Linking Technology and Human Factor Drives Success in the Banking Sector: From Capability to Performance

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Abstract
This research discusses the relationship between technology and human variables that contribute to the overall success of banking performance. This study specifically aims to investigate the impact of human capital on bank performance by applying AMO theory to shed light on the relationship between human factor drivers, such as ability, motivation, opportunity, and technology, and the enhancement of bank performance. The research utilizes a cross-sectional approach through a Google Forms survey. Three hundred sixty-six individuals, all frontline personnel in the banking industry of Sindh, Pakistan, took part in the study. Multiple regression is performed using Amos version 26.0 for structural equation modeling. The research findings conclusively demonstrate that human resource management (HRM) activities are assessed by enhancing ability, motivation, and opportunity; these factors positively influence bank performance, with technology serving as a supportive mediator in this relationship.

Keywords: Ability, Motivation, Opportunity, Technology and Bank performance.

Introduction
Recent years have witnessed remarkable technological advancements. Accelerated technological advancements have resulted in certain persons being unable to keep pace with the latest innovations, necessitating adaptation to the swift changes and breakthroughs in technology. Inability to adapt has rendered him significantly lagging in technical advancements. Human resources are essential for generating profits within the firm, as they facilitate the utilization of all creative assets. Human resources remain a crucial element alongside equipment and assets in facilitating organizational development, since the effective utilization of these resources to achieve optimal outcomes is unattainable without personnel (Villajos et al., 2019; Nguyen, 2020). In the framework of contemporary economic development, intense competition has resulted in the relocation of human resources between units and

sectors. Indeed, sectors and units that offer substantial incomes and optimal working conditions will progressively recruit and retain high-calibre personnel to enhance productivity and outcomes. This significantly impacts the quality of personnel and the performance outcomes of other departments (Swalhi et al., 2017). In this setting, it is imperative to study, investigate, analyze, and assess the elements of human resource management activities that influence work outcomes.

Human resource management activities serve as the fundamental basis for enhancing workplace compatibility, as the policies and support provided by the unit for employees are manifested through these activities, thereby fostering improved work outcomes (Lu, Zhang, Yang, & Wang, 2023). Numerous domestic and international studies are currently being utilized and implemented, necessitating that various sectors and disciplines adopt similar practices to enhance employee productivity. Research in human resource management (HRM) is increasingly concentrating on the performance impacts of human resource (HR) systems rather than on individual HR practices (Amjad, Abbas, Zia-UR-Rehman, Baig, Hashim, Khan, & Rehman, 2021). Researchers generally concur that the emphasis should be on systems, as employees are concurrently subjected to a cohesive array of HR practices rather than isolated practices individually, and the impact of HR practices is likely contingent upon the other practices within the system (Genari & Macke, 2022). Research continuously demonstrates a positive correlation between comprehensive HR systems and performance, with the notion of complementarities or synergies among practices within an HR system being widely recognized as the conceptual rationale for the efficacy of HR systems (Amjad et al., 2021).

Human Resource Management (HRM) is fundamental in developing the banking sector, impacting its operational efficiency, innovative potential, and overall organizational success. In a sector marked by fierce competition, rigorous regulatory standards, and swift technological progress, efficient human resource management strategies are essential. This study examines the pivotal significance and influence of HRM activities as determinants of success in the banking sector, highlighting the distinct difficulties and possibilities it encounters. The banking sector, an essential element of the global economy, depends significantly on human capital to propel its operations and strategic goals. The evolving characteristics of the banking sector require a resilient HRM framework that can adjust to regulatory modifications, technology advancements, and changing market needs (Swalhi et al., 2017). Conversely, these problems offer possibilities for HRM to innovate and facilitate corporate transformation. The reconfiguration of the contemporary labor market and conventional human resources qualification standards is significantly influenced by Industry 4.0, which is intrinsically linked to the evolution of knowledge dissemination, data management and integration, and value orientation deemed critical for corporate success (Smirnova et al., 2019; Blštáková et al., 2020). The demand for highly educated specialists in customer service within banking and insurance sectors has been rising, particularly due to the shortage of skilled personnel, which is a significant catalyst for Industry 4.0 (Stentoft & Rajkumar, 2020).

Problem Statement

The increasing significance of digitalisation has a complex impact on the financial services sector. Digitalisation enhances customer loyalty, minimizes human error, and enables competition with leading firms (Rathi Meena & Parimalarani, 2020). Conversely, these changes necessitate that banks reevaluate their operational methods, enhance the speed of service delivery, and broaden their digital network for service provision (Evdokimova et al., 2018). This research distinguishes itself from existing literature by examining the relationship between HRM activities and performance in several unique ways. This study examines the mediating effects of technology in the banking sector and its impact on performance outcomes. HRM activities have been identified as key success drivers in the banking sector, while technology indicates future opportunities and serves as a critical success factor in the corporate realm. However, there is a notable lack of empirical evidence from the banking industry (Evdokimova et al., 2018; Swalhi et al., 2017).

3. Aim of the Study

This research aims to ascertain the perceptions of CEOs and general managers across several departments regarding the correlation between human resource activities, technology, and bank performance, with a particular emphasis on the banking sector. The study aims to (1) analyze general managers' perceptions of the impact of human resource activities on bank performance and (2) identify their observations regarding the relationships among human resource activities, technology, and performance within the banking sector. We assert that technology is a fundamental element contributing to superior performance and competitive advantage. It was emphasized that technology is one of the most critical advantages and catalysts for organizational success, and that superior performance and technology are vital for economic growth (Li, Cao, Li, Hao, & Zhang, 2024).

Research Questions

The study seeks to address the issue mentioned above by addressing the following research questions.

RQ1: What is the impact of HRM activities on bank performance in the corporate setting?

RQ2: How does technology mediate between HRM activities and bank performance in the corporate setting?

This research provides two significant contributions to the field of human resource management. Initially, it delineates the empirical mechanism through which human resource activities and technology effectively augment bank performance, as perceived by management, wherein human resource activities exert both direct and indirect influences on bank performance via their impact on technology. Secondly, it underscores the critical importance of human resource activities in the technological process, recognized as the primary determinant of performance in the contemporary banking sector.

Literature Review and Conceptualization

Human resource management (HRM) encompasses a comprehensive, integrated, and cohesive methodology for employee engagement within enterprises. According to Swathi et al. (2017), it pertains to directing work and personnel towards the intended objectives. Human Resource Management is a meticulously structured amalgamation of tasks intended to enhance organizational efficiency and, consequently, attain superior performance. Numerous researchers have defined HRM in various ways. Researchers have designated other terms for human resource management activities, including best practices or high performance (Villajos et al., 2019), sophisticated (Goss et al., 2024), and professional (Gnan and Songini, 2023). Human resource management actions are asserted to foster beneficial exchange connections, particularly when managers demonstrate regard and attentiveness to the unique requirements of employees (Lu et al., 2023). Delery and Doty (2020) defined human resource management activities as a cohesive framework of internal policies and procedures designed to ensure that an organization's human resources effectively contribute to the attainment of its objectives. Swathi et al. (2017) characterized human resource management activities as distinct yet interconnected functions and procedures aimed at attracting, developing, and retaining an organization's human resources. This research defines human resource management activities as coherent internal policies and methodologies implemented to ensure that an organization's human resources effectively contribute to its objectives, while also devising strategies for the enhancement of human resources and management practices to bolster employee capability, opportunity, and motivation.

HRM operations aimed at ability enhancement encompass recruitment, selection, training, and development procedures; these human resource management activities are pivotal in assessing the alignment between the workforce and the organization (Lu et al., 2023). According to Ren, Jiang, & Tang (2022), HRM activities aimed at opportunity improvement encompass initiatives related to work design, team utilization, employee engagement, and the management of complaints, as well as the dissemination of information. Conversely, HRM activities focused on motivation improvement are intended to inspire employees to commit their efforts to their work, involving aspects such as performance evaluation, compensation, job security, and work incentives (Lu et al., 2023).

H1: Ability Improvement significantly impacts bank performance.
H2: Motivational Improvement significantly impacts bank performance.
H3: Opportunity Improvement significantly impacts bank performance.

This research study examines the mediating influence of technology. The resilience of customers is more aligned with the presumed behavioral regulation of the Theory of Planned Behavior, indicating that it is affected by the options available to enhance the efficacy of the suggested innovations. The strategic consideration encompasses both internal and external development tools, such as ICT infrastructures, web competence, ICT engineering proficiency, usage duration, and developers (Gui et al., 2021). While technological competence extends beyond tangible assets, it necessitates intangible competencies that can generate competitive advantages for innovators, as skills and

knowledge accompany physical assets, rendering replication by competitors more difficult. However, when the operations of digital networks transcend basic principles, anonymity, protection, and security remain key considerations (Li et al., 2024). The integration of human resource activities and technology in the banking sector facilitates performance assessment and benchmarking against primary rivals. Zhang, Xu, Zhang, and Yang (2021) contend that performance evaluation reflects employees' perceptions of their work. Previous studies identified a positive correlation between performance and human capital in audit firms (Awan, Dunnan, Jamil, & Gul, 2023). Amjad et al. (2021) underscore the significance of human resource activities in the performance of audit firms, noting that various combinations of features related to these activities contribute to superior performance. Furthermore, globally, corporations allocate substantial resources to research and development to foster technological innovation and attain superior performance outcomes (Li et al., 2024).

H4: Ability Improvement significantly impacts bank performance along with the mediating effect of technology.

H5: Ability Improvement significantly impacts bank performance along with the mediating effect of technology.

H6: Ability Improvement significantly impacts bank performance along with the mediating effect of technology.
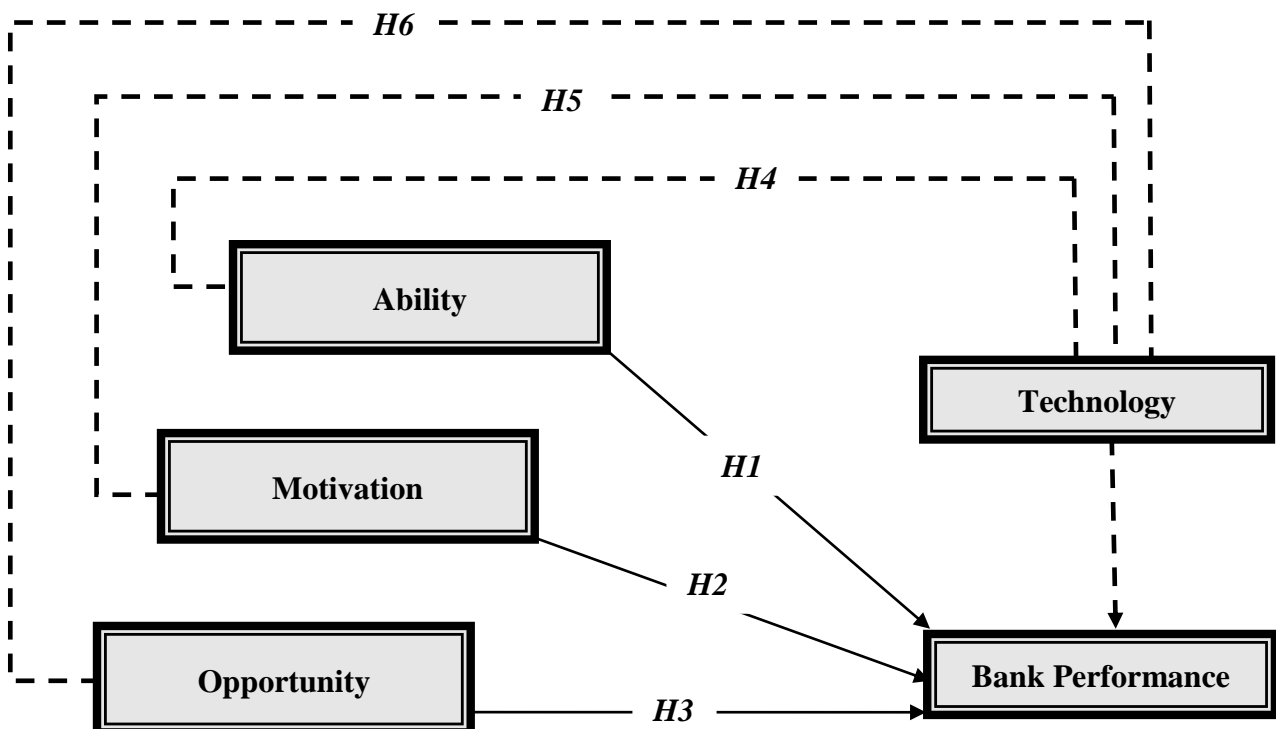

Figure. 1 Conceptual Model
Source: Authors' conceptualization.

Currently, digital technology and fintech competitors have altered the stability of the financial sector (Li et al., 2024). In recent years, the banking sector has transitioned from conventional practices to contemporary approaches, emphasizing technical advancements, new solutions, and human resources. Wirawan and Willim (2023) define the stability of the banking industry as the "probability of default within the banking sector," which impacts economic variables such as GDP growth. The stability of the banking sector is closely associated with equity bubbles that incentivize firms to engage in innovations and foster growth (Evdokimova et al., 2018). The banking sector is knowledge-driven and consistently emphasizes the rapidity and quality of technology innovation to enhance performance. The banking sector in Asian countries has considerable disparities in efficiency. The essential attribute of these nations is that foreign banks and banks with significant foreign ownership are linked to increased efficiency (Locke, 2025). Certain writers highlight a significant correlation between competitiveness and banking efficiency. Productivity in this region has improved due to institutional and structural improvements. Currently, competition constitutes a primary challenge for the banking sector. In European emerging countries like Serbia, Croatia, and Slovenia, an innovative environment necessitates the presence of the rule of law, gender equality, economic and political stability, and access to information (Nguyen, 2020).

This study addresses the literature gap by presenting a research model that delineates the relationship between human resource activities focused on ability enhancement, motivational enhancement, and opportunity enhancement, and their influence on bank performance, while reflecting the technology impact on performance. This issue holds practical significance since banks are dedicating substantial resources to enhance workers' expertise in managing innovations, ultimately aiming for improved performance and success.

Research Methodology

The quantitative method underpins this research study due to its association with the various forms of information and the data analysis procedure. Empirical banking research is more renowned for employing this form of inquiry (Khalid, Pan, Li, Wang, and Ghaffari, 2020). This research study utilizes cross-sectional data to finalize the analysis. The respondents are afforded an equal opportunity to engage via random sampling methodologies. To guarantee the authenticity and reliability of the survey items and facilitate appropriate authorisation of the results, the researchers initially conduct a pilot study before commencing data collection for the final analysis. All research ethical protocols are adhered to in order to safeguard the privacy and confidentiality of participants' responses. Four hundred survey questionnaires were disseminated through Google Forms to banking personnel of many private sector banks in Hyderabad. Nonetheless, certain forms were also disseminated using email and courier services. Achieving a response rate of 91.50%. A total of 366 valid samples were utilized to get results.

Data Analysis and Results

Descriptive statistical methods, such as mean, standard deviation, percentage, Pearson correlation coefficient, and regression, were employed to analyze the data. Specifically, structural equation modeling (SEM) was implemented using AMOS in SPSS version 26.0. The internal consistency of the instrument was evaluated using Cronbach's Alpha. It has exhibited substantial stability, with values that surpass 0.50 and range from 0.671 to 0.933 (Hajjar, 2018). Hair et al. (2021) have reported that the overall reliability exceeds 93%, surpassing the criterion of 0.60, and that all instrument builds are reliable above 70%. As a result, it is possible to infer that the instrument used in this investigation was both consistent and reliable.

Respondents' Demography

The demographic data indicates that male participants comprise 74.86% (n=274), exceeding the female responses which account for 25.14% (n=92). The majority of respondents, aged 25-30, comprised 56.01% (n=205), whereas a smaller portion, 9.29% (n=34), fell within the 41-50 age range. A total of 72.68% (n=266) of the participants reported being married, while 13.39% (n=49) identified as widows. The majority of participants in the education sector held a Master's Degree, representing 46.17% (n=169), while a notable percentage held M.Phil/Ph.D. degrees, making up 27.87% (n=102). The respondents in this study had the highest level of experience, with 35.52% (n=130) falling within the 6-10 year range. Conversely, those with the least experience, representing 16.39% (n=60), had 16 years or more in their respective jobs. (Table 1)

Table 1: Demographic

	Category	Frequency	Percentage
Gender	Male	274	74.86
	Female	92	25.14
	Total	366	100.0
Age	25-30 Years	205	56.01
	31-40 Years	70	19.13
	41-50 Years	34	9.29
	50 and More Years	57	15.57
	Total	366	100.0
Marital Status	Single	51	13.93
	Married	266	72.68
	Divorced/Widow	49	13.39
	Total	366	100.0
Education	Bachelor's Degree	95	25.96
	Master's Degree	169	46.17
	M.Phil./ Ph.D.	102	27.87
	Degree	366	100.0

	Total		
	1-5 Years	67	18.31
	6-10 Years	130	35.52
Experience	11-15Years	109	29.78
	16 & Above	60	16.39
	Total	366	100.0

Source: Authors' own calculation

Table 2: Descriptive Statistics

	N	Mean	Std. Dev	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
AB	366	4.54	2.38	-.311	.136	.151	.232
MO	366	4.25	2.50	-.456	.136	-.549	.232
OP	366	4.20	1.15	-.321	.136	-.461	.232
BP	366	4.18	1.51	-.517	.136	.774	.232
TC	366	3.88	2.27	-.625	.136	.224	.232
Valid N (list-wise)	366						

Note(s): AB, Ability; MO, Motivation; OP, Opportunity; BP, Banking Performance, TC, Technology;

Source: Authors' own calculation

Table 3: AVE, CR, and Cronbach's alpha

Construct	Item Code	Factor Loading above 0.7	CR> 0.7	AVE above 0.5	α above 0.7
Ability (AB)	AB1	0.894	0.933	0.736	0.828
	AB2	0.887			
	AB3	0.878			
	AB4	0.873			
	AB5	0.710			
Motivation (MO)	MO1	0.872	0.899	0.746	0.812
	MO2	0.828			
	MO4	0.808			
	MO5	0.802			
	MO6	0.754			
Opportunity	OP2	0.865	0.796	0.917	0.850

(OP)	OP3	0.858			
	OP4	0.789			
	OP6	0.781			
	OP7	0.766			
	OP9	0.728			
Bank Performance (BP)	BP1	0.851			
	BP3	0.843			
	BP4	0.821			
	BP5	0.798	0.671	0.911	0.880
	BP6	0.782			
	BP7	0.685			
	BP8	0.677			
Technology (TC)	TC1	0.867			
	TC2	0.860	0.693	0.940	0.864
	TC3	0.851			

Note(s): CR, Critical ratio. *** *p* < 0.001; AB, Ability; MO, Motivation; OP, Opportunity; BP, Banking Performance, TC, Technology;

Source: Authors' own calculation

Table 4: Model Fit

	CMIN/*df*	GFI	AGFI	NFI	CFI	RMSEA
Model fit indicators	2.62	0.902	0.913	0.922	0.918	0.035
Suggested Values	<3	>0.90	>0.90	>0.90	>0.90	<0.05

Note (s): CMIN= χ^2/chi-square/*df*; *df* = degree of freedom; GFI= goodness-of-fit index; AGFI= adjusted goodness-of-fit index; NFI= normed fit index; CFI= comparative fit index; RMSEA= root mean square error of approximation

Source: Authors' own calculation.

Table 5: Regression Weights

Hypothesis	Regression			Est. *β (path co-efficient)*	SE	CR (*t-value*)	*P*	Decision
H1	AB	→	BP	0.378	0.047	8.042	0.000	Accepted
H2	MO	→	BP	0.415	0.063	6.587	0.000	Accepted
H3	OP	→	BP	0.233	0.055	4.236	0.001	Accepted
Hypothesis	Mediation Effect			Est. *β (path co-efficient)*	SE	CR (*t-value*)	*P*	Decision
H4	AB	TC	BP	0.656	0.078	8.410	0.002	Accepted

H5	MO	→ TC →	BP	0.523	0.061	8.573	0.000	Accepted
H6	OP	→ TC →	BP	0.392	0.053	7.396	0.001	Accepted

Note(s): CR, Critical ratio. *** $P < 0.001$; AB, Ability; MO, Motivation; Opportunity; BP,
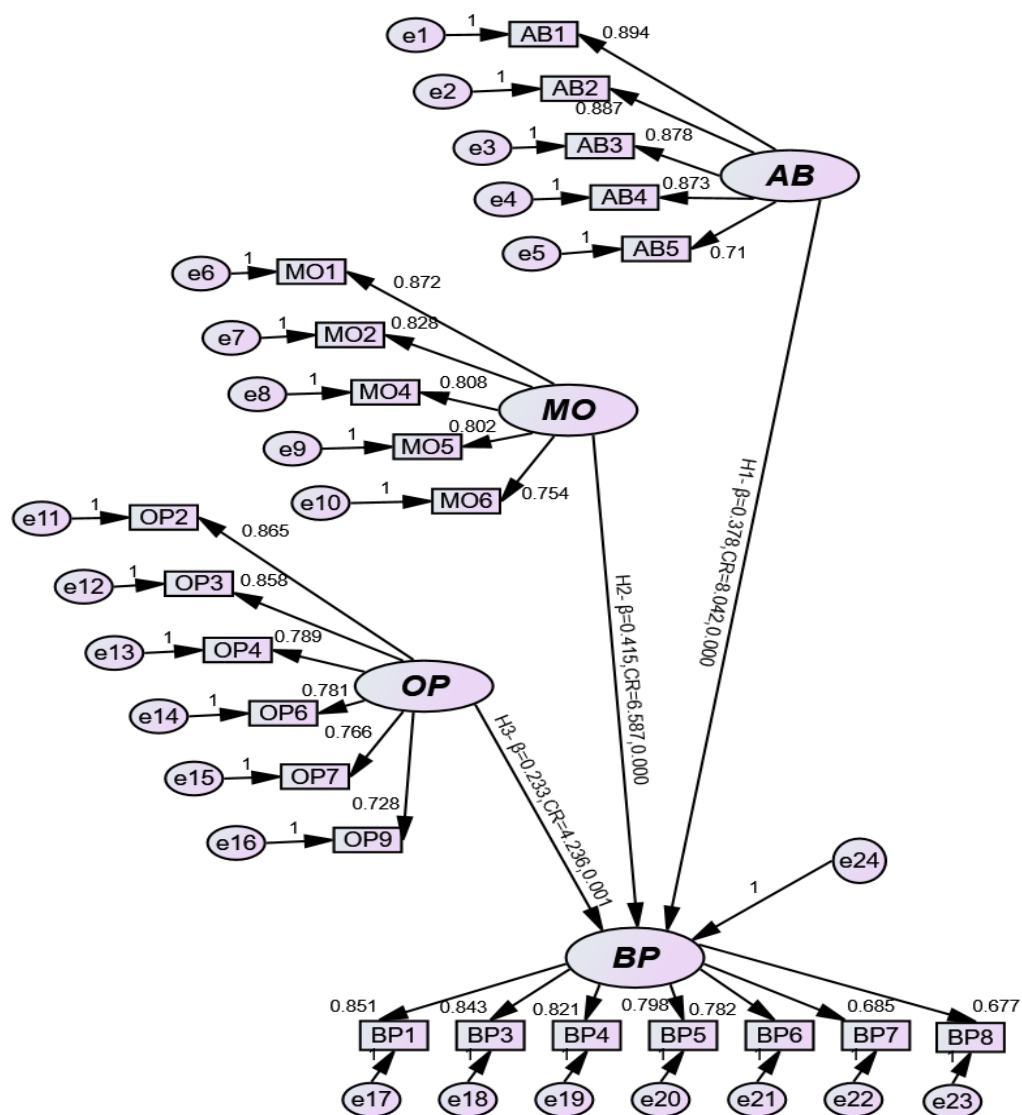Banking Performance, TC, Technology;

Source: Authors' own calculation

Figure. 2 Structural equation model (direct effect)
Source: Authors' own calculation.
Note(s): AB, Ability; MO, Motivation; OP, Opportunity; BP, Banking Performance, TC, Technology;
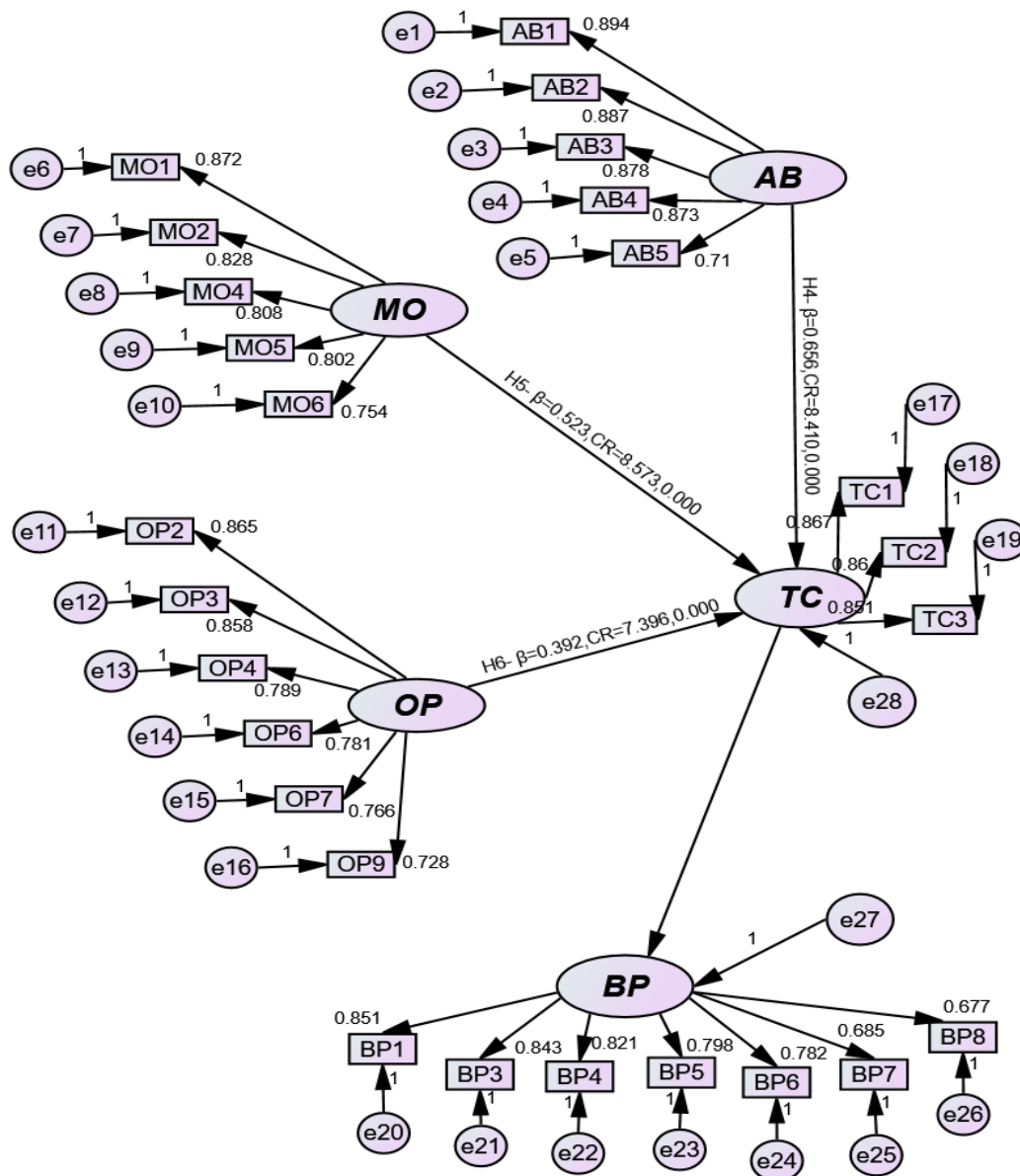
Figure. 3 Structural equation model (indirect effect)
Source: Authors' own calculation.

Note(s): AB, Ability; MO, Motivation; OP, Opportunity; BP, Banking Performance, TC, Technology;

Results

This section outlines the results of the empirical analysis. Table 2 displays the means, standard deviations, and normality indicated by the skewness and kurtosis of the variables under investigation. The skewness value ought to be 0, indicating a normal distribution with an asymmetric shape; however, the kurtosis value is less than ±1 and can be overlooked. As a result, it has been established that the skewness and kurtosis values ought to stay within ±2.58; nonetheless, the values observed in the present study did not exceed these limits. The descriptive data indicated a general agreement among the respondents regarding HRM activities. At first, we utilised chi-square statistics to check if the model had a good fit. The model's important fitness was confirmed by the chi-square statistics, which had non-significant scores of 2 (CMIN/df = 2.62, which is 3 or p > 0.005). (Hair et al., 2021). We decided not to include a demographic or control variable, even though it may have lowered the (df) degree of freedom, explainable variance, and a measure of likelihood (De Battisti and Siletti, 2019). Hair et al. (2021) also said that other model fit indices, such as AGFI (0.913), GFI (0.902), CFI (0.918), NFI (0.922), and RMSEA, were all within normal limits and showed that the model fit well (Table 4).The AB results indicated a Mean of 4.54 with a Standard Deviation of 2.38; MO demonstrated a Mean of 4.25 and a Standard Deviation of 2.50; OP recorded a Mean of 4.20 along with a Standard Deviation of 1.15; BP revealed a Mean of 4.18 and a Standard Deviation of 1.51; and TC exhibited a Mean of 3.88 with a Standard Deviation of 2.27. The mean score and standard deviation reflected the consistency of respondents' views regarding these items. Table 3 illustrates a positive correlation among AB, MO, OP, BP, and TC, as indicated by Pearson's correlation coefficient.

Furthermore, Table 5 and Figure 1 illustrate the analysis outcomes using SEM to explore the connection between the independent and dependent variables. The structural path scores for H1 indicate a strong correlation between AB and BP (H1 β= 0.378, CR=8.042). As a result, H1 is accepted since the significance level (0.001) related to the T value was below 0.05, suggesting the presence of a connection. The SEM findings indicated a positive relationship between MO and BP (H2 β = 0.415, CR= 6.587). As a result, H2 is accepted, given that the significance level (0.000) related to the T value fell below 0.05, which supports the acceptance of this hypothesis. The results for H3 demonstrate a positive effect of OP on BP (H3: β=0.233, CR=4.236), thereby confirming H3 at a significance level of 0.001, since the T value is below 0.05, which supports the acceptance of this hypothesis. As a result, the beta and CR scores (H4 β=0.656, CR=8.410) confirmed a positive and significant relationship between AB and BP, with TC serving as a mediator. As a result, H4 is deemed acceptable, given that the significant threshold (0.002) linked to the T value fell below 0.05, which supports the acceptance of this hypothesis. H5 demonstrates a positive influence of MO on BP, mediated by TC (H5: β=0.523, CR=8.573), thus confirming H5 at a significance level of 0.000. Similarly, H6 reveals a positive effect

of OP on BP, also mediated by TC (H6: β=0.392, CR=7.396), thereby validating H6 at a significance level of 0.001, as illustrated in Table 5 and Figure 3. The six assumptions put forth in this study are supported, as the statistical analysis demonstrated a positive correlation between HRM practices, both on their own and with the mediating influence of TC on BP. The results discussed above are consistent with findings from other studies (Ashraful et al., 2021; Aboramadan, 2022; Abbas et al., 2022; Aftab et al., 2023; Al-Alawneh et al., 2024; Mahesh et al., 2024).

Discussion and Conclusion

This study aimed to investigate the relationship between technology and human factor drivers, such as ability, motivation, and opportunity, in HR activities to improve HR capabilities and achieve the desired performance of banks, particularly in Sindh, Pakistan. The banking sector faces numerous challenges, despite the crucial role of HRM. The emergence of digital banking and fintech innovations requires a workforce skilled in new technologies, highlighting the need for ongoing learning and development initiatives. Adhering to regulatory compliance is a critical issue, necessitating that HR departments guarantee employees follow rigorous legal and ethical standards. Furthermore, the changing expectations of a varied workforce pose challenges regarding the upkeep of strong employee engagement and retention rates. Advancing diversity and inclusion in the workforce enhances organizational culture and fosters creativity and problem-solving, ultimately leading to improved performance outcomes in organizations (Smith et al., 2018). The swift rate of strategic and organizational changes in today's financial services sector is driven not only by the fundamental shifts in the institutional and competitive landscape but also by the quick proliferation of technological advancements (Menshikova et al., 2017). Focusing on the customer, tailoring experiences, embracing mobility, and fostering an adaptable corporate culture are increasingly essential for maintaining a rapid development trajectory in the digital landscape (Ajupov et al., 2019).

This study examines the influence of HRM activities and technology on the performance of private banking institutions. The findings of the study distinctly show that HRM activities are assessed by enhancing ability, boosting motivation, and increasing opportunity, with technology serving as a mediating factor. The activities related to enhancing abilities, boosting motivation, and creating opportunities positively influence bank performance, both directly and through mediation. The role of HRM is crucial in influencing the success and sustainability of banking institutions, especially in the face of changing challenges and emerging opportunities. This study has concluded HRM activities in the banking sector, emphasizing notable challenges and suggesting strategic recommendations to enhance HRM practices. The swift evolution of technology presents challenges for HRM, requiring the integration of cutting-edge HR technologies to improve recruitment, talent management, and employee development processes.

In summary, the implementation of effective HRM practices is crucial for addressing the intricacies of the banking sector, promoting innovation, and maintaining a competitive edge. By tackling challenges with strategic initiatives and capitalizing on

emerging opportunities, banking institutions can enhance their HRM capabilities, bolster organizational resilience, and attain sustainable growth in a swiftly changing global marketplace. Ongoing investigation and the integration of optimal strategies will be essential in guaranteeing that HRM continues to be a fundamental element of achievement in the ever-evolving and competitive banking sector.

Implications, limitations, and Future Recommendations

This study examines various implications, highlighting how the integration of advanced digital banking services is expected to streamline operations, reduce manual processes, and contribute to improved banking efficiency. Through these activities, the private banking sector can lower expenses and optimize resource utilization, ultimately influencing the overall performance of the bank. The banking sector ought to enhance its organizational performance by implementing effective HRM activities. It is essential to establish an environment that enables employees to effectively utilize their skills and talents in the workplace. Additionally, it is important to communicate the advantages of being part of the organization. By promoting activities aligned with the company's goals and objectives, employees can gain clarity and develop a clear path toward achieving their individual work targets. Furthermore, it is essential for the banking sector to communicate both the short-term and long-term operational strategies to their employees, linking these plans to the overall development and growth in scale and sales. Promoting a positive working attitude among employees is crucial. Clearly defining their roles, responsibilities, and obligations ensures that they understand their job positions, highlighting their essential contributions to the organization.

This study presents certain limitations, similar to other investigations, including challenges associated with technological acceptance and the necessity for constant digital availability. At times, individuals in the workforce struggle to address challenges associated with restricted internet connectivity, inadequate technological frameworks, or insufficient digital skills. A significant challenge faced by developing nations such as Pakistan is the need for effective cybersecurity measures that require proper attention and resolution. One of the limitations pertains to the fact that this study is conducted within the private sector; however, the structural or performance dynamics may vary in public or other non-financial institutions. The study has gathered data on a cross-sectional basis, which may restrict the ability to identify the long-term effects of HR activities on performance outcomes. Lastly, the quantitative techniques are also viewed as a limitation because qualitative insights such as employee motivation, culture, and leadership behavior can offer significant depth for future studies.

This study presents several recommendations for the private banking sector in developing countries such as Pakistan, emphasizing the need for substantial investments in comprehensive digital literacy initiatives to equip employees with the necessary knowledge of digital banking services. Banking institutions encounter rigorous regulatory frameworks that necessitate strong HRM strategies to ensure compliance, mitigate risks, and uphold organizational integrity. Attracting and

retaining skilled professionals in competitive fields like fintech, digital banking, and risk management presents a significant challenge, necessitating the implementation of effective talent acquisition and retention strategies. Allocate resources towards artificial intelligence, data analytics, and digital platforms to optimize HR workflows and improve decision-making effectiveness. Design thorough training initiatives and incorporate compliance within HR policies to guarantee alignment with regulatory standards.

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