

Opportunities and Challenges of Human Resource Virtualization in the Banking Sector: Evidence from Zimbabwe

Mildred Mahapa¹, Dingani D. Mushuku², Vonai Chirasha³

Corresponding Author: mupandarem@gmail.com

¹National University of Lesotho, Lesotho

^{2,3}Midlands State University, Zimbabwe

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ABSTRACT

The rapid advancement of digital technologies has transformed human resource (HR) management practices and compelled organizations to adapt to increasingly dynamic business environments. In the banking sector, HR virtualization has emerged as an important strategy for enhancing operational flexibility and sustaining organizational performance in the digital era. This study examines the opportunities and challenges associated with the implementation of HR virtualization at a commercial bank in Zimbabwe. A mixed-method descriptive survey design was employed involving seven managers selected through purposive sampling and 493 employees. Data were collected using structured questionnaires and virtual interviews and analyzed using descriptive and thematic approaches. The findings reveal that HR virtualization provides several opportunities, including improved work-life balance, enhanced operational efficiency, increased organizational competitiveness, and improved service delivery. However, its implementation is constrained by challenges such as internet connectivity problems, employee stress, low levels of virtual engagement, resistance to change, and limited technological resources. The study concludes that while HR virtualization offers significant benefits to banking institutions, its successful implementation requires supportive organizational policies, reliable technological infrastructure, and effective change management strategies. The study contributes to the growing literature on digital human resource management by providing empirical evidence on the opportunities and challenges of HR virtualization within the banking sector of an emerging economy.

1. INTRODUCTION

Virtualization has become increasingly prevalent across organizations in recent years. Rapid technological advancements have transformed the business environment and continue to reshape day-to-day organizational operations. As a result, organizations are increasingly adopting innovative approaches to remain competitive and responsive in a fast-changing environment. Virtual workplaces are becoming both a present reality and a future necessity. In Zimbabwe, for example, companies such as Econet have maintained their market position and competitiveness through continuous innovation and technological adaptation. The World Economic Forum projects that approximately 75 million jobs may be displaced as artificial intelligence increasingly performs routine tasks, highlighting the growing importance of digital transformation in organizational processes.

The adoption of virtual work practices has expanded significantly worldwide. Using collaboration tools such as DingTalk, the number of people working virtually in China increased from 4.9 million in 2018 to more than 300 million in 2020 (Cheng & Zhang, 2022). DingTalk is a business-oriented digital platform designed to improve individual and team performance (Song et al., 2019). According to Caldow (2009), Heng et al. (2012), and Huang and Liu (2021), the growing desire among managers to move organizational activities into virtual environments has been a major driver behind the rapid growth of digital collaboration technologies. Business process virtualization refers to the transition from a traditional physical environment to a virtual environment supported by information systems, with the objectives of enhancing business continuity, improving efficiency, and reducing operational costs. In the human resource function, virtualization has facilitated practices such as e-recruitment, which enables organizations to reach a broader talent pool, reduce recruitment costs, and improve recruitment efficiency (Brandão et al., 2019).

The banking sector has also embraced virtualization as part of its broader digital transformation agenda. International banks such as BBVA, Barclays, and Deutsche Bank have implemented virtualization technologies to improve operational efficiency, strengthen information technology infrastructure, reduce costs, and enhance customer service delivery (Bhatia et al., 2017; Gao et al., 2020; Zhang et al., 2019). These developments demonstrate that virtualization is no longer limited to technological infrastructure but has become an important component of organizational management and service delivery within the banking industry.

Despite the potential benefits associated with virtualization, organizations continue to face various implementation challenges. Previous studies have highlighted benefits such as improved productivity, enhanced collaboration, greater flexibility, talent attraction, and reduced operational costs. At the same time, challenges including network connectivity problems, employee stress, communication barriers, resistance to change, and difficulties in maintaining employee engagement have also been reported (Sunkara & Karumuri, 2021; Vallo Hult & Byström, 2021). These findings suggest that the successful implementation of HR virtualization depends not only on technology adoption but also on organizational readiness and employee acceptance.

Bank A, an investment holding company listed on the Zimbabwe Stock Exchange, offers a wide range of financial services, including commercial banking, mortgage financing, insurance, reinsurance, securities trading, and microfinance. Despite ongoing digital transformation efforts, several HR processes remain largely dependent on traditional systems. Recruitment activities continue to involve substantial paper-based documentation, while payslips are physically printed and distributed across branches employing more than 500 employees. Furthermore, during the COVID-19 pandemic, business operations experienced disruptions due to employees' limited familiarity with virtual work arrangements and remote working practices, which adversely affected organizational performance (Bank A Annual Report, 2020).

Although virtualization and digital HR practices have received increasing scholarly attention, existing studies have predominantly focused on the adoption of digital technologies and their organizational outcomes. Limited attention has been devoted to understanding both the opportunities and challenges associated with HR virtualization from the perspectives of managers and employees within the banking sector, particularly in developing economies such as Zimbabwe. Consequently, empirical evidence on how HR virtualization is experienced and implemented in Zimbabwean banking institutions remains limited.

This study addresses this gap by examining the opportunities and challenges associated with implementing HR virtualization at Bank A in Zimbabwe. The study contributes to the growing literature on digital human resource management by providing empirical evidence from a developing-country banking context and by incorporating both managerial and employee perspectives in evaluating HR virtualization practices. Furthermore, this study extends the understanding of HR virtualization by demonstrating that its outcomes in emerging economies

are socio-technical in nature, where organizational benefits and implementation challenges coexist and interact.

2. LITERATURE REVIEW

The COVID-19 pandemic accelerated the virtualization of knowledge-based work processes and compelled organizations to adopt digital technologies to sustain business continuity under unprecedented disruptions (Haslam et al., 2021; Netz et al., 2022). As organizations adapted to remote and hybrid working arrangements, human resource management (HRM) functions increasingly relied on digital platforms to facilitate communication, recruitment, training, performance management, and employee engagement (Herath & Herath, 2020). Consequently, electronic human resource management (e-HRM) has emerged as a strategic approach that utilizes digital technologies and data-driven systems to enhance the effectiveness and efficiency of HR activities (Zhou et al., 2021).

The growing adoption of digital technologies has transformed the role of HR from an administrative function into a strategic partner capable of supporting organizational competitiveness and sustainability. According to Carroll (2017), the integration of technology into HR practices aims to improve employee engagement, maximize organizational performance, and create future-ready workplaces. Global organizations such as Google and IBM have increasingly digitalized HR functions to streamline operations and improve workforce management. As digital transformation continues to reshape organizations, HR departments are expected to leverage technological innovations to respond to evolving employee and organizational needs.

Virtualization encompasses a wide range of practices, including virtual meetings, virtual training, digital collaboration, and remote work environments. These practices enable employees to communicate and collaborate regardless of geographical location while supporting organizational flexibility and responsiveness (Attaran et al., 2019). Moreover, virtualization allows organizations to access broader talent pools and develop more diverse and inclusive workforces (Constant, 2017). Despite these benefits, the implementation of HR virtualization remains associated with both opportunities and challenges that influence organizational effectiveness and employee experiences.

Opportunities of HR Virtualization

Existing literature highlights several opportunities associated with HR virtualization. One of the most frequently reported benefits is the improvement of employee productivity and engagement through the use of collaboration technologies. Findings from the Society for Human Resource Management (2019) indicate that organizations utilizing collaboration technologies report higher levels of employee engagement and productivity than organizations that do not adopt such technologies. These findings suggest that digital collaboration tools facilitate communication, knowledge sharing, and coordination among employees.

Virtualization also contributes to organizational efficiency and security. According to IDC (2018), virtualization technologies enhance system security by improving access control and reducing operational vulnerabilities. Improved security and system reliability can minimize disruptions and support organizational continuity. In addition, virtualization enables organizations to optimize resource utilization while reducing operational costs associated with traditional workplace arrangements.

Several studies have further demonstrated that digital workplaces contribute to improved organizational performance and competitive advantage. Attaran et al. (2019), Haddud and McAllen (2018), and Gerten Beckmann and Bellmann (2019) argue that digital workplace initiatives enhance efficiency, productivity, and organizational competitiveness. Similarly, Meske and Junglas (2020) contend that digital technologies create supportive work environments that enable organizations to generate value and strengthen their competitive positions.

From a human resource perspective, virtualization enables organizations to attract talent beyond geographical boundaries and facilitates knowledge exchange among employees (Haddud & McAllen, 2018; Brahma et al., 2021; Kissmer et al., 2018). Virtual work arrangements also foster collaboration and employee involvement through digital communication platforms (Md Dahlan et al., 2018). Furthermore, flexible work arrangements enabled by virtualization have been associated with lower employee turnover and higher productivity levels (Forrester Research, 2019). Vallo Hult and Byström (2021) similarly argue that flexibility provides employees with greater autonomy regarding where, when, and how they work, thereby enhancing job satisfaction and performance.

Overall, prior studies suggest that HR virtualization offers substantial opportunities, including enhanced productivity, organizational flexibility, employee engagement, talent attraction, customer responsiveness, and competitive advantage.

Challenges of HR Virtualization

Despite its potential benefits, the implementation of HR virtualization presents several challenges for organizations and employees. Sunkara and Karumuri (2021) identify communication difficulties, network connectivity problems, productivity concerns, employee motivation issues, accountability challenges, grievance management complexities, and stress management as some of the major obstacles associated with virtual work environments.

One significant challenge relates to employee well-being. Vallo Hult and Byström (2021) observe that virtual work arrangements often blur the boundaries between personal and professional life, creating pressure for employees to remain continuously available. Such conditions may contribute to increased stress levels and difficulties in maintaining work–life balance. Similarly, Kalischko and Riedl (2021) argue that digitalization may generate technostress, resulting in fatigue, burnout, lower job satisfaction, and reduced employee well-being.

Another challenge concerns employee monitoring and control in digital workplaces. According to Gerten et al. (2019), digital technologies enable organizations to monitor employee activities, communication patterns, and performance more closely than traditional work arrangements. While such monitoring may improve managerial oversight, it may also reduce employees' perceptions of autonomy and increase concerns regarding privacy and workplace surveillance.

The literature therefore demonstrates that HR virtualization presents a dual reality. On the one hand, it offers opportunities for improving organizational performance, flexibility, and employee productivity. On the other hand, it introduces challenges related to technological limitations, employee well-being, communication effectiveness, and organizational control. Consequently, organizations seeking to implement HR virtualization must develop strategies that maximize its benefits while mitigating its potential adverse effects.

Conceptual Framework

The conceptual framework guiding this study positions HR virtualization as the central phenomenon under investigation. HR virtualization refers to the use of digital technologies to support and execute human resource functions, including recruitment, training, communication, employee support, and administrative processes. As organizations increasingly adopt digital HR practices, virtualization creates both opportunities and challenges that influence organizational operations and employee experiences.

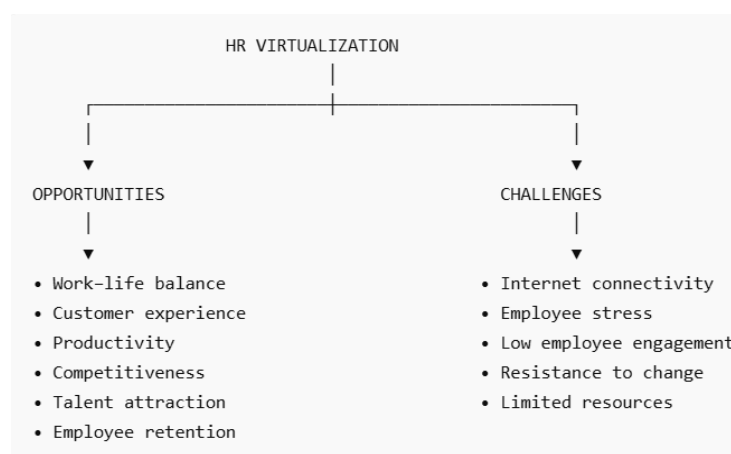


Figure 1. Conceptual Framework

Source: Authors (2023), adapted from Attaran et al. (2019), Haddud and McAllen (2018), Sunkara and Karumuri (2021), and Vallo Hult and Byström (2021).

The literature suggests that HR virtualization may generate several organizational opportunities. These include improved work–life balance, enhanced customer experience, increased productivity, organizational competitiveness, talent attraction, and employee retention (Attaran et al., 2019; Haddud & McAllen, 2018; Vallo Hult & Byström, 2021). Such opportunities arise from increased flexibility, improved communication, broader access to talent, and more efficient HR processes enabled by digital technologies.

At the same time, organizations implementing HR virtualization may encounter a number of challenges. Previous studies have identified internet connectivity problems, employee stress, low employee engagement, resistance to change, and limited organizational resources as common barriers to successful virtualization initiatives (Sunkara & Karumuri, 2021; Kalischko & Riedl, 2021). These challenges may reduce the effectiveness of virtual work arrangements and hinder the achievement of desired organizational outcomes.

Accordingly, this framework provides the analytical lens through which the opportunities and challenges associated with HR virtualization at Bank A are examined from both managerial and employee perspectives. The framework does not assume causal relationships among variables; rather, it serves as a guide for exploring how HR virtualization is experienced in Zimbabwe's banking sector.

3. METHODOLOGY

This study adopted a mixed-method approach using a convergent parallel design. In this design, quantitative and qualitative data were collected concurrently, analyzed independently, and integrated during the interpretation stage to provide a comprehensive understanding of the opportunities and challenges associated with HR virtualization at Bank A in Zimbabwe.

The study was conducted at Bank A, a diversified financial services group operating in Zimbabwe. The target population comprised management personnel and employees involved in the implementation and use of virtual HR practices. Purposive sampling was employed to select managers with relevant knowledge and experience regarding HR virtualization initiatives within the organization. Seven managers were identified as key informants, of whom four participated in the study. For employees, a census sampling approach was adopted, allowing all 493 employees to participate. A total of 355 valid responses were received and included in the analysis.

Primary data were collected using two instruments. Quantitative data were obtained through a structured questionnaire administered to employees, while qualitative data were gathered through online semi-structured interviews conducted with managers. The questionnaire was designed to capture employee perceptions regarding the opportunities and challenges associated with HR virtualization, whereas the interviews provided deeper insights into managerial experiences and implementation issues. In addition, ethical principles were observed throughout the study. Participation was voluntary, and respondents were assured of confidentiality and anonymity. Informed consent was obtained prior to data collection.

Quantitative data were analyzed using descriptive statistical techniques, including frequencies, percentages, and mean rankings, to identify the key opportunities and challenges associated with HR virtualization. Qualitative data obtained from interviews were analyzed using thematic analysis, whereby recurring themes and patterns were identified and interpreted. The

findings from both datasets were subsequently integrated during the discussion stage to provide a holistic understanding of HR virtualization within the banking sector in Zimbabwe.

4. RESULT AND DISCUSSIONS

Result

HR Initiatives Put in Place to Embrace Virtualization

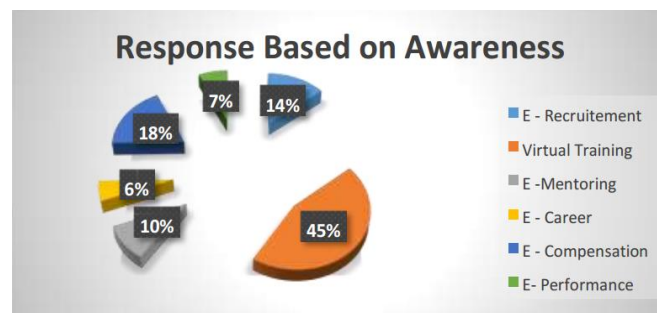


Figure 2. HR Initiatives Put in Place to Embrace Virtualization

Figure 2 presents the HR virtualization initiatives implemented at Bank A in Zimbabwe. The findings indicate that virtual training is the most widely adopted HR virtualization initiative, accounting for 45% of responses. This suggests that the organization prioritizes digital learning and employee development as part of its broader digital transformation agenda. The adoption of virtual training reflects the organization’s efforts to enhance employee capabilities while reducing the costs and logistical challenges associated with traditional face-to-face training programmes.

E-compensation emerged as the second most recognized initiative, accounting for 18% of responses. This finding indicates that Bank A has begun digitizing compensation-related processes to improve efficiency and convenience for employees. E-recruitment ranked third with 14% of responses, demonstrating the organization’s commitment to leveraging digital platforms in attracting and selecting talent. Meanwhile, E-mentoring accounted for 10% of responses, while E-performance and E-career management recorded the lowest levels of implementation at 7% and 6%, respectively.

The interview findings support the quantitative results. One manager explained that: “In line with the Group’s digitalization strategy, the Training Department has adopted a blended learning strategy which includes delivery of online courses via the Learning Management System, Zoom and other virtual platforms.”

This statement confirms the strategic importance of virtual training within the organization’s HR transformation efforts. Another manager highlighted the organization’s broader digitalization agenda, stating that: “Our goal is to use technology to lessen our physical and carbon footprint while improving the accessibility of new and interesting products and services through digital touch points.”

The findings further reveal that Bank A is extending virtualization across multiple HR functions, including recruitment processes. According to one respondent, the organization increasingly utilizes digital platforms for interviews, identity verification, psychometric assessments, certificate verification, shortlisting, and applicant communication. Such initiatives demonstrate the organization’s commitment to reducing reliance on paper-based processes while improving operational efficiency.

In addition, interview participants indicated that the organization is working towards introducing electronic payslips to enhance employee convenience and reduce administrative costs. Collectively, these findings suggest that Bank A has made significant progress in integrating digital technologies into HR operations, with virtual training, digital recruitment, and electronic compensation systems emerging as key pillars of its HR virtualization strategy.

Opportunities of HR Virtualisation

Table 1. Opportunities created by HR Virtualisation

Opportunities of HR Virtualization	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
Virtualization enables effective communication	2 (0.6%)	17 (4.8%)	32 (9%)	193 (54.4%)	111 (31.3%)	355 (100%)
Virtual workplaces foster networking and collaboration	1 (0.3%)	11 (3.1%)	9 (2.5%)	167 (47%)	167 (47%)	355 (100%)
Increased productivity is a benefit of virtualization	4 (1.1%)	13 (3.7%)	9 (2.5%)	139 (39.2%)	190 (53.5%)	355 (100%)
Virtualization improves customer experience at work	2 (0.6%)	5 (1.4%)	15 (4.2%)	141 (39.7%)	192 (54.1%)	355 (100%)
A virtual workplace aids organisational competitive advantage	1 (0.3%)	10 (2.8%)	12 (3.4%)	140 (39.4%)	192 (54.1%)	355 (100%)
Virtualization enables work life balance	0 (0%)	8 (2.3%)	13 (3.7%)	123 (34.6%)	211 (59.4%)	355 (100%)
Talent attraction is a benefit of virtualization	1 (0.3%)	10 (2.8%)	22 (6.2%)	147 (41.4%)	175 (49.3%)	355 (100%)

Table 1 presents the opportunities associated with HR virtualization as perceived by employees at Bank A. The findings indicate that respondents generally recognized HR virtualization as a valuable organizational initiative capable of generating multiple benefits for both employees and the organization. The identified opportunities include effective communication, enhanced networking and collaboration, talent attraction, increased productivity, organizational competitiveness, improved customer experience, and better work-life balance.

The findings suggest that employees perceive virtualization as extending beyond the digitalization of HR processes and contributing to broader organizational outcomes. Through the use of virtual platforms and digital technologies, employees are able to collaborate more effectively, access organizational resources more conveniently, and perform their duties with greater flexibility. Furthermore, virtualization supports the organization's ability to attract and retain talent while improving responsiveness to customer needs.

These findings are consistent with previous studies that highlight the strategic value of digital workplaces in enhancing organizational performance, employee engagement, and operational efficiency (Attaran et al., 2019; Haddud & McAllen, 2018). Similarly, Vallo Hult and Byström (2021) argue that virtual work arrangements provide employees with greater flexibility and autonomy, which may positively influence both productivity and work-life balance. The opportunities identified in this study therefore suggest that HR virtualization has the potential to strengthen organizational competitiveness while simultaneously improving employee experiences.

To determine the relative importance of these opportunities, respondents were further asked to evaluate each opportunity using a Likert scale. The results are presented in Table 2.

Table 2. The Opportunities from The Lowest to The Highest Mean

Opportunities of Virtualization	N	Mean	Rank
Virtualization enables effective communication	355	4.11	1
Virtual workplaces foster networking and collaboration	355	4.37	2
Talent attraction is a benefit of virtualization	355	4.37	3
Increased productivity is a benefit of virtualization	355	4.4	4
A virtual workplace aids organisational competitive advantage	355	4.44	5
Virtualization improves customer experience at work	355	4.45	6

Opportunities of Virtualization	N	Mean	Rank
Virtualization enables work life balance	355	4.51	7
Valid N (list-wise)	355		

The findings indicate that respondents generally perceived HR virtualization positively, as reflected by the high mean scores across all opportunity-related statements. The results suggest that employees view virtualization as a mechanism that enhances organizational effectiveness while simultaneously improving employee experiences within the workplace.

Among the identified opportunities, work–life balance received the highest mean score ($M = 4.51$). This finding suggests that employees perceive virtual work arrangements as providing greater flexibility in balancing professional and personal responsibilities. The ability to work remotely and access organizational resources digitally reduces commuting demands and allows employees to manage their time more effectively. This finding is consistent with Vallo Hult and Byström (2021), who argue that virtual work environments provide employees with increased flexibility regarding when and where work is performed, thereby contributing positively to work–life balance and job satisfaction.

Customer experience was also highly rated by respondents ($M = 4.45$). This finding indicates that virtualization extends beyond internal HR processes and contributes to improved service delivery. Through digital platforms and virtual communication channels, organizations can respond more efficiently to customer needs and enhance service accessibility. The finding supports Meske and Junglas (2020), who contend that digital technologies create value by improving organizational responsiveness and strengthening customer-oriented service delivery.

The study further revealed that respondents associated HR virtualization with improved organizational competitiveness ($M = 4.44$) and increased productivity ($M = 4.40$). These findings suggest that digital HR practices enable organizations to operate more efficiently while maintaining continuity of operations in increasingly dynamic business environments. The results are consistent with Attaran et al. (2019) and Haddud and McAllen (2018), who argue that digital workplaces enhance organizational agility, operational efficiency, and overall performance.

Networking and collaboration ($M = 4.37$) were also identified as important opportunities associated with virtualization. Digital technologies facilitate communication and knowledge sharing among employees regardless of geographical location, thereby strengthening

collaboration and teamwork. This finding aligns with Brahma et al. (2021) and Md Dahlan et al. (2018), who emphasize the role of digital workplace technologies in promoting employee interaction, collaboration, and organizational learning.

Similarly, respondents perceived talent attraction as an important benefit of HR virtualization (M = 4.37). The adoption of digital recruitment platforms enables organizations to reach a broader pool of applicants and attract qualified candidates beyond geographical boundaries. This finding supports the observations of Brandão et al. (2019), who note that e-recruitment increases recruitment efficiency while expanding access to potential talent.

Although effective communication recorded the lowest mean score among the identified opportunities (M = 4.11), respondents still agreed that virtualization enhances communication within the organization. The result suggests that digital communication platforms facilitate information sharing and coordination among employees, although communication effectiveness may depend on technological infrastructure and employee familiarity with virtual communication tools.

Overall, the findings demonstrate that HR virtualization creates multiple opportunities for both employees and organizations. Beyond improving operational efficiency, virtualization contributes to employee flexibility, organizational competitiveness, customer satisfaction, collaboration, productivity, and talent acquisition. These findings reinforce the growing body of literature suggesting that digital HR practices have become an important strategic mechanism for enhancing organizational sustainability and performance in contemporary workplaces.

Challenges Faced by Managers in Implementing HR Virtualization.

Table 3. Challenges Faced by Managers in Implementing HR Virtualization

Challenges of Virtualization	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
Network difficulties make the communication worse than the traditional approach	9 (2.5%)	37 (10.4%)	11 (3.1%)	155 (43.7%)	143 (40.3%)	355 (100%)
Constant virtual meetings are giving individuals stress	7 (2%)	59 (16.6%)	19 (5.4%)	118 (33.2%)	152 (42.8%)	355 (100%)
Engaging employees virtually is a challenge	14 (3.9%)	67 (18.9%)	24 (6.8%)	126 (35.5%)	124 (34.9%)	355 (100%)
Continuous remote work can take a toll on physical energy levels	19 (5.4%)	85 (23.9%)	13 (3.7%)	123 (34.6%)	115 (32.4%)	355 (100%)

Challenges of Virtualization	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
Continuous isolated working can cause emotional breakdowns	29 (8.2%)	71 (20%)	22 (6.2%)	116 (32.7%)	117 (33%)	355 (100%)
Delivering excellent productivity with virtual working is a cumbersome task	22 (6.2%)	70 (19.7%)	38 (10.7%)	108 (30.4%)	117 (33%)	355 (100%)
Virtual motivation of the employees is challenging	15 (4.2%)	75 (21.1%)	32 (9%)	120 (33.8%)	113 (31.8%)	355 (100%)
Managing employee attendance schedules is a challenge	24 (6.8%)	62 (17.5%)	46 (13%)	119 (33.5%)	104 (29.3%)	355 (100%)
It can be challenging to closely monitor and analyse work processes and systems.	25 (7%)	65 (18.3%)	32 (9%)	145 (40.8%)	88 (24.8%)	355 (100%)
It can be difficult to establish clear boundaries of autonomy and accountability for each employee in a virtual setting	23 (6.5%)	58 (16.3%)	44 (12.4%)	121 (34.1%)	109 (30.7%)	355 (100%)
Conducting training and development activities virtually takes long hours than usual days	32 (9%)	68 (19.2%)	32 (9%)	111 (31.3%)	112 (31.5%)	355 (100%)
Stress management among the remote working workers is a difficult task	24 (6.8%)	50 (14.1%)	29 (8.2%)	128 (36.1%)	124 (34.9%)	355 (100%)

Table 3 presents the challenges associated with HR virtualization at Bank A. Overall, the findings reveal that although HR virtualization offers substantial organizational benefits, its implementation is accompanied by significant technological, managerial, and employee well-being challenges. The high levels of agreement across most items suggest that employees perceive virtualization as a complex organizational transformation that requires both technological readiness and effective people management.

Among the identified challenges, network difficulties emerged as the most prominent concern. More than four-fifths of respondents agreed or strongly agreed that network-related problems make communication less effective than traditional face-to-face interactions. This finding highlights the critical role of digital infrastructure in supporting virtual work arrangements. In the banking sector, where operational activities rely heavily on digital systems, interruptions in internet connectivity may negatively affect communication, service delivery, and operational continuity. The finding supports Eom (2021), who identified technological infrastructure and network connectivity as major barriers to the successful implementation of virtualization initiatives.

The results further indicate that employees experience considerable psychological pressure within virtual work environments. Constant virtual meetings, stress management

challenges, emotional exhaustion, and declining physical energy levels all received relatively high levels of agreement. These findings suggest that virtualization not only changes how work is performed but also alters employee well-being and work experiences. Continuous reliance on digital communication platforms may contribute to fatigue and stress, particularly when employees are required to simultaneously manage operational responsibilities and virtual interactions. This observation is consistent with Vallo Hult and Byström (2021), who argue that virtual work environments may blur the boundaries between professional and personal life, thereby increasing technostress and reducing employee well-being.

Another important challenge relates to employee engagement and motivation. A substantial proportion of respondents agreed that engaging employees virtually and maintaining employee motivation are difficult tasks. In traditional workplaces, engagement is often fostered through face-to-face interactions, informal communication, and direct managerial support. However, virtual environments may reduce opportunities for social interaction and organizational connectedness, making it more difficult for managers to maintain employee commitment and morale. This finding aligns with Duffield et al. (2018), who found that geographically dispersed teams frequently experience collaboration and communication difficulties that can weaken employee engagement and team cohesion.

The findings also reveal managerial challenges associated with supervision and performance management. Respondents agreed that monitoring work processes, managing attendance schedules, and establishing clear boundaries of accountability in virtual environments are difficult. These challenges reflect the transition from direct supervision to outcome-based management, which requires new competencies and managerial approaches. The findings support Gerten et al. (2019), who argue that digital workplaces require organizations to balance employee autonomy with effective monitoring and performance control mechanisms.

Although training and development activities conducted virtually received the lowest mean score among the identified challenges, respondents still acknowledged it as a concern. This suggests that while virtual learning has become increasingly accepted, organizations continue to face obstacles related to participation, coordination, and technological disruptions during online training sessions. Nevertheless, compared to other challenges, employees appear to view virtual training as a relatively manageable aspect of HR virtualization.

Overall, the findings demonstrate that the challenges of HR virtualization extend beyond technological adoption alone. Successful implementation requires organizations to simultaneously address infrastructure limitations, employee well-being, engagement, motivation, and managerial control systems. Consequently, investments in digital technologies should be complemented by organizational policies, employee support mechanisms, and managerial capability development to ensure the sustainability of virtualization initiatives within the banking sector.

Table 4. The Challenges from The Lowest to The Highest Mean

Challenges of Virtualization	N	Mean	Rank
Training and development activities conducted virtually typically require more time than those held in person.	355	3.57	1
It can be difficult to establish clear boundaries of autonomy and accountability for each employee in a virtual setting	355	3.58	2
Managing employee attendance schedules is a challenge	355	3.61	3
Continuous isolated working can cause emotional breakdowns	355	3.62	4
Delivering excellent productivity with virtual working is a cumbersome task	355	3.64	5
Continuous remote work can take a toll on physical energy levels	355	3.65	6
It can be challenging to closely monitor and analyse work processes and systems.	355	3.66	7
Virtual motivation of the employees is challenging	355	3.68	8
Managing stress among workers who are remote working can be challenging.	355	3.78	9
Engaging employees virtually is a challenge	355	3.79	10
Constant virtual meetings are giving individuals stress	355	3.98	11
Network difficulties make the communication worse than the traditional approach	355	4.09	12
Valid N (list wise)	355		

Table 4 ranks the challenges associated with HR virtualization according to their mean scores. The findings indicate that all challenge dimensions recorded mean scores above 3.50, suggesting that employees generally perceive virtualization as being accompanied by a range of significant implementation difficulties. Although virtualization offers numerous organizational benefits, the results demonstrate that technological, managerial, and employee well-being concerns remain critical barriers to its successful implementation within the banking sector.

The highest-ranked challenge was network-related communication difficulties (Mean = 4.09). This finding highlights the dependence of virtual workplaces on reliable digital infrastructure. In the context of banking operations, where communication, customer service

delivery, and transactional activities increasingly rely on digital platforms, network instability may negatively affect both employee performance and customer experience. The result suggests that technological readiness remains a prerequisite for successful HR virtualization. This finding is consistent with Eom (2021), who identifies connectivity and technological infrastructure limitations as major barriers to virtualization initiatives.

The second most significant challenge relates to stress generated by constant virtual meetings (Mean = 3.98). The finding suggests that employees experience increasing cognitive and emotional demands within virtual work environments. Unlike conventional workplaces, virtual settings often require employees to maintain prolonged online presence while simultaneously performing operational duties. This may contribute to fatigue, mental exhaustion, and declining well-being. The result supports Vallo Hult and Byström (2021), who argue that virtual work arrangements may create an “always-on” culture that increases employee stress and work-related pressure.

Employee engagement (Mean = 3.79) and stress management (Mean = 3.78) also emerged as major concerns. These findings indicate that the challenge of virtualization extends beyond technology and increasingly affects human and social aspects of work. Managers may find it difficult to maintain employee motivation, collaboration, and organizational commitment when interactions occur primarily through digital channels. This observation aligns with Duffield et al. (2018), who suggest that virtual work environments often reduce opportunities for social interaction and team cohesion.

Interestingly, challenges associated with employee motivation (Mean = 3.68), monitoring work processes (Mean = 3.66), physical fatigue (Mean = 3.65), productivity management (Mean = 3.64), and emotional well-being (Mean = 3.62) also recorded relatively high scores. Collectively, these findings suggest that HR virtualization alters not only operational processes but also the nature of managerial oversight and employee experiences. The findings reinforce the argument of Kalischko and Riedl (2021) that digitalization possesses a dual nature, simultaneously generating organizational opportunities and employee-related challenges.

The lowest-ranked challenges were virtual training duration (Mean = 3.57) and difficulties in defining autonomy and accountability (Mean = 3.58). Although these issues were perceived as less problematic relative to other challenges, the mean scores remain above the midpoint, indicating that they cannot be disregarded. The findings suggest that employees generally adapt

well to virtual learning environments; however, organizations still need clear policies, performance expectations, and accountability mechanisms to support effective virtual work arrangements.

Overall, the ranking results demonstrate that the primary barriers to HR virtualization at Bank A are not solely technological. Rather, successful virtualization requires organizations to simultaneously address infrastructure reliability, employee well-being, engagement, motivation, and managerial control systems. Consequently, HR virtualization should be viewed as a socio-technical transformation process that requires balanced investment in both digital technologies and human resource management practices.

Discussion

This study examined the opportunities and challenges associated with HR virtualization at Bank A in Zimbabwe. The findings indicate that the organization has made considerable progress in integrating digital technologies into HR processes, while simultaneously facing technological, managerial, and employee-related challenges that influence the effectiveness of virtualization initiatives.

The results reveal that virtual training represents the most widely adopted HR virtualization initiative within Bank A. This finding suggests that the organization views employee learning and capability development as a critical component of its digital transformation strategy. The adoption of virtual training, together with initiatives such as e-recruitment, e-compensation, e-performance management, and e-mentoring, demonstrates the organization's commitment to reducing dependence on traditional paper-based HR processes. These findings are consistent with Jackson et al. (2018), who argue that digital training reduces costs and logistical constraints associated with conventional employee development programs. Similarly, Zhou et al. (2021) contend that digital HRM practices improve employee participation and access to organizational resources, thereby enhancing overall organizational effectiveness.

The findings further demonstrate that HR virtualization creates substantial opportunities for both employees and the organization. Work-life balance emerged as the most highly valued benefit of virtualization. This suggests that employees appreciate the flexibility offered by virtual work arrangements, particularly in balancing professional responsibilities with personal commitments. The finding supports Vallo Hult and Byström (2021), who argue that virtual

workplaces provide employees with greater autonomy regarding when and where work is performed. The prominence of work–life balance within the findings also reflects the broader transformation of work practices accelerated by digitalization and the COVID-19 pandemic.

Customer experience was identified as another major opportunity generated through virtualization. The implementation of digital banking services, including digital onboarding, WhatsApp banking, electronic know-your-customer systems, and mobile payment platforms, demonstrates how digital transformation extends beyond internal HR functions and contributes to enhanced service delivery. This finding aligns with Meske and Junglas (2020), who suggest that digital technologies strengthen organizational responsiveness and create value for customers through improved accessibility and convenience.

The study also found that HR virtualization contributes to increased productivity, organizational competitiveness, collaboration, and talent attraction. These findings support previous studies emphasizing the strategic role of digital workplaces in improving organizational agility and operational performance (Attaran et al., 2019; Haddud & McAllen, 2018). By enabling organizations to recruit talent beyond geographical boundaries and facilitating knowledge sharing through digital platforms, virtualization strengthens organizational capacity to compete in increasingly dynamic environments.

Despite these opportunities, the findings indicate that HR virtualization presents significant implementation challenges. Network connectivity emerged as the most critical challenge experienced by both managers and employees. Since virtual work environments depend heavily on stable technological infrastructure, connectivity disruptions directly affect communication, service delivery, productivity, and employee performance. This finding supports Eom (2021), who identifies technological infrastructure limitations as one of the primary barriers to successful virtualization initiatives.

The results also highlight employee well-being concerns associated with virtualization. Constant virtual meetings, difficulties in stress management, emotional fatigue, and declining physical energy levels were reported as important challenges. These findings suggest that while virtualization increases flexibility, it may also intensify psychological demands on employees. Consistent with Vallo Hult and Byström (2021), the findings indicate that digital work environments may blur the boundaries between personal and professional life, increasing the risk of technostress and work-related fatigue.

Another important challenge concerns employee engagement and motivation. Respondents acknowledged that maintaining employee commitment, collaboration, and participation in virtual environments is more difficult than in traditional workplace settings. This finding reinforces the observations of Duffield et al. (2018), who argue that reduced face-to-face interaction can weaken social cohesion and communication effectiveness within virtual teams. Furthermore, managers reported difficulties related to monitoring work processes, managing attendance, and establishing clear accountability mechanisms. These findings suggest that virtualization requires organizations to transition from traditional supervision models toward outcome-based management systems, which demand new managerial capabilities and organizational policies.

Overall, the findings support the proposition advanced in the literature that HR virtualization represents a socio-technical transformation rather than a purely technological change. While virtualization creates opportunities through improved flexibility, customer experience, productivity, competitiveness, and talent attraction, it simultaneously generates challenges associated with technological infrastructure, employee well-being, engagement, and managerial control. Consequently, successful implementation of HR virtualization requires balanced investments in technology, employee support systems, managerial capability development, and organizational change management strategies. These findings extend existing knowledge on HR virtualization by suggesting that, within emerging-economy banking contexts, virtualization should be understood as a socio-technical phenomenon in which organizational opportunities and implementation challenges emerge simultaneously rather than independently.

5. CONCLUSION

This study examined the opportunities and challenges associated with the implementation of HR virtualization at Bank A in Zimbabwe. The findings demonstrate that the organization has made significant progress in integrating digital technologies into its HR functions through initiatives such as virtual training, e-recruitment, e-compensation, e-mentoring, e-performance management, and the planned introduction of electronic payslips. These initiatives reflect the organization's broader digital transformation agenda and its efforts to modernize HR processes while improving operational efficiency.

The study further revealed that HR virtualization creates substantial opportunities for both employees and the organization. The most notable opportunities include improved work–life balance, enhanced customer experience, increased productivity, organizational competitiveness, effective communication, collaboration, and talent attraction. These findings suggest that virtualization has evolved beyond a technological innovation and has become an important strategic mechanism for supporting organizational performance and service delivery within the banking sector.

Despite these benefits, the findings also indicate that the implementation of HR virtualization remains constrained by several challenges. Internet connectivity problems emerged as the most significant obstacle, followed by employee stress associated with constant virtual interactions, difficulties in maintaining employee engagement and motivation, challenges related to performance monitoring and accountability, and limitations in organizational resources. These findings highlight the socio-technical nature of HR virtualization, whereby successful implementation depends not only on technological infrastructure but also on effective people management and organizational support systems.

Based on these findings, the study recommends that Bank A establish clear policies and procedures governing virtual work arrangements, including communication protocols, performance expectations, accountability mechanisms, and working schedules. The organization should also invest in reliable technological infrastructure to minimize connectivity disruptions and enhance the effectiveness of digital HR initiatives. Furthermore, managers should be equipped with the skills required to lead virtual teams, manage employee well-being, and sustain engagement in digital work environments. Finally, fostering a culture of communication, collaboration, and continuous learning will be essential for maximizing the benefits of HR virtualization while mitigating its associated challenges.

This study contributes to the growing body of knowledge on digital human resource management by providing empirical evidence on the opportunities and challenges of HR virtualization within the banking sector of a developing economy. Future studies may extend this research by examining the impact of HR virtualization on organizational performance, employee satisfaction, and long-term workforce sustainability across different industries and national contexts.

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