

# Examining the Contribution of Human Resources to Digital Transformation: An Overview and Prospective Research Directions

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## **Abstract**

*This paper delves into the changing duties of HR managers considering digital transformation's effect. Employing a literature review methodology, this study explores the significant impact digital technology on HR's functions which contribute to driving business success and competitiveness. Additionally, it represents two avenues for two future research: examining how HR professionals can equip themselves to effectively navigate and capitalize on digital transformation for enhance human resource management; and second, investigating the evolving role of HR business partner, centers of excellence, and HR share services.*

**Keywords:** *Digital Transformation, Human Resources, Future Research*

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## **Introduction**

According to Brain (2009), technology serves to fulfill human purposes. The ongoing technological revolution has created a situation that surpasses the adaptability of both individuals and organizations, and this scenario is expected to improve, as noted by Deloitte in 2017. Many of the currently popular roles in the digital age did not even exist a decade ago, resulting in a lack of existing skills required for these positions. Technology also plays a crucial role in facilitating digital transformation by enabling the adoption of dial tools and processes, thereby enhancing efficiency, agility, and innovation. The reasons driving this transformation include the necessity to remain competitive, to enhance employee experiences, and to streamline operations through data-driven decision-making.

Moreover, the digital age, which amalgamates the physical, digital, and biological realms, has brought about transformative changes in the business environment, particularly in the realm of work. Digital systems support practices designed and implemented by HR managers to manage the workforce effectively and efficiently. Consequently, the role of HR managers is inevitably changing, both in terms of what they do and more important, how they perform their jobs.

To deepen our comprehension regarding the evolving responsibilities of HR managers amidst the impact of digital transformation, this study adopts a literature review approach. As asserted by Astley (1985), a greater understanding of concepts and ideas, rather than mere theory

testing, constitutes the most significant outcomes of research in the social sciences. Accordingly, this article is structured as follows: it introduces the traditional and contemporary roles of HR managers, provides a concise background on digital transformation, examines the influence of the digital age on employees and their jobs, as well as the evolving role of HR. The culmination includes a discussion, conclusions, and recommendations for future research.

### **The traditional and modern responsibilities of HR**

People management originated in the 19<sup>th</sup> century within the United Kingdom's industry and by the 1970s, organizational personnel management encompassed defining roles and activities such as staff recruitment, salary and wage administration, employee benefits, labor relations, training and development, and employee termination (Phinaitrup, 2020; Allen, 198; Alzola, 2018). Furthermore, in the 1980s, a more comprehensive examination of the mission of personnel management revealed that traditional roles were inadequate and lacked the necessary depth to address the challenge inherent in people management within organizations (Stewart & McGoldric, 1996; Boxall & Purcell, 2000). In response to these insights, the Harvard Model of Human Resource Management (Henderson, 2011) was introduced in 1984, marking a shift from personnel management to human resource management. This model focuses on employees' work processes and their alignment with the organization's goals (Bernadian, 2013; Storey, 1989; Storey, 1995; Bratton & Gold, 2007).

In the aftermath of the 1990s, the global business and work environment encountered new challenges. In 1997, David Ulrich introduced a model outlining the roles of human resource professionals, proving to be highly influential and gaining global attention and acceptance. The model identified four key roles for HR managers (Truss, Gratton, Hope-Hailey, Stiles & Zaleska, 2002; Ulrich, 1997; Ulrich, Younger, Brockbank & Ulrich, 2012; Watson, 2010): 1) the strategic partner: this involves being closely related to the organization's strategy, starting from the planning process, setting visions, missions, and translating them into the organization's operational plan; 2) the administrative expert: the human resources department has extensive experience in process design, streamlining work processes ensuring that all employees work efficiently; 3) the employee champion: the human resources department supports employee relations and ensures effective and adaptable work methods amid changes; 4) the change agent: the human resources department serves as a leader of change, overseeing both processes: change initiation and cultural change.

Despite its success, the model has faced criticism for harboring hidden conflicts (Lawler & Mohrman, 2003; Bhatnagar & Sharma, 2005; Lemmergaard, 2009). Ulrich and his associates proposed resolving these conflicts by identifying each party's interests and developing the necessary skills to balance those claims (Andolsek, Primožic & Stebe, 2013; Watson, 2010; Wilkinson, Redman & Dundon, 2017; Yusoff, 2012). In 2012, Ulrich et al. introduced a new framework with six roles for HR managers, addressing challenges in the evolving business and work environment (Beardwell & Thompson, 2017; (Pritchard, 2010; Sparrow, Hird & Cooper, 2015; Strohmeier, Parry & Stefan, 2014; Strohmeier, 2009; Parkes & Davis, 2013): 1) the strategic positioner that helps to develop and implement business strategies; 2) the credible activist that makes sound business decisions and "gets things done": 3) the capability builder that helps to build and ensure that capabilities reflect organizational values; and 4) the change agent develops organizational capacity, overcomes resistance to change and ensures the necessary

resources; 5) the human resource integrator that initiates and integrates HR practices with the business target; and 6) the technology advocator that applies social networking technology to help people and contributes to the effective management of information.

The rapid changes due to digital transformation have heightened the importance of HR in implementing business strategy and fostering flexibility (Fenech, Baguant, Ivanov, 2019; Bell, Lee & Yeung, 2006; Bengtsson & Bloom, 2017). HR managers now face new challenges, necessitating a shift from traditional activities to the emerging role of advocating, adopting, and managing the consequences of digital transformation (Larkin, 2017; Nagendra & Deghoande, 2014; Parry & Strohmeur, 2014; Chytiri, 2019). Technology integration is evident in the HR Business Partner (HRBP), Center of Excellence, and HR Shared Service models, each serving distinct functions within HR management (Kane, Palmer, Phillips, Kiren & Buckley, 2015; Kassim & Sherah, 2012; Bondarouk & Ruel, 2009). The use of technology is taking place in human resource business partner (HRBP), Center of Excellence, HR shared service. HRBP comprises dimensions such as consultants, business experts, knowledge managers, and strategic HR planners that facilitate the HR systems to achieve goals (Bakuwa, 2013). The Center of Excellence is a component of HR operating models. It is a group of subfunctions within HR that use best practices to develop and support critical capabilities that align with organizational priorities (Korn & Pine, 2011; Lemmergaard, 2009). It is staffed with employees that have specific expertise in the area. HR-shared services refer to concentrating administrative HR activities into a centralized “hub” within an organization. They are service-focused, enabling the customers of the shared service to specify the level and nature of the service, and are therefore flexible to the needs of the business (Parry, 2011; Parry & Tyson, 2011).

In sum, the evolving nature of HR roles and the increasing importance of technology integration in enhancing HR effectiveness is amidst digital transformation. It begins to outline the evolution of HR roles as administrative tasks, such as HR planning and recruitment. Then, Dave Ulrich has outlined four essential roles for HR managers: strategic partners, administrative experts, employee champions, and change agents. While successful, this model has faced criticism for potential conflicts within roles. To address these issues, Ulrich and associates advocated for skill development to balance competing interests. They introduced a revised framework with six roles for HR managers, addressing evolving business challenges. These roles include the strategic positioner, the credible activist, the capability builder, the change agent, and the human resource integration and technology advocator, reflecting the increased emphasis on technology and strategic alignment. Hence, the growing significance of HR in leading digital transformation and fostering flexibility within organizations can't be overstated. This necessitates a shift towards advocating, adopting, and managing the consequences of digital transformation. The integration of technology is evident across various HR models, including HR business partner, and center of excellence and HR shared services, each serving distinct functions within HR management.

### **A brief overview of digital transformation**

Digital transformation is more than just a buzzword; it signifies a shift in the scope and direction of organizations and involves adopting new ways of working with stakeholders, constructing new service frameworks, and fostering new forms of relationships (Tratkowska, 2019; Betz, Gorecynski & Ploszajski, 2018; Bennett & Lemoie, 2014). Digital transformation is

related to the use of technologies in the value chain and the changes that affect employees (BMW, 2015; Bowersox, Closs & Drayer, 2005). In addition, it refers to the integration of digital technologies into all aspects of the organization. To comprehend digital transformation, the present discussion is divided into two parts: the evolution of digital transformation and its essential elements.

The computerization began in the early 1990s, and over the last three decades, mobility, cloud computing, the Internet of Things (IoT), augmented reality, social media, and the blockchain have driven enterprises towards new digital customer engagement and IT-enabled processes (Deloitte, 2019; Fitzgerald, Kruschwitz, Bonnet & Welch, 2003). From the mid-2000s onward, smart devices and social platforms have significantly influenced communication methods, creating new channels for customer interaction (Mazzone, 2014; McDonald & Rosewell-Jones, 2012). The rise of new technologies has prompted various industries to explore and exploit technological benefits, resulting in transformations of business models, product portfolios, processes, and organizational structures (Warren & Nanus, 2005; Westerman, McAgee, Bonnet, Calmejan & Ferraris, 2011; Zinder & Yunatova, 2016). Digital transformation is associated with the need to leverage new technologies to stay competitive in the digital age, where services and products are delivered both online and offline (Zinder, Yunatova, 2016). It aims to improve customizability and automation through standardization in online service transformation (Mugge, Gudergan, 2017; Kokkinakos, Markaki, Koussouris & Psarras, 2016; Lee, Lee & Chou, 2017; Martin, 2008). Additionally, it involves rebuilding business models to meet the evolving needs of employees using new technologies (Berman, 2012; Mugge & Gudergan, 2017; Stolterman & Fors, 2004).

In essence, digital transformation integrates technology with strategic processes to bring about changes in work processes and service delivery, leading to increased sales, profits, innovation, and competitiveness (Matt et al., 2015; Hess, et al., 2016; Berman, 2021; Chanas, et al., 2019). An in-depth literature review reveals that the components of digital transformation include integrated technology, personnel competency, organizational strategy, organizational structure, and agility (Trenery, Chny, Wang, Suhaila, Lim, Lu & Oh, 2021; The Enterprisers Project, 2020; Madus create, 2022). Details are as follows: 1) integrated technology refers to the changes resulting from the transition of tools and equipment and technology, such as social network media (Mergel, Edelmann & Haug, 2019; Bernan, 2012; Fountain, 2004); 2) personnel competency respond to the needs of personnel, encompassing service-oriented tasks that incorporate digital adaptations, allowing employees to work in an agile, learning-oriented, quick decision-making, and adaptable manner, enhancing their work abilities (Berman, Baird, Eagan & Marshall, 2020; Jakubik & Berazhny, 2017; Jakubik & Berzzbuy, 2017; Kane, Phillips, Copulsky & Andrus, 2019; Larson & DeChurch, 2020); 3) organizational strategy plays a crucial role with management having a significant role in creating a competitive advantage strategy, attracting capable individuals to work through the use of digital systems—this relies on organizations' strategies to create flexibility and to align operations with the designed digital organizational strategy (Cameron & Quinn, 2006; Caputo, Pizzi, Pellegrini & Dabic, 2021; Jacobs, Wittellostryin & Christe-zeyae, 2013); 4) organizational structure undergoes changes with the use of digital technology, influencing adjustments to the organizational structure such as reductions in workforce and hierarchical levels, while enhancing digital communication patterns (Bilgeri, Wortmann & Fleisch, 2017; Boston Consulting Group, 2015; Jacobs, Wittellostryin & Christe-

zeyae, 2013); and 5) work processes shift towards automation, adapting methods of operation or workflows to be suitable through the advantageous use of digital technology. This leads to the creation of new business models (Baiyere, Salmela & Tapanainen, 2020; Kunisch, Menz & Langan, 2020; Kunisch, Menz & Langan, 2020; Larjovuori, Borid & Heikkila-Tammi, 2018).

These components encompass changes in tools, equipment, and technology, personnel adapting to digital tasks, organizational strategy creating a competitive advantage, adjustments in organizational structure, and the automation of work processes. Digital transformation is not just about adapting to change but driving change and innovation by leveraging technologies to blend virtual and physical worlds. It influences the work environment, organizational structure, and the lives of employees (Tratkowska, 2019; Belz, Gorczynski & Ploszajski, 2018; Bowersox, Closs & Drayer, 2005). In addition, it affects employees, who are considered a long-term investment and are crucial to the fate and success of organizations (Wilson, Goethals, Sorenson & Burns, 2004; April & Dalwai, 2019; Greenwood, 2013; Simoesetal, 2019; Dhanpat, Buthelezi, Joe, Mapheta & Shongwe, 2020). The preceding research indicates diverse conceptualizations of digital transformation, allowing for categorization based on three aspects. First is the organizational aspect, which focuses on organizational processes, idea formulation, value creation, business models, and the extended supply chain as the primary areas of change brought about by digital transformation. Various organizational aspects are highlighted, such as process improvement and adaptation (Agostin & Fillippini, 2019; Eberhard, Podio, Alonso, Radovica, Avotine, 2017; Pruscaru, 2016). According to BMWi, businesses are driven by collected information and are analyzed and translated into actions, with a key emphasis on enhancing and changing existing processes to make them smarter. Second is the technological aspect, which involves the introduction of novelties in technologies and innovations, enabling significant improvements in quality, efficiency, and revenue. Automation, particularly through Robotic Process Automation (RPA) is a key element influencing business, the public sector, and society at large. The latest observations of RPA implementations show advancements in standardized processes, service operations, and monitoring networking devices, leading to improved service and product quality and operational time savings (Ozudagru, Ergun, Anmari & Gorener, 2018; Parry & Battista, 2019). Third is the employee aspect, which encompasses networking, communication channels, employee models, demand, and the creation of new experiences and mindsets among employees. Leveraging data from the mass media, apps, and everyday devices, technology is used to enhance and strongly influence daily work. This results in major changes in employee experience, promoting teleworking teamwork, and emphasizing employee participation as essential in the digital age. The digital transformation process responds to the needs of employees by implementing digital practices that enhance adaptability, decision-making, and agility, thereby improving work capabilities (Bakunia, 2013; Baldassari & Roux, 2017; Pedron, 2018).

In sum, the statement, taken together, offers a thorough summary of digital transformation. It emphasizes how technology is integrated with strategic processes to drive changes in work processes and service delivery, which in turn leads to enhanced sales, profit, innovation, and competitiveness. Digital transformation can be broken down into five key components. The first component is integrated technology which refers to the changes resulting from the transition of tools equipment and technology. The second component is personnel competency, which focuses on adapting personnel to digital tasks, enabling them to work in an agile, learning-oriented, and

adaptable manner. The third component is the organizational strategy which plays a crucial role in creating a competitive advantage using digital systems, fostering flexibility, and aligning operations. The fourth component is organizational structure which undergoes changes influenced by digital technology including reductions in workforce and hierarchical levels, and enhancement of digital communication patterns. The last component is the work processes which shift towards automation, adapting operations or workflows through the advantageous use of digital technology leading to the creation of new business models.

### **The role of human resources in the context of digital transformation**

The primary emphasis of human resource management lies in optimizing organizational performance, with particular emphasis on the role of HR in addressing business challenges (Becker & Huselid, 2006). Human resource management is recognized as a strategic asset for companies, playing a pivotal role in enhancing competitive advantage (Schroeder, 2013). Payne (2010) argues that without a shift towards engagement-focused HR practices, top management may persist in viewing human resources as a financial burden rather than a strategic asset to the company.

According to Bell et al. (2006), the advent of digital transformation has profound implications for the role, capabilities, and competencies of HR within organizations. Additionally, Larkin (2017) contends that the impact of digital technology on HR's role will be all encompassing and multidirectional across all facets of a company. As a result, digitalization goes beyond merely streamlining daily administrative tasks; it also influences core HR functions such as HR planning, recruitment, and selection. Moreover, it introduces new challenges as HR strives to ensure that the organization's human capital is strategically aligned with the requirements of the digital era (Westerman & Bonnett, 2015; Kane et al., 2015; Bharadwaj, 2000)

Hays and Kearney (2001) also discussed how human resource management is highly responsive to shifts in the broader environment, particularly in terms of technological advancements that render conventional personnel practices outdated. The HR's role in the digital age allocates significant time to information management and proficiency in software and digital tools. The evolution of technology is reshaping how HR handles, processes, and stores vast volumes of data. This makes HR managers shift themselves to engage more with IT. Human resources play a pivotal role in leveraging technology to drive business efficiency, effectiveness, and competitive positions. In addition, digitalization profoundly influences HR functions beyond administrative tasks, impacting areas such as performance management, reward management, health and safety. The use of digital tools not only automates HR functions but also facilitates strategic decision-making by collecting, managing, and reporting information. The digital transformation emerges as a strategic tool empowering HR professional to add more value to organizations. In essence, HR's role in the era of digital transformation extends beyond traditional functions to collaboration and participation with other units through digital technologies. It makes HR digital to ensure organizational readiness for the challenges and opportunities during the digital era.

Furthermore, the emergence of digital HR has transformed the role of HR within organizations. According to Kassim et al. (2012), digital technology serves as an empowering tool for HR professionals, enabling them to deliver enhanced value in their roles. Information

technology serves as a mechanism through which HR professionals can augment their contributions to the organization (Ulrich, 1998). Moreover, Kasim et al. (2012) highlight that digital technologies reduce the time required to complete tasks, allowing HR professionals to allocate more time to address organization-wide issues, develop strategies, and drive organizational change efforts.

In sum, digitalization's effect on HR functions can stretch further than mere administrative duties, permeating various areas and exerting influence beyond initial expectation. Digital tools not only automate HR functions but also enable strategic decision-making through the collection, management, and reporting of information. Digital transformation is portrayed as a strategic tool empowering HR professional to contribute more value to organizations. To fulfill this role effectively, HR managers need to collaborate closely with business units, aligning HR strategies with organizational objectives and validating existing systems.

## **Discussion**

Digital transformation has transformed business processes, operations, and structures to exploit the benefits of new technology. According to the literature review, the author found that digital transformation involves integrating digital technology into all areas of a business, fundamentally changing how it operates and delivers value to customers. In addition, digital transformation has transformed HR business processes and operations. The use of technology for HR has greatly impacted HR work, and digital technology has made HR practices and procedures more efficient and effective. Therefore, it has created a new work environment by playing an increasingly prominent role in performing jobs, in terms of the organization's structure and the lives of employees. The role of HR basically is also greatly affected and in multiple ways.

These digital changes revolve around three key areas: digital work, digital employee management, and digital HR (Deloitte, 2017; Diromualdo, El-Khoury & Grimonte, 2018; Bodla & Tang, 2017; Bondarouk & Ruel, 2009; Chytiri, 2019). These three key areas are crucial components of this transformation, and each playing a vital role in reshaping the organizational landscape.

The first area is digital work. It is a significant portion, if not all, the work content has been digitized, requiring employees to possess technical and mental skills for effective information acquisition, processing, production, and usage. Digital technologies have facilitated new forms of organizing work, from virtual workplaces to virtual teams and organizations. E-lancing, for instance, leverages web-based marketplaces for task assignments, challenging traditional HR functions and necessitating unique approaches to leadership, performance feedback, and development. The second area is digital employee management. The role of HR is transforming operational and managerial functions through the planning and implementation of digital technology to support and network the HR profession. Operational functions such as payroll processing and managerial tasks such as compensation, performance management, and development are digitally supported. The positive effects include cost reduction, increased speed and quality of HR processes, enhanced collaboration, trust, and strategic orientation. The third is that digital HR analyzes how the HR function becomes highly relevant in producing adequate human capital. This involves designing competent practices, hiring digitally savvy employees, and

creating a digital workforce (Ulrich, Younger, Brockbank & Ulrich, 2012; Ulrich, Younger, Brockbank & Ulrich, 2013). HR plays a crucial role in launching digital systems, improving work efficiency through tools and modern communication methods in a digital workplace (Prikshat, Biswas, Nankevis & Haque, 2018; Rana & Sharma, 2019). Utilizing digital tools and applications for human resource management enhances employee capabilities, addressing, enhancing, and developing human resources effectively and efficiently in line with organization's strategic goals through digital human resource practices (DiRomualdo, El-Khoury & Girimonte, 2018; El-Khoury, 2017; Iesuthasan, 2017).

In conclusion, digital transformation in the context of the digital work, digital employee management, and digital HR revolves around leveraging digital technologies to empower employees, optimize work processes, enhance employee management practices, and transform HR functions. By embracing digital initiatives in these key areas, organizations can drive innovation, improve agility, and gain a competitive edge in today's rapidly evolving business landscape.

### **Future Research**

Future research examining the contribution of HR to digital transformation is poised to play a crucial role in understanding how HR practices and strategies can facilitate and drive organizational digitalization efforts. Here are some potential areas of investigation and the reasons why they are significant. There are two research questions proposed. The first question is how HR professionals can be prepared to navigate and leverage digital transformation to enhance managerial effectiveness. This research would aim to provide actionable recommendations for enhancing HR management practices in the digital age. By equipping HR professionals with the necessary skills, knowledge, and tools, organizations can effectively harness the power of digital technologies to drive organizational success and achieve strategic objectives. The second question is how the evolving HR roles of HR business partners, centers of excellence, and HR shared services can contribute to improving the management of employee performance. The research should aim to provide actionable insights for organizations seeking to enhance employee performance management practices. By leveraging these strategic HR roles effectively, organizations can align HR initiatives with business objectives.

The first contribution of the research questions outlined would be multifaceted and pivotal for understanding the intersection of HR and digital transformation within organizations. The second contribution also lies in providing actionable recommendations for enhancing HR management practices in the digital era. This includes identifying the necessary skills, knowledge, and ability required for HR professionals to navigate digital transformation successfully. The third contribution would be in providing suggestions for leveraging digital solutions to enhance HR management practices. This involves exploring how digital tools can streamline processes, enhance decision-making capabilities, and cultivate a workforce that is more agile and engaged.

In essence, these research inquiries contribute by furnishing practical suggestions, valuable insights, and effective strategies for organizations to adeptly navigate digital transformation in HR practices, streamline workforce management, and boost employee performance in the digital era.

### **Conclusion**



Prior to the digital age, HR practices primarily revolved around manual and administrative tasks, concentrating on traditional personnel management duties such as timekeeping, attendance tracking, and paperwork handling. With the onset of digital technology, HR's job has begun to explore its advantages, leading to a widespread digital transformation. This transformation involves the integration of digital technologies across all facets of an organization. Consequently, HR assumes a role in facilitating and overseeing this transformative process. This evolution entails aligning HR initiatives with the organization's objectives, thus contributing to enhancing the employees' overall experience. HR is responsible for implementing technologies that facilitate communication, collaboration, and a positive work environment. This includes providing self-services options, enabling mobile access to HR information, and creating personalized employee development plans. These efforts result in increased employee productivity and profit ability through the effective integrating of digital tools with automated tasks and new organizational structures. Moreover, HR's new role encompasses bridging digital skills gap, fostering collaboration between business objectives and IT, promoting flexibility, and embracing innovative work approaches.

Moreover, the advent of digital transformation has reshaped business operations, significantly impacting the role of HR. It has rendered HR practices and procedures more streamlined and productive. These digital advancements center around three crucial domains: digital work, digital employee management, and digital HR. These domains have given rise to two pivotal research inquiries: investigating HR's contribution to digital transformation and gaining deeper insights into how HR practices can effectively facilitate and propel an organization's digitalization endeavors.

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