the continued relevance of his work in the HR field. These metrics

highlight Ulrich's enduring impact as a leading figure in HR theory and practice (Google Scholar 2024).

As the HRM function transitions from one phase to another, the HRM roles change and there is a strategic shift in the HRM function (Saha 2021) together with new competencies required to successfully execute the HRM role (Van Vulpen & Veldsman 2022). HR professionals need to be able to reshape the workforce, align culture, design employee experience, and provide workforce insights relevant to drive organisational success amidst ongoing transformations (Balasundaram 2020). As technology and artificial intelligence gain ground and disrupt the work environment (Baakeel 2020, Chytiri 2019, Coetzee & Veldsman 2022, Mikalef & Gupta 2021), there is a need for a framework that presents new set of competencies required for the HRM in the future. This is vital for the HRM professional to continuously add value (Hewett & Shantz 2021, Paschen et al. 2020).

Methodology

We used an integrative review approach, which is an appropriate qualitative research method to evaluate and synthesise data from different sources to answer a research question (Fan et al. 2022, Kutcher and LeBaron 2022). This approach provides a comprehensive view of knowledge regarding HRM competencies. Integrative reviews allow researchers to use a non-systematic method to review, critique and/or synthesise literature to generate new perspectives (Cronin & George 2023, Snyder 2019, Torraco 2005). Data can include experimental, non-experimental, theoretical, and methodological research (Kutcher & LeBaron 2022, Toronto & Remington 2020) that can be integrated and/or critically evaluated to advance new knowledge, contribute insights and generate a new framework (Cronin & George 2023, Elsbach & van Knippenberg 2020, Snyder 2019).

Fan et al. (2022) purport that integrative reviews are shown to be replicable by disclosing the search, selection criteria, (i.e., when and where the searches were conducted, who conducted the searches, and keywords used), number of articles found as well as inclusion and exclusion criteria. Although there are different ways of conducting integrative reviews, researchers must follow accepted conventions for reporting on the way the study was conducted (Torraco 2005). To ensure the quality of the research process, the seven (7) steps suggested by Kutcher and LeBaron (2022). These steps were followed to ensure methodological rigour in the collection, analysis, and synthesis of the literature (Fan et al. 2022).

Step 1: Selecting a Concept

Limited research is conducted on the future competencies of HRM, and the researchers chose this concept to analyse.

Step 2: Determining the Aim of the Analysis

This analysis aimed to develop a framework for the future individual competencies of HRM.

Step 3: Performing the Literature Search

Inclusion and exclusion criteria guided the integrative review process to select the most appropriate articles (Fan et al. 2022, Snyder 2019) using the PRISMA protocol (Lefebvre et al. 2019).

First, we discuss the inclusion criteria. We developed a search strategy and conducted searches through 3 databases (Scopus, ScienceDirect and Google Scholar). The reason for choosing these databases is that numerous double-blind peer-reviewed HRM articles are published on these databases. The search string used was "automation" OR "digitalisation" "automatic technology" OR "artificial intelligence" AND "technological revolution" AND "human resource management" AND "competencies" "expertise" OR "skills" OR "capability". Open-access full-text articles published in English in peer-reviewed journals from January 2020 to April 2024 available on the 3 selected databases were included in this study. The 5 years' time frame is generally acceptable for academic citations as articles within that range are current. Also, the focus on literature within this time is due to the transformative changes in work caused by the COVID-19 pandemic and the increasing use of technology within the workplace. This period reflects significant shifts to online, hybrid, and flexible work environments, driving a need for HRM practices to adapt rapidly as organisations had to quickly adapt to new work modalities and technology-driven processes. Recent literature and studies from these years offer the most relevant insights into the competencies required for HRM professionals to manage new technological tools, remote work, and changing employee needs effectively. By examining this recent literature, the research captures up-to-date competencies, ensuring that the analysis is relevant to addressing emerging demands of the current and future HRM landscape.

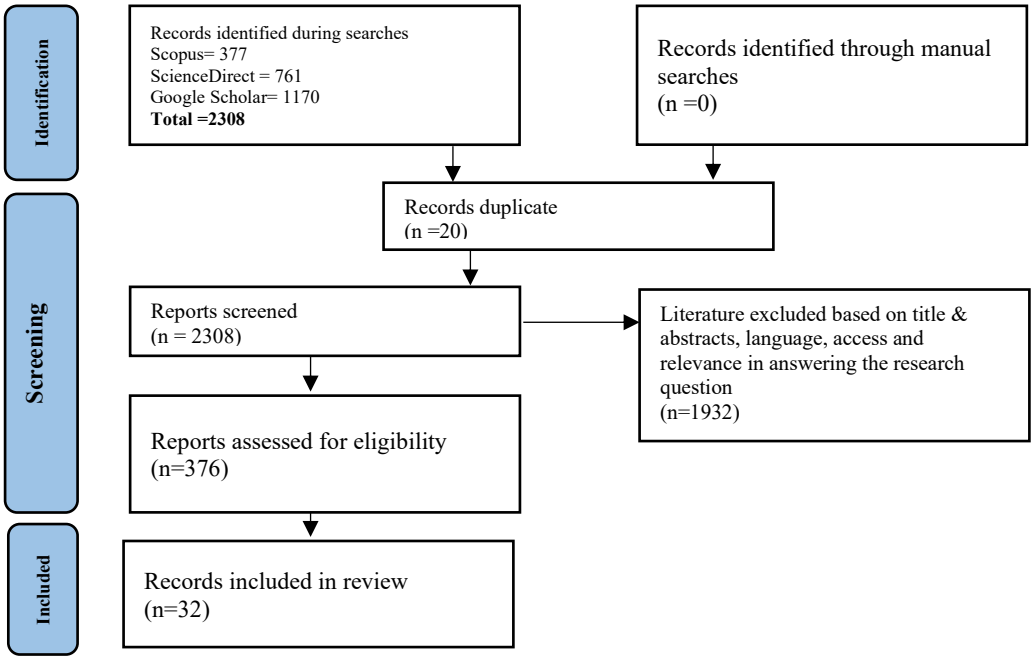
Second, the exclusion criteria are now discussed. Only Scopus, ScienceDirect and Google Scholar were used, and other databases were therefore excluded. Closed-access full-text peer-reviewed articles published in peer-reviewed journals were not considered. Open-access full-text peer-reviewed articles published before January 2020 and after April 2024 were also not considered. Open-access full-text articles published in a language other than English in peer-reviewed journals from January 2020 to April 2024 were not included. Books, working papers, conference proceedings and non-journal articles were excluded from the study. Although inclusion and exclusion criteria provide some limitations to the article, they are relevant for the credibility of the protocol (Lefebvre et al. 2019)

Step 4: Organising and Evaluating the Data

The initial population of possibly relevant studies comprised 2308 articles as presented in Figure 2. The results were screened by scanning the titles and abstracts

to assess relevance in answering the research question. Only articles which met the inclusion criteria and articles which the authors judged to be relevant in answering the research question (Snyder 2019) were read in full independently by one researcher and reviewed by the other two researchers independently. Duplicates in different databases were only considered once. At the end, 32 journal articles (refer to Figure 2).

Figure 2. *PRISMA Protocol*



Source: Lefebvre et al. 2019.

The 32 articles included in this study are presented in Table 1.

Table 1. *Information on the Articles Included in this Study*

	Authors	Article title	Year	Typology of study	Findings	Journal	Volume (Issue)	Impact factor of journal	Data base	Number of citations of article
1	Veldsman & Coetzee	Professional personas and capabilities of the future people practitioner: A thematic review.	2022	Literature review	Professional development is required for human resource professional and industrial/organisational psychologist in the technological era. These include four digital dexterous capabilities (i.e. intrapersonal, intra digital, interdigital, interpersonal) and professional personas (i.e. humanitarian champion, strategist, ethics custodian, business advisor, solution architect, and service champion)	South African Journal of Human Resource Management	20(0)	2.3	Scopus	3
2	Santana & Díaz-Fernández	Competencies for the artificial intelligence age: Visualisation of the state of the art and future perspectives.	2023	Bibliometric study using SciMat	To face AI developments from an HRM perspective, employees and HR professionals need the appropriate digital competencies for optimal organisational performance.	Review of Managerial Science	17	7.8	Scopus	43
3	Sakka, Maknouzi, & Sadok	Human resource management in the era of artificial intelligence: Future HR work practices, anticipated skill set, financial and legal implications	2022	Literature review	There is a need to equip and reskill HR departments and HR staff with an adequate knowledge of data science, and sophisticated interpersonal communication skills that will enable them to act as effective intermediaries between machines and humans.	Academy of Strategic Management Journal	21(1)	7.27	Scopus	61
4	Shet & Pereira	Proposed managerial competencies for Industry 4.0 – Implications for social sustainability.	2021	Literature review	Competencies identified as relevant in industry 4.0 include agility, entrepreneurial intelligence, business acumen, design thinking, disruptive leadership, collaborative mind-set, problem solving & decision-making, research orientation, connected technology architecture, data analytics, project leadership, robotic process automation, digital intelligence & modelling, and sustainability.	Technological Forecasting & Social Change	173(2021)	12.9	ScienceDirect	137

5	Samarasinghe & Medis	Artificial intelligence based strategic human resource management (AISHRM) for Industry 4.0.	2020	Literature review	Artificial intelligence within strategic human resource management requires skills in HR analytics Machine learning, skills in people development, AI algorithm development, ability to determine the strategic fit of AI with the business strategy and learning abilities.	Global Journal of Management and Business Research: G Interdisciplinary	20 (2)	-	Google scholar	56
6	Chowdhury, Dey, Joel-Edgar, Bhattacharya, Rodriguez-Espindola, Abadie, & Truong	Unlocking the value of artificial intelligence in human resource management through AI capability framework.	2023	Literature review	To benefit from AI and its adoption Human resources in organisations need to develop human skills and competencies, leadership, team co-ordination, governance strategy, organisational culture and innovation mindset, and AI-employee integration strategies,	Human Resource Management Review	33(1)	8.2	Scopus	429
7	Alan	A systematic bibliometric analysis on the current digital human resources management studies and directions for future research.	2023	Systematic bibliometric analysis	The augmented use of digital technologies affects the competencies and expectations of the digital workforce.	Journal of Chinese Human Resource Management	14(1)	-	Scopus	7
8	Piwowar-Sulej	Human resources development as an element of sustainable HRM – With the focus on production engineers.	2021	Literature review	Long-term orientation and flexibility require the development of competencies of the future in HRM including environmental sustainability, value creation, decision making relationship, teamwork, adaptability, computer skills, digital competencies, analytic skills.	Journal of Cleaner Production		9.4	ScienceDirect	318
9	Conceição, Pereira, & Dias	The key competencies for the future of work – A bibliometric study.	2023	Bibliometric study	The future of work will require HR and professionals need to possess relationship and teamwork skills, keep employees motivated and committed, retain employees, understand digitalisation and digital transformation	Journal of Chinese Human Resource Management	14(1)	-	Scopus	7
10	Sengupta, Lalwani, Goswami, & Srivastava	Reinventing HR functions with SMAC technologies – An exploratory study.	2023	Quantitative	Digital tools are increasingly being used in the HR function and HR professional need to be on par with those developments	Materials Today: Proceedings	46(2021)	4.9	ScienceDirect	24
11	Harney & Collings	Navigating the shifting landscapes of HRM.	2021	Literature review	Requirements for the current era will require agile HR, HR disruption, strategic human capital, HR co-creation and global flexibility and interdisciplinary	Human Resource Management Review	31(2021)	8.2	ScienceDirect	160

					insight, finding motivation in practice,					
12	Nawaz, Gomes, & Faisal	Is the revolution of technologies transforming human resources?	2021	Literature review	Emerging technology plays a major role in the execution of the HRM function and in the sustainable growth and development.	Journal of Management Information and Decision Sciences	24(3)	-	Scopus	4
13	Huang, Yang, Zheng, Feng, & Zhang	Personalised human resource management via HR analytics and artificial intelligence: Theory and implications.	2023	Literature review	Personalised human resource management using HR analytics and artificial intelligence will require technological competencies alongside other HR competencies.	Asia Pacific Management Review	28(2023)	4.9	Scopus	72
14	Popo-Olaniyan, James, Udeh, Daraojimba, & Ogedengbe	Future-proofing human resources in the U.S. with AI: A review of trends and implications.	2022	Literature review	HR professionals must focus on developing AI-powered skillsets, skills in data analysis, AI literacy, effective human-AI collaboration, automation, and address ethical considerations of AI-powered HR solutions in a transparent, fair, private and accountable manner. This requires continuous learning and upskilling for HR professionals.	International Journal of Management & Entrepreneurship Research	4(12)	-	Scopus	37
15	Bukartaite & Hooper	Automation, artificial intelligence and future skills needs: An Irish perspective.	2023	Qualitative study	There is a continued need for life-long learning in soft and hard skills in the increasingly digitalised workplace governed by artificial intelligence (AI) and technology.	European Journal of Training and Development	47(10)	2.30	Scopus	18
16	Zirar, Ali, & Islam	Worker and workplace artificial intelligence (AI) coexistence: Emerging themes and research agenda.	2023	Literature review	Amidst distrust in that, there is a need for skills to help manage the human-artificial intelligence coexistence which are technical, human, and conceptual skills.	Technovation	124(102747)	11.1	ScienceDirect	112
17	Tripathi, Tripathi, Yadav, & Shastri	Gig economy: Reshaping strategic HRM in the era of Industry 4.0 and artificial intelligence.	2022	Literature review	To thrive in this AI-based technological world, HR professionals need to master new skills and obtain new knowledge.	Journal of Positive School Psychology	6(4)	-	Scopus	12
18	Singh & Malhotra	Workforce analytics: Increasing managerial efficiency in human resources.	2020	Literature review	Technology has become imperative in recent years causing workforce analytics to become imperative in HR	International Journal of Scientific and Technology Research	9(1)	-	Scopus	10
19	Sagaya & Momin	Global reverberation and prediction for HRM amid and after COVID-19: A technological viewpoint.	2020	Literature review	The impact of COVID-19 on various HRM functions fast-tracked application of technology in facilitating roles for HRM, Digital innovations such as AI, machine learning, cloud computing, IoT etc. are being harnessed to supplement	Materials Today: Proceedings	46(2020)	4.9	Scopus	33

					the HRM function. HR needs new skills to execute its role					
20	Alfawaire & Atan	The effect of strategic human resource and knowledge management on sustainable competitive advantages at Jordanian universities: The mediating role of organizational innovation.	2021	Quantitative	Innovation, and knowledge management impact strategic human resource management and the sustainable competitiveness. Human resource managers need to have the required skills to operate effectively in the increasingly innovative environment	Sustainability	13	3.6	Scopus	103
21	Jani, Muduli, & Kishore	Human resource transformation in India: Examining the role digital human resource technology and human resource role.	2021	Quantitative	HR transformation using Digital human resource technology can enhance business outcomes if mediated by the right HR roles. That is strategic, employee champion, change agent and administrative expert	International Journal of Organizational Analysis	31(4)	-	Scopus	18
22	Cunha, Pina, Gomes, Mellahi, Miner, & Rego	Strategic agility through improvisational capabilities: Implications for a paradox sensitive HRM.	2020	Literature review	Strategic agility, improvisation improvisational capabilities are critical for HRs as the HRM in the contemporary environment plays both a partner role with others, and a core role in designing the strategic system	Human Resource Management Review	30(1)	8.2	ScienceDirect	101
23	Oehlhorn, Maier, Laumer, & Weitzel	Human resource management and its impact on strategic business-IT alignment: A literature review and avenues for future research.	2020	Literature review	Human resources management and support are critical for strategic information and technology alignment that meet organisational priorities.	The Journal of Strategic Information Systems	29(4)	8.7	ScienceDirect	50
24	Stuart, Spencer, McLachlan, & Forde	COVID-19 and the uncertain future of HRM: Furlough, job retention and reform.	2021	Literature review	HR managers need to create conditions for a more collaborative HRM that delivers for workers and business, job retention being a core priority	Human Resource Management Journal	31(4)	-	Scopus	45
25	Tuffaha & Perello-Marin	Artificial intelligence definition, applications, and adoption in human resource management: A systematic literature review.	2021	A systematic literature review	HRM needs to be able to adopt AI applications within the current technological space	International Journal of Business Innovation and Research	2021	-	Scopus	2
26	Vrontis, Christofi, Pereira, Tarba, Makrides, & Trichina	Artificial intelligence, robotics, advanced technologies, and human resource management: A systematic review.	2021	A systematic literature review	HRM should be able to foster human-robot/AI collaboration, decision-making and learning, and other HRM activities (such as recruiting, training and job performance) using technology	The International Journal of Human Resource Management	-	4.9	Scopus	412
27	Shet, Poddar, Samuel, & Dwivedi	Examining the determinants of successful adoption of data analytics in human resource	2021	Literature review	HR professionals are required to have analytical skills, quantitative abilities and be able to work with	Journal of Business Research	131(2021)	10.5	Scopus	67

		management – A framework for implications			Different technological and analytical tools					
28	Abdeldayem & Aldulaimi	Trends and opportunities of artificial intelligence in human resource management: Aspirations for public sector in Bahrain.	2020	Qualitative	The application of modern artificial intelligence is essential for organisations within an inconsistent environment. HR practitioners should be able to use it effectively.	International Journal of Scientific & Technology Research	9(1)	-	Scopus	100
29	Dzwigol, Dzwigol-Barosz, Miskiewicz, & Kwilinski	Manager competency assessment model in the conditions of Industry 4.0.	2020	Algorithmic "fuzzy logic" model	Cognitive abilities, creative potential, effective goal setting, people development, communicative, and leadership and management abilities are paramount in industry 4.0	Entrepreneurship and Sustainability Issues	7(4)	-	Scopus	146
30	Minbaeva	Disrupted HR?	2021	Literature review	Paradigm shifts are needed to equip HR professionals with the knowledge required to deal with disruptions	Human Resource Management Review	31	8.2	ScienceDirect	74
31	Lumi	The impact of digitalisation on human resources development.	2020	Literature review	The drastic changes in human resources and HR processes caused by digitalisation and technological developments necessitate new HR knowledge and competencies	Prizren Social Science Journal	4(3)	.88	Google Scholar	48
32	Schultz	The future and the role of human resource management in South Africa during the Fourth Industrial Revolution.	2021	Qualitative	HR has become technology-driven, data-driven, ethically driven, change driven, business-driven. There is also an increasing need for human–machine collaboration and resilience which require a new set of skills.	South African Journal of Human Resource Management	19(0)	2.3	Scopus	19

Source: Authors.

Step 5: Analysing and Synthesising the Findings

As recommended by Snyder (2019), thematic analysis was used to analyse the data. More specifically, the six (6) phase analytical process of Byrne (2022) was used to analyse the data:

Phase 1: Familiarisation with the Data

Each selected article was scrutinised, and the relevant parts of the articles were extracted and manually exported to a Microsoft Excel sheet. This allowed the researchers to familiarise themselves with the data.

Phase 2: Generating Initial Codes

Colour coding was used to identify the codes in the Microsoft Excel sheet. Inductive coding was used as new codes were found in the data and deductive codes that were derived from the literature review were also used. A combination of inductive and deductive coding, referred to as a blended approach, is mostly used (Graebner et al. 2012, p. 280).

Phase 3: Generating Themes

After coding all the related data, the researchers examined the data to ascertain how various codes might be combined by shared meanings to create themes or sub-themes.

Phase 4: Reviewing Potential Themes

Codes and themes were revised in this phase to yield a relevant and significant interpretation of the data; as such, it would be necessary to code more data items, combine or remove some codes or even promote some codes as sub-themes or themes. At this phase, it is common for codes and themes to be changed or eliminated to allow for the most insightful data analysis.

Phase 5: Defining and Naming Themes

At this stage, the researchers defined each theme and sub-theme concerning the dataset and the research question. This includes choosing which data items to use as extracts when summarising the analysed findings and submitting themes names for final review. Themes and subthemes were then developed (see Table 2).

Phase 6: Producing the Report

This phase can be seen as the completion and final inspection of the report, which the researchers have already begun writing even before undertaking the thematic analysis. The research findings from integrative reviews must be accurate, transferable, and transparent (Fan et al. 2022, Snyder 2019). As with all qualitative analysis, analytical honesty is a priority, the data analysis process is made transparent with rival explanations and spurious relationships thoughtfully explored (Whittemore & Knafl 2005). Also, to ensure the quality of the produced report and due to the qualitative nature of this study, it was not necessary to ensure reliability and validity, but it was essential to ensure trustworthiness. Rose and Johnson (2020) state that

trustworthiness refers to the rigour of the research design, the credibility of the researcher and how applicable the research methods used are. Trustworthiness involves the elements of credibility, dependability, confirmability and transferability (Bless et al. 2013):

- Credibility refers to the authenticity of the researchers' presentation coupled with a considerable narrative detailing all the analytical methods used (Bless et al. 2013). In this current study, we recorded notes in a reflective diary that were merged with the secondary data. We also acknowledged our personal biases and preconceptions throughout the research process as suggested by Ahmed (2024).
- To establish dependability, Shenton (2004) suggests that the processes used in the study should be fully conveyed to enable a future researcher to repeat the work and gain the same results. We therefore kept all details of the research procedures and decisions made during the study as suggested by Ahmed (2024).
- Confirmability is referred to as the degree of consistency in the findings and whether they can be repeated, which is "analogous to objectivity in quantitative research" (Connelly 2016). We engaged with other colleagues to review the interpretations and findings and to minimise bias as suggested by Ahmed (2024).
- Transferability denotes that research findings will be applicable in the future and the research findings will match findings in similar circumstances (Ghafouri & Ofoghi 2016). We kept detailed contextual information to enable readers to assess the transferability of our findings as suggested by Ahmed (2024).

Ethical Considerations

This research only considered secondary data; hence no ethics approval was required. All data was sourced from three reliable and well-known research engines namely ScienceDirect, Scopus and Google Scholar.

Results

Step 6: Summarising Results and Formulating Conclusions

The results from this review are summarised in Table 2.

Table 2. *The Future HRM Individual Competencies*

Competencies description	No. of occurrences	References
THEME 1: INTRAPERSONAL AND INTERPERSONAL COMPETENCIES		
Subtheme 1.1: Intrapersonal competencies		
Problem-solving abilities	9	Bukartaite & Hooper 2023; Conceição et al. 2023; Lumi 2020; Piwowar-Sulej 2021; Popo-Olaniyan et al. 2022; Samarasinghe & Medis 2020; Santana & Díaz-Fernández 2023; Shet & Pereira 2021; Tripathi et al. 2022
Lifelong learning abilities	9	Abdeldayem & Aldulaimi 2020; Bukartaite & Hooper 2023; Dzwigol et al. 2020; Minbaeva 2021; Sakka et al. 2022; Samarasinghe & Medis 2020; Santana & Díaz-Fernández 2023; Piwowar-Sulej 2021; Popo-Olaniyan et al. 2022
Flexibility	8	Abdeldayem & Aldulaimi 2020; Alan 2023; Bukartaite & Hooper 2023; Conceição et al. 2023; Piwowar-Sulej 2021; Santana et al. 2023; Singh & Malhotra 2020; Schultz 2021
Adaptability	8	Abdeldayem & Aldulaimi 2020; Bukartaite & Hooper 2023; Piwowar-Sulej 2021; Sakka et al. 2022; Santana & Díaz-Fernández 2023; Schultz 2021; Singh & Malhotra 2020; Veldsman & Coetzee 2022
Critical thinking	7	Bukartaite & Hooper 2023; Conceição et al. 2023; Popo-Olaniyan et al. 2022; Santana & Díaz-Fernández 2023; Schultz 2021; Veldsman & Coetzee 2022; Zirar et al. 2023
Resilience	6	Sakka et al. 2022; Conceição et al. 2023; Bukartaite & Hooper 2023; Minbaeva 2021; Sagaya & Momin 2020; Santana & Díaz-Fernández 2023
Emotional control	6	Conceição et al. 2023; Cunha et al. 2020; Santana & Díaz-Fernández 2023; Sakka et al. 2022; Shet & Pereira 2021; Tripathi et al. 2022
Creative thinking	6	Conceição et al. 2023; Lumi 2020; Piwowar-Sulej 2021; Santana & Díaz-Fernández 2023; Popo-Olaniyan et al. 2022; Zirar et al. 2023
Innovation	6	Alan 2023; Bukartaite & Hooper 2023; Conceição et al. 2023; Santana & Díaz-Fernández 2023; Schultz 2021; Tripathi et al. 2022
Decision-making abilities	5	Bukartaite & Hooper 2023; Conceição et al. 2023; Dzwigol et al. 2020; Lumi 2020; Zirar et al. 2023
Cognitive intelligence	4	Lumi 2020; Piwowar-Sulej 2021; Santana & Díaz-Fernández 2023; Zirar et al. 2023
Initiative and proactiveness	4	Bukartaite & Hooper 2023; Piwowar-Sulej 2021; Santana & Díaz-Fernández 2023; Zirar et al. 2023
Time management	3	Dzwigol et al. 2020; Jani et al. 2021; Shet & Pereira 2021
Design-thinking mindset	3	Bukartaite & Hooper 2023; Piwowar-Sulej 2021; Shet & Pereira 2021
Analytical thinking	3	Conceição et al. 2023; Piwowar-Sulej 2021; Zirar et al. 2023
Open-/ renewed mindedness	3	Minbaeva 2021; Santana & Díaz-Fernández 2023; Schultz 2021
Good human judgement	3	Conceição et al. 2023; Samarasinghe & Medis 2020; Zirar et al. 2023
Awareness and openness	3	Alan 2023; Oehlhorn et al. 2020; Shet & Pereira 2021
Professionalism	2	Dzwigol et al. 2020; Piwowar-Sulej 2021
Patience	2	Oehlhorn et al. 2020; Shet et al. 2021
Discipline and commitment	2	Dzwigol et al. 2020; Oehlhorn et al. 2020
Positive attitude	2	Bukartaite & Hooper 2023; Santana & Díaz-Fernández 2023
Take advice and respond to criticism in a constructive manner	1	Dzwigol et al. 2020
Prudence	1	Lumi 2020
Curiosity	1	Alan 2023

Competencies description	**No. of occurrences**	**References**
Activeness	1	Santana & Díaz-Fernández 2023
Privacy	1	Sakka et al. 2022
Honesty	1	Santana & Díaz-Fernández 2023
Subtheme 1.2: Interpersonal competencies		
Communication skills	10	Bukartaite & Hooper 2023; Dzwigol et al. 2020; Oehlhorn et al. 2020; Sakka et al. 2022; Sagaya & Momin 2020; Santana & Díaz-Fernández 2023; Shet & Pereira 2021; Singh & Malhotra 2020; Piwowar-Sulej 2021; Veldsman & Coetzee 2022
Collaborative mindset	8	Alfawaire & Atan 2021; Bukartaite & Hooper 2023; Lumi 2020; Oehlhorn et al. 2020; Shet & Pereira 2021; Santana & Díaz-Fernández 2023; Tripathi et al. 2022; Veldsman & Coetzee 2022
Strategic leadership abilities	6	Bukartaite & Hooper 2023; Conceição et al. 2023; Cunha et al. 2020; Jani et al. 2021; Oehlhorn et al. 2020; Tripathi et al. 2022
Emotional intelligence	6	Bukartaite & Hooper 2023; Conceição et al. 2023; Lumi 2020; Santana & Díaz-Fernández 2023; Shet & Pereira 2021; Zirar et al. 2023
Teamwork	5	Bukartaite & Hooper 2023; Cunha et al. 2020; Piwowar-Sulej 2021; Santana & Díaz-Fernández 2023; Zirar et al. 2023
Manage people and networks.	5	Bukartaite & Hooper 2023; Piwowar-Sulej 2021; Sakka et al. 2022; Santana & Díaz-Fernández 2023; Zirar et al. 2023
Social intelligence	4	Piwowar-Sulej 2021; Oehlhorn et al. 2020; Santana & Díaz-Fernández 2023; Shet & Pereira 2021
Inspiration and trust building	4	Bukartaite & Hooper 2023; Oehlhorn et al. 2020; Piwowar-Sulej 2021; Veldsman & Coetzee 2022
Negotiation and persuasion skills	4	Bukartaite & Hooper 2023; Conceição et al. 2023; Lumi 2020; Zirar et al. 2023
Strategic partnership development	3	Oehlhorn et al. 2020; Popo-Olaniyan et al. 2022; Veldsman & Coetzee 2022
Empathy	3	Sakka et al. 2022; Santana & Díaz-Fernández 2023; Shet & Pereira 2021
Interpersonal skills	3	Dzwigol et al. 2020; Minbaeva 2021; Piwowar-Sulej 2021
Delegation skills	2	Zirar et al. 2023; Dzwigol et al. 2020
Motivation skills	2	Sakka et al. 2022; Santana & Díaz-Fernández 2023
Coordination	2	Oehlhorn et al. 2020; Zirar et al. Ali & Islam 2023
Respect	2	Oehlhorn et al. 2020; Veldsman & Coetzee 2022
Supportiveness	2	Nawaz et al. 2021; Oehlhorn et al. 2020
Empower others	1	Oehlhorn et al. 2020
THEME 2: INFORMATION AND TECHNOLOGY COMPETENCIES		
Subtheme 2.1: Understanding and usage of technology		
Understand, use and implement the latest technology effectively	13	Bukartaite & Hooper 2023; Conceição et al. 2023; Jani et al. 2021; Minbaeva 2021; Popo-Olaniyan et al. 2022; Sakka et al. 2022; Santana & Díaz-Fernández 2023; Schultz 2021; Shet & Pereira 2021; Tripathi et al. 2022; Piwowar-Sulej 2021; Veldsman & Coetzee 2022; Zirar et al. 2023
Incorporate, integrate, implement and deploy the right technologies	8	Alan 2023; Bukartaite & Hooper 2023; Chowdhury et al. 2023; Jani et al. 2021; Minbaeva 2021; Singh & Malhotra 2020; Shet & Pereira 2021; Tripathi et al. 2022
Digital and technological literacy	5	Bukartaite & Hooper 2023; Piwowar-Sulej 2021; Popo-Olaniyan et al. 2022; Tripathi et al. 2022; Zirar et al. 2023
Subtheme 2.2: Promotion of the use of technology		
Promote the use of technology	6	Alan 2023; Chowdhury et al. 2023; Jani et al. 2021; Sagaya & Momin 2020; Shet & Pereira 2021; Veldsman & Coetzee 2022
Foster information and knowledge management	5	Chowdhury et al. 2023; Minbaeva 2021; Oehlhorn et al. 2020; Sakka et al. 2022; Zirar et al. 2023
Assess cost-benefit of HRM technology	3	Singh & Malhotra 2020; Shet et al. 2021; Tuffaha 2021

Subtheme 2.3: Promotion of technology – human collaboration		
Promote human-AI/ machine/technology collaboration	4	Popo-Olaniyan et al. 2022; Sakka et al. 2022; Schultz 2021; Tripathi et al. 2022
Understand when to rely on AI-generated insights or harness human judgment	2	Popo-Olaniyan et al. 2022; Sakka et al. 2022
Subtheme 2.4: Technology design		
Understand programming and technology design, e.g., natural language processing, machine learning algorithms, building prototypes and other AI programmes	9	Abdeldayem & Aldulaimi 2020; Bukartaite & Hooper 2023; Chowdhury et al. 2023; Conceição et al. 2023; Samarasinghe & Medis 2020; Santana & Díaz-Fernández 2023; Shet & Pereira 2021; Veldsman & Coetzee 2022; Zirar et al. 2023
Understand digital transformation and process automation	4	Abdeldayem & Aldulaimi 2020; Bukartaite & Hooper 2023; Popo-Olaniyan et al. 2022; Shet & Pereira 2021
Translate business challenges into mathematical equations to develop new models	2	Minbaeva 2021; Tripathi et al. 2022
Subtheme 2.5: Technology maintenance		
Systems evaluation and operational maintenance skills	4	Chowdhury et al. 2023; Conceição et al. 2023; Tripathi et al. 2022; Tuffaha & Perello-Marin 2021
Ability to solve technological problems	2	Bukartaite & Hooper 2023; Conceição et al. 2023
Subtheme 2.6: Technology-driven decision-making abilities		
Proficiency in statistical and technological analysis for actionable conclusions and decision-making	12	Alan 2023; Chowdhury et al. 2023; Huang et al. 2023; Minbaeva 2021; Popo-Olaniyan et al. 2022; Sakka et al. 2022; Santana & Díaz-Fernández 2023; Schultz 2021; Shet et al. 2021; Tripathi et al. 2022; Veldsman & Coetzee 2022; Zirar et al. 2023
Proficiency in data analytics (especially HRM analytics) that drive decision-making	8	Bukartaite & Hooper 2023; Popo-Olaniyan et al. 2022; Samarasinghe & Medis 2020; Sengupta et al. 2023; Singh & Malhotra 2020; Shet & Pereira 2021; Schultz 2021; Tripathi et al. 2022
Research and data mining skills	7	Bukartaite & Hooper 2023; Huang et al. 2023; Sakka et al. 2022; Samarasinghe & Medis 2020; Santana & Díaz-Fernández 2023; Sengupta et al. 2023; Singh & Malhotra 2020
Subtheme 2.7: Knowledge about the impact of technology		
Be abreast with the legal implications of ubiquitous technology on employees and the organisation and monitor it	4	Alan 2023; Popo-Olaniyan et al. 2022; Sakka et al. 2022; Santana & Díaz-Fernández 2023
Understand the capabilities and limitations of technology	3	Chowdhury et al. 2023; Shet & Pereira 2021; Popo-Olaniyan et al. 2022
Ensure cyber security	2	Bukartaite & Hooper 2023; Sagaya & Momin 2020
Ensure ethical and moral principles around AI-based solutions	3	Chang 2021; Chowdhury et al. 2023; Popo-Olaniyan et al. 2022
Subtheme 2.8: Social media leadership		
Master digital media	2	Piwowar-Sulej 2021; Santana & Díaz-Fernández 2023
Leverage social resources to innovate and respond to internal and external changes	1	Conceição et al. 2023

THEME 3: ABILITY TO ADVANCE HUMAN CAPABILITY		
Subtheme 3.1: HRM planning		
Agile and long-term Smart workforce Smart planning	4	Abdeldayem & Aldulaimi 2020; Popo-Olaniyan et al. 2022; Sagaya & Momin 2020; Tripathi et al. 2022
Allocate tasks/ responsibilities	3	Dzwigol et al. 2020; Jani et al. 2021; Oehlhorn et al. 2020
Resource allocation	3	Chowdhury et al. 2023; Conceição et al. 2023; Sakka et al. 2022
Plan digital HRM strategy and roadmap and implementation	2	Jani et al. 2021; Schultz 2021
Accurately plan HRM functional duties	1	Dzwigol et al. 2020
Subtheme 3.2: Staff recruitment		
Design and deliver efficient HRM staffing	2	Jani et al. 2021; Shet & Pereira 2021
Subtheme 3.3: People management		
Workforce management skills	4	Bukartaite & Hooper 2023; Lumi 2020; Schultz 2021; Singh & Malhotra 2020
Coordinate and motivate the workforce in line with work plan	3	Chowdhury et al. 2023; Sakka et al. 2022; Singh & Malhotra 2020
Design relevant people practice	2	Jani et al. 2021; Veldsman & Coetzee 2022
Define goals or agendas for employees in line with organisational objectives	2	Chowdhury et al. 2023; Shet & Pereira 2021
Design clear communication mechanisms with and among employees	1	Chowdhury et al. 2023
Subtheme 3.4: Culture development and maintenance		
Foster a culture of proactivity and forward-thinking	6	Alfawaire & Atan 2021; Chowdhury et al. 2023; Conceição et al. 2023; Cunha et al. 2020; Popo-Olaniyan et al. 2022; Sagaya & Momin 2020; Shet & Pereira 2021
Create a strong corporate culture	3	Chowdhury et al. 2023; Dzwigol et al. 2020; Veldsman & Coetzee 2022
Promote a culture where humans and machines can interact positively	3	Chowdhury et al. 2023; Popo-Olaniyan et al. 2022; Schultz 2021
Oversee a culture of continuous improvement and adaptation	3	Popo-Olaniyan et al. 2022; Schultz 2021; Stuart et al. 2021
Foster a collaborative and conducive working environment that encourages creativity and innovation	2	Chowdhury et al. 2023; Schultz 2021
Subtheme 3.5: Performance management		
Manage performance	5	Chowdhury et al. 2023; Jani et al. 2021; Sagaya & Momin 2020; Sakka et al. 2022; Stuart et al. 2021
Manage the flow and turnover of employees	3	Jani et al. 2021; Popo-Olaniyan et al. 2022; Veldsman & Coetzee 2022
Coaching and counselling	2	Bukartaite & Hooper 2023; Tripathi et al. 2022
Mentorship abilities	1	Tripathi et al. 2022
Subtheme 3.6: Compensation management		
Design and deliver efficient, rewarding and promoting strategies	1	Jani et al. 2021

Subtheme 3.7: Staff engagement		
Understand employee needs and possible outcomes	3	Abdeldayem & Aldulaimi 2020; Chowdhury et al. 2023; Tripathi et al. 2022
Able to deliver personalised HRM	2	Huang et al. 2023; Santana & Díaz-Fernández 2023
Be a trusted HRM champion	3	Jani et al. 2021; Stuart et al. 2021; Veldsman & Coetzee 2022
Develop HRM 4.0 policies for the next generation	2	Schultz 2021; Tripathi et al. 2022
Build mutual exchange between the firm and employees	2	Oehlhorn et al. 2020; Stuart et al. 2021
Subtheme 3.8: Talent development		
Promote continuous learning and development.	11	Alan 2023; Conceição et al. 2023; Cunha et al. 2020; Dzwigol et al. 2020; Popo-Olaniyan et al. 2022; Sagaya & Momin 2020; Santana & Díaz-Fernández 2023; Schultz 2021; Shet & Pereira 2021; Tripathi et al. 2022; Veldsman & Coetzee 2022
Design and deliver efficient training	4	Conceição et al. 2023; Jani et al. 2021; Samarasinghe & Medis 2020; Santana & Díaz-Fernández 2023
Identify current and future skill gaps	3	Abdeldayem & Aldulaimi 2020; Dzwigol et al. 2020; Popo-Olaniyan et al. 2022
Align training with organisational objectives to improve organisational performance	3	Conceição et al. 2023; Popo-Olaniyan et al. 2022; Veldsman & Coetzee 2022
Develop HRM 4.0 policy on emerging skill shortages in key areas	2	Popo-Olaniyan et al. 2022; Schultz 2021
Subtheme 3.9: Employee wellbeing, health and safety competence		
Ability to support employees' health and wellness	6	Bukartaite & Hooper 2023; Cunha et al. 2020; Sagaya & Momin 2020; Santana & Díaz-Fernández 2022; Sakka et al. 2022; Stuart et al. 2021
Subtheme 3.10: Industrial relations management		
Understand labour relations and legal requirements, including the use of artificial intelligence	2	Chowdhury et al. 2023; Sakka et al. 2022
Solve internal conflicts and employee grievances	2	Chowdhury et al. 2023; Sakka et al. 2022
Subtheme 3.11: Diversity, equity and inclusion competence		
Understand contemporary laws, legal instruments and requirements and establish safeguards to ward off materially discriminatory decisions and ensure transparency, accountability, and protection of workers' privacy	2	Bukartaite & Hooper 2023; Sakka et al. 2022
Equality, diversity, and inclusion	1	Bukartaite & Hooper 2023

THEME 4: VALUE-ADDING BUSINESS COMPETENCIES		
Subtheme 4.1: Business knowledge		
Multidisciplinary/cross-disciplinary knowledge	7	Bukartaite & Hooper 2023; Shet et al. 2021; Singh & Malhotra 2020; Tripathi et al. 2022; Piwowar-Sulej 2021; Veldsman & Coetzee; 2022; Vrontis et al. 2021
Align HRM practices to organisational strategy	6	Jani et al. 2021; Harney & Collings 2021; Sakka et al. 2022; Singh & Malhotra 2020; Tripathi et al. 2022; Popo-Olaniyan et al. 2022
Planning abilities	5	Alfawaire & Atan 2021; Dzwigol et al. 2020; Piwowar-Sulej 2021; Shet & Pereira 2021; Santana & Díaz-Fernández 2023
Understand business architecture	4	Chowdhury et al. 2023; Shet & Pereira 2021; Tripathi et al. 2022; Piwowar-Sulej 2021
Have financial intelligence	3	Sakka et al. Maknouzi & Sadok 2022; Samarasinghe & Medis 2020; Shet & Pereira 2021
Manage resources using a holistic system or integrated approach	2	Nawaz et al. 2021; Singh & Malhotra 2020
Influence decisions in the organisation	2	Shet & Pereira 2021; Veldsman & Coetzee 2022
Create value for stakeholders	2	Minbaeva 2021; Sakka et al. 2022
Possess global business intelligence	2	Cunha et al. 2020; Veldsman & Coetzee 2022
Effective project management	2	Popo-Olaniyan et al. 2022; Shet & Pereira 2021
Use multiple scenario analysis to address challenges	1	Cunha et al. 2020
Subtheme 4.2: Entrepreneurial capacities		
Entrepreneurial abilities	3	Bukartaite & Hooper 2023; Dzwigol et al. 2020; Santana & Díaz-Fernández 2023
Customer oriented	3	Conceição et al. 2023; Lumi 2020; Shet & Pereira 2021
Identify problems and opportunities	1	Shet & Pereira 2021
Design measures for competitive edge	1	Shet & Pereira 2021
Cope in complex and competitive environments	1	Alan 2023
Business development	2	Bukartaite & Hooper 2023; Shet & Pereira 2021
Have both focal and peripheral vision	1	Cunha et al. 2020
Subtheme 4.3: Change management		
Drive agility	7	Bukartaite & Hooper 2023; Jani et al. 2021; Minbaeva 2021; Oehlhorn et al. 2020; Popo-Olaniyan et al. 2022; Schultz 2021; Shet & Pereira 2021
Initiate, support and manage change	6	Bukartaite & Hooper 2023; Cunha et al. 2020; Jani et al. 2021; Sagaya & Momin 2020; Sakka et al. 2022; Tripathi et al. 2022
Drive sustainability for employees and the society HRM	3	Bukartaite & Hooper 2023; Piwowar-Sulej 2021; Shet & Pereira 2021
Manage disruptive change.	3	Bukartaite & Hooper 2023; Chowdhury et al. 2023; Santana & Díaz-Fernández 2023
Shape the workforce to thrive in the AI-driven future	2	Popo-Olaniyan et al. 2022; Veldsman & Coetzee 2022

Source: Authors from data analysis.

After achieving the results presented in Table 2, we used Artificial Intelligence (AI) to check the alignment of our findings with global research. First, we used

Elicit, which is an innovative AI-powered tool designed to automate key tasks in the literature review process (Byun & Stuhlmüller 2023), thereby revolutionising how researchers engage with academic literature. Elicit uses advanced language models to streamline literature retrieval, summarise key information, extract and synthesise data, classify articles into a structured research matrix, and provide citation graphs for critical evaluation (Kung 2023, Whitfield & Hofmann 2023). This allows researchers to quickly access research-backed searches, accelerate the literature review process, enhance the depth and rigour of research, and uncover patterns and trends that might otherwise go unnoticed. Hence, it saves time and effort and generates new perspectives and frameworks. Elicit provides more than just search results; it offers concise, actionable insights, bridging the gap between finding papers and understanding them in context. Search terminology was entered into Elicit to search for articles related to "future human resource management individual competencies." Search results pointed to strategic planning, change management, aligning HR objectives with business goals, resilience, critical thinking, employee engagement, cultural integration, talent development, diversity management, cross-cultural communication, adaptability, and digital literacy, which will require a combination of core, leverage, and role-specific skills within a remote work environment where men and machines interact (Elicit 2024).

Secondly, we used Poe which is a dynamic AI platform that accesses, stores, and organises literature and data with multiple AI entities and synthesises research across different platforms (Poe 2024). An instruction was given to Poe to provide information on the "future human resource management individual competencies". The following key future-oriented competencies for HR professionals emerged: digital and technological literacy, including HR tech platforms; familiarity with AI, machine learning, and automation in HR operations; leveraging predictive analytics for workforce planning and decision-making; understanding cyber security relevant to protecting sensitive employee data; as well as managing virtual collaboration platforms and remote work. They also need data-driven decision-making skills, an understanding of HR analytics and technical analytical tools, the ability to translate data into actionable strategies, and an understanding of HR metrics. Furthermore, they need emotional intelligence, along with strong interpersonal skills, to manage stakeholders and resolve conflicts across different generations. In addition, strategic thinking and business acumen are needed to contribute to overall business success. These include understanding key business drivers, designing workforce strategies, scenario planning, and risk assessment. They also need competencies in diversity, equity, and inclusion to deliver HR functions successfully. Future HR professionals need change management and agility competencies to lead organisational change and build resilience and adaptability. This will require them to be able to re-skill and up-skill the workforce and promote continuous learning. Ethical leadership and compliance are also essential in terms of knowing local and global labour laws and promoting ethical decision-making. HR professionals need talent management abilities to enhance employee experiences, design personalised career development plans, and performance management systems, engage employees, and promote employee well-being. Cross-cultural and global competencies are needed to understand and design policies in line with cultural nuances in multicultural teams.

This will entail skills in communication, leadership, global mobility, and expatriate programmes. It is equally important that future HR professionals be able to conduct future workforce planning, including workforce forecasting, identifying skills gaps, managing gig workers, freelancers, and contractors, as well as adapting to work-life integration trends. Lastly, HR professionals of the future need knowledge of sustainability and corporate social responsibility and should be able to integrate it into HR policies and environmental initiatives (Poe 2024).

Findings from the AI tool (i.e., Elicit and Poe) are in line with the findings from the manual analysis done using Microsoft Excel presented in Table 2. Hence, the use of Elicit AI tools validated the findings in this article and enhanced trustworthiness.

Discussion

A discussion of each theme is presented below.

Theme 1: Intrapersonal and Interpersonal Competencies

Table 2 shows that competencies that have to do with intrapersonal and interpersonal competencies. It indicates that the HRM professional needs intrapersonal and interpersonal competencies. On the one hand, HRM professionals must have self-knowledge, self-control, and professional abilities to exercise their HRM role effectively. They also need to be lifelong learners and self-starters as well as agile, resilient, objective, and motivated. The present-day HRM professional also needs cognitive intelligence, flexibility, analytical and critical thinking, design thinking and out-of-the-box thinking skills to make effective decisions, solve complex business problems, adapt to different environments, thrive during uncertain times, and drive innovation within the HRM function. On the other hand, they should possess interpersonal competencies such as emotional intelligence and team spirit that will enable them to relate, communicate, collaborate, partner and work with stakeholders from different cultures and backgrounds.

Previous findings confirm that key intrapersonal personal attributes of HRM professionals include self-confidence, humility, honesty, agility, respect, professionalism, commitment, proactiveness and ethical values (Botha et al. 2018, Chytiri 2019, Koenig 2011, Laker 2022, Saha 2021, Schultz 2022). In the same vein, research also emphasises interpersonal skills such as trust building, teamwork, networking skills, support, open communication, people management skills, collaboration, and cultural sensitivity (Chytiri 2019, Koenig 2011, Laker 2022, Schultz 2021a, Ulrich et al. 2021, Van den Berg et al. 2020). Previous scholars have also confirmed that cognitive intelligence, flexibility, as well as analytical and critical thinking are vital for the modern HRM professional as they enable them to be proactive, resilient and to solve problems (Chytiri 2019, Saha 2021, Schultz 2022). The HRM function is one that primarily deals with people, hence the need for robust intrapersonal and interpersonal competencies.

Theme 2: Information and Technology Competencies

The findings presented in Table 2 provide evidence that information and technology competencies are of essence for the future human resource manager professional. HRM professionals of the technological revolution should be digitally literate enough to use technology appropriately, integrate and implement the right technologies in a virtual environment, and encourage the use and adoption of technology within the organisation and the HRM department. Moreover, HRM professionals should promote knowledge sharing and technology–human collaboration. They need to understand and decide whether it is more beneficial for some functions to be performed by artificial intelligence or by humans. In addition, HRM professionals should be able to design programmes, technological systems, and models such as natural language processing and machine learning algorithms and build prototypes of AI programmes. This will empower them to understand process automation, scrutinise technology-generated data and solve technology-related challenges easily. More importantly, the HRM manager needs to understand the capabilities and limitations of technology and ensure that ethical standards, fairness, transparency, and accountability are in line with changing legal requirements about the use of technology and its output within the workplace. This will protect the organisation from legal disputes that may arise. Moreover, with social media gaining ground, the HRM professional needs to master and leverage digital media and social resources to innovate and respond to internal and external changes.

Past research has confirmed that the ability to use technology and technological tools is required in this technological era (Malik et al. 2020, Schultz 2021a). Prior scholars also affirm that HRM professionals should have digital skills and digital dexterity to be able to use technology to generate analytics to forecast and make data-driven decisions, increase productivity, drive business, and support the HRM function (Chytiri 2019, Mikalef & Gupta 2021, Schultz 2022, Ulrich et al. 2021, Van Vulpen & Veldsman 2022). Likewise, scholars also confirm that it is now imperative for the HRM professional to know how to plan and implement digital technologies (Chytiri 2019, Mikalef & Gupta 2021, Schultz 2022) and develop HRM automated systems and programmes (Malik et al. 2020, Schultz 2021a, Ulrich et al. 2021). In addition, previous research also highlights that the HRM professional should understand the capabilities and limitations of AI (Mikalef et al. 2021). This will enable them to detect possible security issues, privacy breaches, and discriminatory outcomes so that they can strategise and develop policies to deal with ethical ambiguity around technology-human collaboration (Botha et al. 2018, Coetzee & Veldsman 2022, Mikalef & Gupta 2021, Schultz 2021a). Information technology plays an increasingly critical role in shaping HRM. HR professionals must acquire competencies in using technology to optimise employee processes, manage data, and convert external trends into strategic insights (Aguinis et al. 2024, Böhmer & Schinnenburg 2023, Joseph et al. 2021). With the increasing use of technology within the workplace, HRM professionals can no longer sit back and watch, they need to take the lead to drive, design and implement technological systems within the HRM function.

Theme 3: Ability to Advance Human Capabilities

Competencies related to advancing human capabilities were also vital as presented in Table 2. Despite the evolution of the HRM role, HRM managers must still deliver on HRM planning, recruitment and selection, people management, performance management, compensation, staff engagement, industrial relations and employee wellbeing, health, and safety. These functions should be executed within an appropriate digital and learning culture. HRM managers must develop human competencies to improve individual talent and organisational performance by delivering effective and inclusive HRM solutions to achieve this. They need special knowledge of the present and future skills required for the organisation to succeed. HRM professionals should also be able to develop learning and development initiatives to increase performance and prepare the workforce for the future.

These findings are aligned with prior studies confirming that the HRM professional should continuously promote, empower, and invest in workforce development (Gallardo-Gallardo & Collings 2021, McCartney et al. 2021). Schultz (2021b) stresses the need for HR to foster engagement, employment relations, and resilience. This should be in line with the long-term business and performance goals of the organisation (Schultz 2021a, Sen 2020, Ulrich et al. 2021). Balasundaram (2020) also confirms the critical role of HR in workforce shaping, culture alignment, employee experience design, and workforce insights relevant for organisational success amidst workplace transformations. Furthermore, Chytiri (2019) agrees that although the HRM role has evolved to embrace technology, the roles of strategic partner, change agent, employee developer and employee champion are very relevant. These functions are incorporated into traditional HRM functions such as recruitment and selection, human resource planning, compensation, job analysis, performance appraisal, and development (Baakeel 2020). Thus, HRM professionals are still expected to execute conventional functions, as part of their duties in the digital economy.

Theme 4: Value-adding Business Competencies

We also discover from Table 2 that accelerating business results and adding value is now a viral competency for the HRM. HRM professionals should focus on business outcomes and have a peripheral vision to identify challenges and opportunities in the market to develop a competitive advantage for the organisation. They should also possess business and financial intelligence to influence business decisions. Moreover, they need to align HRM to operational and corporate strategies in ways that create value for stakeholders within a volatile environment. This will require cross-disciplinary knowledge in HRM, behavioural science, technology, mathematics, data science, information management and business.

These findings have been confirmed by previous research that discovered that in addition to standard HRM capabilities, the HRM professional must develop core business acumen to leverage business opportunities, contribute towards strategic decisions and position the HRM functions to serve corporate interests within an ever-changing environment (Botha et al. 2018, Chytiri 2019, Coetzee & Veldsman 2022, Van Vulpen & Veldsman 2022). Past research also confirms that this will require

cross-disciplinary competencies such as data analysis and business and project management (Malik et al. 2020, McCartney et al. 2021). This is in synchrony with Schultz's (2021a) finding that functional HRM competencies are no longer enough for successful HRM careers, as diverse skills are required for HRM managers to harness opportunities in this revolutionary era (Saha 2021, Ulrich et al. 2021, Van den Berg et al. 2020). Hence, HRM professionals need business competencies that will enable them to add value to business operations at a strategic level.

Hence, the future of HRM requires professionals to develop competencies in several areas, including intrapersonal and interpersonal skills, technology proficiency, human capability development, and business alignment. With the increasing complexity of work, rapid technological advances, and organisational change, HR professionals must continuously acquire new competencies that will enable them to effectively navigate challenges, enhance organisational success, and maintain relevance in a rapidly changing business environment.

We therefore present framework for future HRM competencies for HR personnel in Figure 3.

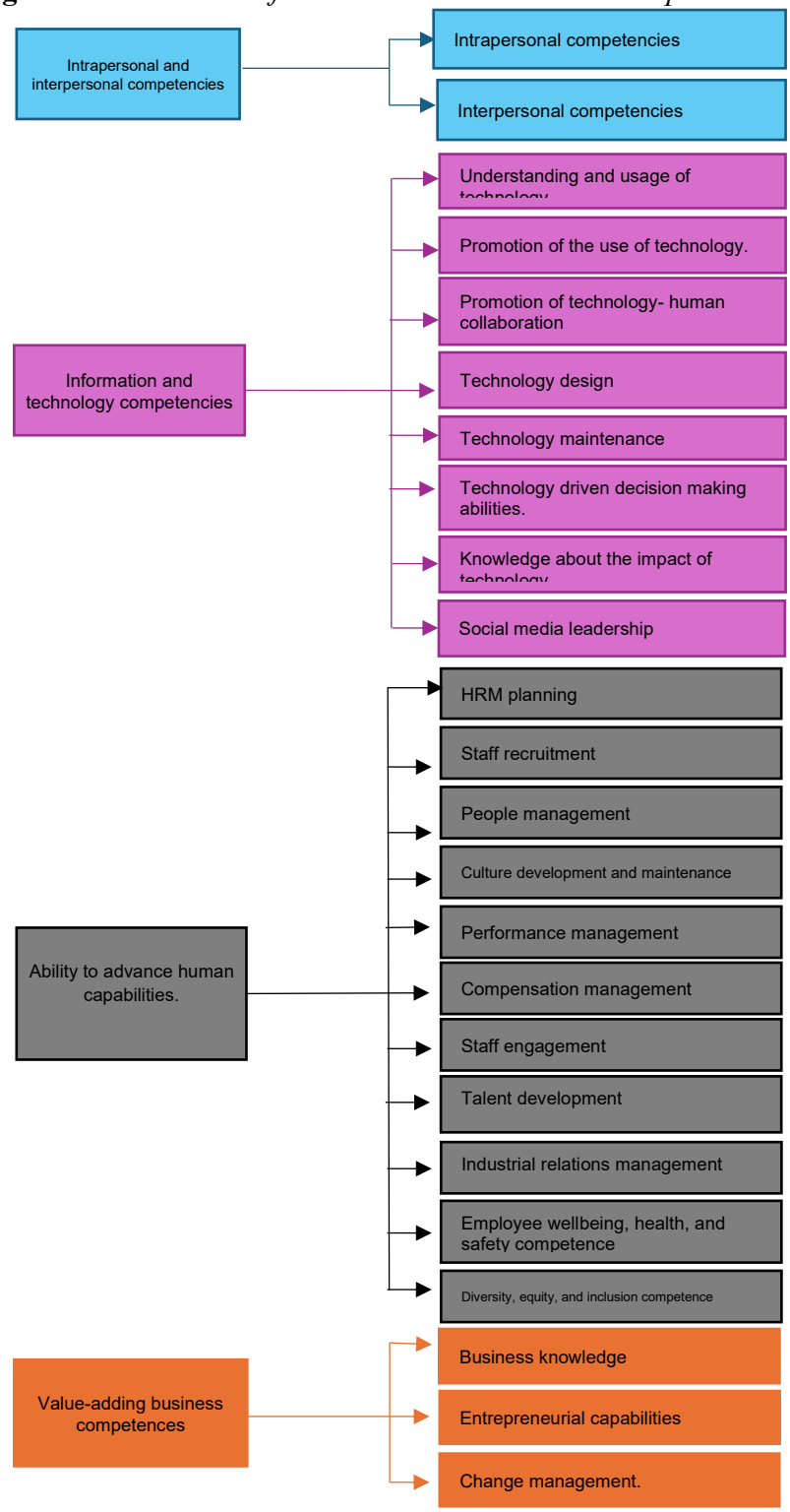
In summary, findings from this study (see Figure 3) reveal that the main future HRM competencies include intrapersonal and interpersonal, information and technology, the ability to advance human capabilities, and value-adding business competencies. In addition to the alignment of findings from this article to previous research discussed above, findings are also aligned to the HRM competency model of Ulrich et al. (2021) discussed in the conceptual background section. This also ties in AI search results (Elicit 2024, Poe 2024) as presented in the result section.

Step 7: Disseminating the Findings

The last step of the integrative review is to distribute the findings among scholars and HRM practitioners. To achieve this purpose, this article will be published in this journal.

The last part of this paper provides the limitations of this research, future orientation, recommendations, and conclusion.

Figure 3. *A Framework for Future HRM Individual Competencies*



Source: Authors.

Limitations and Future Orientation

Firstly, the findings cannot be generalised due to the limitation of the articles reviewed which were selected using specific selection criteria. For example, only peer-reviewed journal articles from selected databases published in English within the set timeframe were searched using specific keywords. This could have restricted the access of the Boolean operators to some relevant other publications. Also, books were not included and possible valuable information from books would be missing.

Future research should be oriented towards identifying the future human resource management competencies based on empirical data within a specific setting. Findings from this study can be used to develop a questionnaire or interview guide to investigate the demographic differences in how HRM professionals perceive future HRM competencies. Other reviews can include books and articles in other languages to broaden the scope of findings.

Practical Recommendations

Practical recommendations, based on each identified theme, are discussed below:

- Theme 1: Intrapersonal and interpersonal competencies: To thrive in the future, HRM professionals cannot afford to work in silos, and they should therefore collaborate with internal and external stakeholders to ensure they address their needs. HRM professionals therefore need to obtain intrapersonal and interpersonal competencies to assist them in properly executing their functions.
- Theme 2: Information and technology competencies: We are already in Industry 4.0 and HRM professionals cannot afford to be left behind when it comes to technology such as AI, automation and augmentation. HRM professionals should ensure that they get the necessary training to equip them to use information and technology in their work environments optimally.
- Theme 3: Ability to advance human capabilities: HRM professionals should obtain knowledge and skills to enable them to ensure proper HRM planning, staff recruitment, managing people, developing and maintaining the organisational culture, managing performance, managing compensation, engaging with staff, developing talent, ensuring employee wellbeing, health and safety, managing industrial relations as well as managing diversity, equity and inclusion,
- Theme 4: Value-adding business competencies: As business partners, HRM professionals should ensure that they understand the business to add value. The necessary training to be business savvy is therefore essential.

The future of HR faces significant challenges and opportunities due to technological advancements, globalisation, and changing workforce dynamics presenting both opportunities and challenges for HR professionals thus requiring new competencies and strategies (Daraojimba et al. 2023, Schultz 2021b, Vandy & Mohanty 2023). Key trends include automation, AI, remote work, and the gig economy, which are

transforming traditional work structures and necessitating new HR competencies (Schultz 2021b, Vandy & Mohanty 2023). HR must be competent to deal with, and adapt by developing strategies for reskilling, upskilling (Daraojimba et al. 2023, Schulte, 2024), and managing diverse, geographically dispersed workforces to ensure employee adaptability and well-being in a rapidly evolving job market (Daraojimba et al. 2023, Timane & Wandhe 2023, Vandy & Mohanty 2023). Ethical considerations, such as data privacy and employee well-being (Pastor-Escuredo et al. 2021, Daraojimba et al. 2023) and algorithmic bias (Schulte 2024), are becoming increasingly important. Ethical behaviour has become crucial for organisations; however, ethical competencies are often absent from competency models due to ideation, conceptualisation, and implementation challenges (Dutta et al. 2022).

The role of HR is evolving from a transactional function to a strategic partner in organisational decision-making, aligning human capital with corporate goals (Daraojimba et al. 2023). To prepare for the future, HR professionals need to focus on engagement, employment relations, and resilience while embracing innovative practices and collaborating with diverse stakeholders (Schultz 2021b, Vandy & Mohanty 2023).

Conclusion

The purpose of this article was to develop a framework for future HRM individual competencies. Through the lens of the role theory and the AI job replacement theory, we conducted an integrative review to integrate the competencies required to successfully execute the HRM role now and in the future technological era. Firstly, findings reveal that HRM practitioners should possess intrapersonal and interpersonal competencies. Secondly, they should be able to mobilise information and use technology to make data-driven decisions. Thirdly, they need competencies that will enable them to develop human capabilities within the firm. Fourthly, HRM professionals should have the requisite business knowledge to add value to the organisation. In conclusion, the HRM profession is becoming multidisciplinary, with increasing demands for technological, information, business, behavioural, data and change management skills which are relevant to the ever-changing business and technological spaces. Hence, for future HRM professionals to successfully perform their roles and functions in this dynamic technological environment, they will need to add other critical competencies to their conventional HRM knowledge as depicted in the future HRM individual competency framework proposed in this study.

References

Abdeldayem MM, Aldulaimi SH (2020) Trends and opportunities of artificial intelligence in human resource management: Aspirations for public sector in Bahrain. *International Journal of Scientific Technology Research* 9(1): 3867–3871.

Aguinis H, Beltran JR, Cope A (2024) How to use generative AI as a human resource management assistant, *Organizational Dynamics* 53(1): 1–7.

Ahmed SK (2024) The pillars of trustworthiness in qualitative research. *Journal of Medicine, Surgery, and Public Health* 2(Apr): 1–4.

Alan H (2023) A systematic bibliometric analysis on the current digital human resources management studies and directions for future research. *Journal of Chinese Human Resource Management* 14(1): 38–59.

Alfawaire F, Atan T (2021) The effect of strategic human resource and knowledge management on sustainable competitive advantages at Jordanian universities: The mediating role of organizational innovation. *Sustainability* 13(15): 8445.

Baakeel OA (2020) The association between the effectiveness of human resource management functions and the use of artificial intelligence. *International Journal of Advanced Trends in Computer Science and Engineering* 9(1): 606–612.

Balasundaram S (2020) HR 20/20: Developing future-ready HR Capabilities. *Ushus Journal of Business Management* 19(4): v–xviii.

Bless C, Higson-Smith C, Sithole S (2013) *Fundamentals of social research methods: an African perspective.* 5th edition. Cape Town: Juta.

Böhmer N, Schinnenburg H (2023) Critical exploration of AI-driven HRM to build up organizational capabilities, *Employee Relations* 45(5): 1057–1082.

Botha CT, Schultz CM, Bezuidenhout A (2018) A generic competency framework for labour relations practitioners in the South African Public Service. *South African Journal of Labour Relations* 42(May): 1–28.

Bryndin E (2020) Formation of technological cognitive reason with artificial intelligence in virtual space. *Britain International of Exact Sciences (BIoEx) Journal* 2(2): 450–461.

Bukartaite R, Hooper D (2023) Automation artificial intelligence and future skills needs: An Irish perspective. *European Journal of Training and Development* 47(10): 163–185.

Byrne D (2022) A worked example of Braun and Clarke's approach to reflexive thematic analysis. *Quality & Quantity* 56(3): 1391–1412.

Byun J, Stuhlmüller A (2023) Elicit: Language models as research tools. In *OECD, Artificial Intelligence in Science: Challenges, Opportunities and the Future of Research*. Paris: OECD Publishing.

Carroll A, McCrackin J (1997) The competent use of competency-based strategies for selection and development. *Performance Improvement Quarterly* 11(3): 45–63.

Cayrat C, Boxall P (2023) The roles of the HRM function: A systematic review of tensions continuity and change. *Human Resource Management Review* 33(4): 1–26.

Cheetham G, Chivers G (1998) The reflective (and competent) practitioner: A model of professional competence which seeks to harmonise the reflective practitioner and competence-based approaches. *Journal of European Industrial Training* 22(7): 267–276.

Chen QA, Zhao X, Zhang X, Jiang Z, Wang Y (2024) Driving forces of digital transformation in Chinese enterprises based on machine learning. *Scientific Reports* 14(Mar): 6177.

Chowdhury S, Dey P, Joel-Edgar S, Bhattacharya S, Rodriguez-Espindola O, Abadie A, Truong L (2023) Unlocking the value of artificial intelligence in human resource management through AI capability framework. *Human Resource Management Review* 33(1): 1–21.

Chytiri AP (2019) Human resource managers' role in the digital era. *SPOUDAI Journal of Economics and Business* 69(1–2): 62–72.

Coetzee M, Veldsman D (2022) The digital-era industrial/organisational psychologist: Employers' view of key service roles skills and attributes. *SA Journal of Industrial Psychology/SA Tydskrif vir Bedryfsielkunde* 48: a1991.

Conceição LC, Pereira LF, Dias ÁL (2023) The key competencies for the future of work – A bibliometric study. *Journal of Chinese Human Resource Management* 14(1): 3–37.

Connelly LM (2016) Understanding research: trustworthiness in qualitative research. *MEDSURG Nursing* 25(6): 435–436.

Cronin M A, George E (2023) The Why and How of the Integrative Review. *Organizational Research Methods* 26(1): 168–192.

Cunha E, Pina M, Gomes E, Mellahi K, Miner AS, Rego A (2020) Strategic agility through improvisational capabilities: Implications for a paradox-sensitive HRM. *Human Resource Management Review* 30(1): 100695.

Daraojimba R, Omolar Elufioy, OA, Asuzu, OF, Ndubuisi NL, Feranmi K (2023) The future of work and human resources: A review of emerging trends and HR's evolving role. *International Journal of Science and Research Archive* 11(2): 113–124.

Dutta D, Mishra SK, Budhwar P (2022) Ethics in competency models: A framework towards developing ethical behaviour in organisations. *IIMB Management Review* 34(3): 208–227.

Dzwigol H, Dzwigol-Barosz M, Miskiewicz R, Kwilinski A (2020) Manager competency assessment model in the conditions of Industry 4.0. *Entrepreneurship and Sustainability Issues* 7(4): 2630–2644.

Ekuma K (2023) Artificial intelligence and automation in human resource development: A systematic review. *Human Resource Development Review* 23(2).

Elicit (2024) *Elicit*. Available at: https://elicit.com/notebook/ca27b0ce-1530-4b04-b751-0f048aa7f2c7.

Elsbach KD, van Knippenberg D (2020) Creating high-impact literature reviews: an argument for 'integrative reviews'. *Journal of Management Studies* 57(6): 1277–1289.

Fan D, Breslin D, Callahan JL, Iszatt-White M (2022) Advancing literature review methodology though rigour generativity scope and transparency. *International Journal of Management Reviews* 24(2): 171–180.

Gallardo-Gallardo E, Collings DG (2021) Talent management for the future of work In M Santana, R Valle-Cabrera (eds), *New directions in the future of work,* 35–54. Leeds: Emerald Publishing Limited.

Ghafouri R, Ofoghi S (2016) Trustworthiness and rigor in qualitative research. *International Journal of Advanced Biotechnology and Research* 7(4): 1914–1922.

Google Scolar (2024) *Dave Ulrich*. Available at: https://scholar.google.com/citations?User=jTa6a6QAAAAJ&hl=en.

Graebner M, Martin J, Roundy P (2012) Qualitative data: cooking without a recipe. *Strategic Organisation* 10(3): 276–284.

Harney B, Collings DG (2021) Navigating the shifting landscapes of HRM. *Human Resource Management Review* 31(2021): 1–12.

Hewett R, Shantz A (2021) A theory of HRM co-creation. *Human Resource Management Review* 31(4): 100823.

Hodson R, Sullivan TA (2012) *The social organization of work*. Cengage Learning.

Huang MH, Rust RT (2018) Artificial intelligence in service. *Journal of Service Research* 21(2): 155–172.

Huang X, Yang F, Zheng J, Feng C, Zhang L (2023) Personalized human resource management via HRM analytics and artificial intelligence: Theory and implications. *Asia Pacific Management Review* 28(2023): 598–610.

Jani A, Muduli A, Kishore K (2021) Human resource transformation in India: Examining the role digital human resource technology and human resource role. *International Journal of Organizational Analysis* 31(4): 959–972.

Joseph RM, Thomas A, Abbott P (2021) Information technology competencies for entry-level human resource strategic partners. *SA Journal of Human Resource Management* 19(0): a1327.

Katz D, Kahn R (1966) *The social psychology of organizations.* New York: John Wiley Sons.

Kaufman B (2014) The historical development of American HRM broadly viewed. *Human Resource Management Review* 24(3): 196–218.

Koenig JA (2011) *Assessing 21st century skills: Summary of a workshop.* The National Academies Press.

Kung JY (2023) Elicit (product review). *Journal of the Canadian Health Libraries Association* 44(1): 15–18.

Kutcher AM, LeBaron VT (2022) A simple guide for completing an integrative review using an example article. *Journal of Professional Nursing* 40(May-Jun): 13–19.

Laker B (2022) *How to manage digital talent in a way that makes them stay.* Forbes.

Le Deist FD, Winterton J (2005) What is competence? *Human Resource Development International* 8(1): 27–46.

Lefebvre C, Glanville J, Briscoe S, Littlewood A, Marshall C, Metzendorf MI, et al. (2019) Searching for and selecting studies. *Cochrane Handbook for systematic reviews of interventions*. 2nd Edition. London: Cochrane Collaboration.

Lumi A (2020) The impact of digitalisation on human resources development. *Prizren Social Science Journal* 4(3): 39–46.

Macchi Silva V, Ribeiro L (2020) A discussion on using quantitative or qualitative data for assessment of individual competencies. *Personnel Review* 50(6): 1460–1478.

Malik A, Budhwar P, Srikanth NR (2020) Gig economy 4IR and artificial intelligence: Rethinking strategic HRM. In *Human & Technological Resource Management (HTRM): New Insights into Revolution* 4.0, 75–88. Emerald Publishing Limited.

Margherita A (2021) Human resources analytics: A systematisation of research topics and directions for future research. *Human Resource Management Review* 32(2): 100795.

McCartney S, Murphy C, Mccarthy J (2021) 21st century HRM: a competency model for the emerging role of HRM Analysts. *Personnel Review* 50(6): 1495–1513.

Meduri Y, Yadav P (2021) Automation invading human resources. *Delhi Business Review* 22(1): 65–72.

Mikalef P, Gupta M (2021) Artificial intelligence capability: Conceptualization measurement calibration and empirical study on its impact on organizational creativity and firm performance. *Information Management* 58(3): 103434.

Mikalef P, Lemmer K, Schaefer C, Ylinen M, Fjørtoft SO, Torvatn HY, et al. (2022) Enabling AI capabilities in government agencies: A study of determinants for European municipalities. *Government Information Quarterly* 39(4): 101596.

Minbaeva D (2021) Disrupted HRM? *Human Resource Management Review* 31: 100820.

Morandini S, Fraboni F, De Angelis M, Puzzo G, Giusino D, Pietrantoni L (2023) The impact of artificial intelligence on workers' skills: Upskilling and reskilling in organisations. *Informing Science* 26(Feb): 39–68.

Nawaz N, Gomes AM, Faisal SU (2021) Is the revolution of technologies transforming human resources? *Journal of Management Information and Decision Sciences* 24(3): 1–10.

Niven M (1967) *Personnel management 1913-63: The growth of personnel management and the development of the Institute.* Institute of Personnel Management.

Oehlhorn CE, Maier C, Laumer S, Weitzel T (2020) Human resource management and its impact on strategic business-IT alignment: A literature review and avenues for future research. *The Journal of Strategic Information Systems* 29(4): 101641.

Orosoo M, Raash N, Santosh K, Kaur C, Bani-Younis JMA, Rengarajan M (2023) Exploring the influence of artificial intelligence technology in managing human resource management. *Journal of Theoretical and Applied Information Technology* 101(23): 7847–7855.

Pan Y, Froese FJ (2023) An interdisciplinary review of AI and HRM: Challenges and future directions. *Human Resource Management Review* 33(1): 100924.

Paschen J, Wilson M, Ferreira JJ (2020) Collaborative intelligence: How human and artificial intelligence create value along the B2B sales funnel. *Business Horizons* 63(3): 403–414.

Pastor-Escuredo D., Giacomelli G, Lumbreras J, Garbajosa J (2021) Ethical and sustainable future of work. *Revista Diecisiete: Investigación Interdisciplinar para los Objetivos de Desarrollo Sostenible* (4): 183–192.

Piwowar-Sulej K (2021) Human resources development as an element of sustainable HRM – With the focus on production engineers. *Journal of Cleaner Production* 1–13.

Poe (2024) *Peo*. Available at: https://poe.com/chat/2yx9myp37iwfniinbqs.

Popo-Olaniyan O, James OO, Udeh CA, Daraojimba RE, Ogedengbe DE (2022) Future-proofing human resources in the US with AI: A review of trends and implications. *International Journal of Management Entrepreneurship Research* 4(12): 641–658.

Pritchard K (2010) Becoming an HRM strategic partner: Tales of transition. *Human Resource Management Journal* 20(2): 175–188.

Radonjić A, Duarte H, Pereira N (2022) Artificial intelligence and HRM: HRM managers' perspective on decisiveness and challenges. *European Management Journal* 42(1): 57–66.

Rose J, Johnson C (2020) Contextualizing reliability and validity in qualitative research: toward more rigorous and trustworthy qualitative social science in leisure research. *Journal of Leisure Research* 51(4): 432–451.

Ross P, Maynard K (2021) Towards a 4th Industrial Revolution. *Intelligent Buildings International* 13(3): 159–161.

Sagaya A, Momin MM (2020) Global reverberation and prediction for HRM amid and after COVID-19: A technological viewpoint. *Materials Today: Proceedings* 46(Nov): 1–13.

Saha N (2021) Strategic HRM and organizational agility enable firms to respond rapidly and flexibly to the changing environment In *Encyclopaedia of Organizational Knowledge Administration and Technology*, 2551–2569.

Sakka F, El Maknouzi ME, Sadok H (2022) Human resource management in the era of artificial intelligence: Future HRM work practices anticipated skill set financial and legal implications. *Academy of Strategic Management Journal* 21(S1): 1–14.

Samarasinghe KR, Medis A (2020) Artificial intelligence based strategic human resource management (AISHRM) for Industry 4.0. *Global Journal of Management and Business Research: G Interdisciplinary* 20(2 Version 10): 7–13.

Santana M, Díaz-Fernández M (2023) Competencies for the artificial intelligence age: Visualisation of the state of the art and future perspectives. *Review of Managerial Science* 17(6): 1971–2004.

Schulte, PA (2024). Future developments of work and their ethical dimensions: focus on technological change. *Occupational Medicine* 74(1).

Schultz CM (2021a) The future and the role of human resource management in South Africa during the Fourth Industrial Revolution. *SA Journal of Human Resource Management/ SA Tydskrif vir Menslikehulpbronbestuur* 19(0): a1624.

Schultz CM (2021b) The future of HRM [Online First] In G Sánchez-Gardey, F MartínAlcázar, N García-Carbonell (eds.), *Beyond human resources – Research paths towards a new understanding of workforce management within organizations.* IntechOpen.

Schultz CM (2022) Reinventing strategic human resource management In IL Potgieter, N Ferreira (eds.), *Managing Human Resources: The New Normal*, 9–30. Springer.

Sen S (2020) *Digital HRM strategy: Achieving sustainable transformation in the digital age.* Kogan Page Publishers.

Sengupta A, Lalwani S, Goswami S, Srivastava P (2023) Reinventing HRM functions with SMAC technologies – An exploratory study. *Materials Today: Proceedings* 46(2021): 10169–10174.

Shen Y (2024) Future jobs: Analyzing the impact of artificial intelligence on employment and its mechanisms. *Economic Change and Restructuring* 57(2): 34.

Shenton AK (2004) Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information* 22(2): 63–75.

Shet SV, Pereira V (2021) Proposed managerial competencies for Industry 40 – Implications for social sustainability. *Technological Forecasting Social Change* 173(4): 1–13.

Shet SV, Poddar T, Samuel FW, Dwivedi YK (2021) Examining the determinants of successful adoption of data analytics in human resource management – A framework for implications. *Journal of Business Research* 131(3): 311–326.

Sima V, Gheorghe IG, Subić CJ, Nancu D (2020) Influences of the Industry 40 Revolution on the human capital development and consumer behavior: A systematic review. *Sustainability* 12(10): 1–28.

Singh T, Malhotra S (2020) Workforce analytics: Increasing managerial efficiency in human resource. *International Journal of Scientific and Technology Research* 9(1): 3260–3266.

Snyder H (2019) Literature review as a research methodology: An overview and guidelines. *Journal of Business Research* 104(2019): 333–339.

Stuart M, Spencer DA, McLachlan CJ, Forde C (2021) COVID-19 and the uncertain future of HRM: Furlough job retention and reform. *Human Resource Management Journal* 31(4): 904–917.

Summerfield C (2022) *Natural general intelligence: How understanding the brain can help us build AI.* Oxford University Press.

Suša Vugec D, Pivar J, Stjepić AM (2024) Technological trends in Human Resource Management—Innovation analysis. In C Machado (ed.), *Building the Future with Human Resource Management*. Management and Industrial Engineering. Springer, Cham.

Swaroop S, Sharma L (2022) Employee engagement in the era of remote workforce: role of human resource managers. *Cardiometry* (23): 619–628.

Timane R, Wandhe DP (2023) The Human Element: Adapting HR for the Technological Future. *SSRN Electronic Journal*.

Toronto CE, Remington R (2020) Discussion and conclusion. In Toronto CE, Remington R (eds.), *A step-by-step guide to conducting an integrative review*, 71-83. Spinger.

Torraco RJ (2005) Writing integrative literature reviews: Guidelines and examples. *Human Resource Development Review* 4(3): 356–367.

Tripathi MA, Tripathi R, Yadav US, Shastri RK (2022) Gig economy: Reshaping strategic HRM in the era of Industry 40 and artificial intelligence. *Journal of Positive School Psychology* 6(4): 3569–3579.

Truss C, Gratton L, Hope-Hailey V, Stiles P, Zaleska J (2002) Paying the piper: Choice and constraint in changing HRM functional roles. *Human Resource Management Journal* 21(2): 39–63.

Tuffaha M, Perello-Marin R (2021) Artificial intelligence definition applications and adoption in human resource management: A systematic literature review. *International Journal of Business Innovation and Research* 32(3): 293–322.

Ulrich D (2021) What Is Organization? The Evolving Answer. *Management and Business Review* 1(1): 41–43.

Ulrich D, Ulrich M, Burns EW, Wright P (2021) *New HRMCS 8 competency model focuses on simplifying complexity* Available at: https://wwwrblnet/insights/articles/new-HRMcs-8-competency-model-focuses-on-simplifying-complexity.

Van den Berg MJ, Stander MW, Van der Vaart L (2020) An exploration of key human resource practitioner competencies in a digitally transformed organisation. *SA Journal of Human Resource Management/SA Tydskrif vir Menslikehulpbronbestuur* 18(0): a1404.

Van Vulpen E, Veldsman D (2022*) The current state of HRM competencies: AIHRM research.* Academy to Innovate HRM [AIHRM]. Available at: https://wwwaiHRM com/blog/HRM-competency-research-statistics/#:~:text=Only%2041%20percent%20of%20HRMnot%20only%20react%20to%20them.

Vandy JF, Mohanty S (2023) Future of Work - Opportunities, Challenges and Implications for International, Comparative and Cross-National HRM. *International Journal on Recent and Innovation Trends in Computing and Communication* 11(9): 4300–4306.

Veldsman D, Coetzee M (2022) Professional personas and capabilities of the future people practitioner: A thematic review. *SA. Journal of Human Resource Management/SA Tydskrif vir Menslikehulpbronbestuur* 20(0): a2017.

Vrontis D, Christofi M, Pereira V, Tarba S, Makrides A, Trichina E (2021) Artificial intelligence robotics advanced technologies and human resource management: A systematic review. *The International Journal of Human Resource Management* 33(6): 1237–1266.

Whitfield S, Hofmann MA (2023) Elicit: AI literature review research assistant. *Public Services Quarterly* 19(3): 201–207.

Whittemore R, Knafl K (2005) The integrative review: updated methodology. *Journal of Advanced Nursing* 52(5): 546–553.

Wong SC (2020) Competency definitions development and assessment: A brief review. *International Journal of Academic Research in Progressive Education and Development* 9(3): 95–114.

Young J, Chapman E (2010) Generic competency frameworks: A brief historical overview. *Education Research and Perspectives* 37(1): 1–24.

Zirar A, Ali SI, Islam N (2023) Worker and workplace artificial intelligence (AI) coexistence: Emerging themes and research agenda. *Technovation* 124(102747): 1–17.