Impacting Technology on Employees' Job Performance: A Case Study of Commercial Banks in Vietnam

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Abstract

Technology is driving rapid transformation in the way people work. Many banks have caught up by introducing technology into their operations and training their personnel to use technology to optimize work productivity. Besides, employee technology competency is one of the most critical issues for organizations, helping them maintain a competitive position in the market. Therefore, the research aimed to measure essential factors impacting bank employees' job performance and policy recommendations. The methodology of this study applied a structural equation model consisting of five factors: knowledge, attitude, hard skills, soft skills, and technology, and examined the impact of the above factors on tasks, context, and job performance. Data were collected from 900 employees working for 40 branches at 15 commercial banks in Vietnam and processed using SPSS 20.0 and Amos software. After testing the scale's reliability, convergence, and discrimination, the study's findings showed that the critical factors of knowledge, attitude, skills, and technology positively impact task, contextual, and job performance. In addition, the originality of this research includes the introduction of technological factors into the model, a new factor of the banking industry in the digital transformation period in Vietnam. Based on the results of testing the research model, the contributions provided empirical evidence that the career competency framework includes critical factors: knowledge, attitude, skills, and technology that positively impact task performance, contextual performance, and employee job performance. The practical implications of the article proposed management implications to help employees, managers, and policymakers improve employees' knowledge, attitudes, and skills, which play an essential role in performing their duties, and improving job performance in digital competency is one of the required skills in the banking industry.

Keywords: Technology, Career Competency, Task, Contextual, Job Performance, Commercial Banks

1. Introduction

Human resources are an essential factor in ensuring the success of an organization. Human resources are crucial in banking operations because they are directly involved in strategic planning. They are responsible for developing strategies, programs, and initiatives and establishing business procedures and codes of conduct that serve as the fundamental framework for all banking activities. This resource plays a role in managing the system and regulating the technical infrastructure. It implements plans following defined processes, collaborates with state agencies, partners, and consumers, and interacts with colleagues by managing banks' cash flows and other resources. Simultaneously, human resources generate novel ideas and initiatives, enhance business processes, optimize system performance, minimize expenses, and mitigate the risks associated with banking operations. Furthermore, the human resources team contributes to the crystallization of corporate cultural values, building and preserving the bank's brand and identity, and is the driving force and goal for sustainable bank development [1].

However, human resource management is essential for human resources to promote value and effectiveness in banking activities because it can determine a bank's success in its operations. Human resource management is necessary for banking management and contributes to banks' sustainable development. Human resource management activities help banks have sufficient human resources with appropriate quality and capacity to meet business goals and sustainable development, manage risks, and improve bank efficiency performance. Implementing human resource management

activities can help increase labor productivity, ensure compliance with legal regulations, and create a competitive advantage for banks in an increasingly competitive business environment. Investing in and supporting human resources strategically and methodically can improve employee satisfaction and boost productivity. Resource management in banking activities also plays an essential role in building and promoting organizational culture, creating a competitive working environment, and encouraging creativity and innovation. Managing the quality of human resources also helps banks increase their attractiveness to potential candidates, attract and retain employees, and reduce turnover rates and new recruitment costs [2].

Increased efficiency, fewer mistakes, and happier customers result from staff members with strong technological competencies who can make good use of digital platforms and banking software. Additionally, virtual banking services can be seamlessly provided by employees competent with digital technologies. Customers can have their inquiries swiftly addressed and individualized solutions offered through improved consumer risk management systems. By improving the bank's strategic operations and adaptability in a competitive market, workers with proficiency in data analytics can evaluate financial patterns and make data-driven decisions. Protecting sensitive banking data and ensuring operational integrity are made possible when staff members are knowledgeable with cybersecurity tools, can recognize potential dangers, and put preventative measures in place.

The development of banking is an essential factor in the country's economic development, and up to now, there have been many changes in the banking industry. Those changes can be attributed to the development of technology: The popularity of mobile phones, the ability to access the Internet anytime, anywhere, and the rapidly developing digital banking system. The finance and banking industry has recently undergone an essential digital transformation. However, with the strong technological development trend, the banking system also faces many challenges, requiring more substantial transformation to be able to grasp digital technology trends and apply digital technologies to use and improve the quality of its products and services, making financial services more available, competitive, and cost-effective. For that reason, bank employees need to apply technology to their work to improve work efficiency. Therefore, the paper determines critical factors influencing employees' job performance at commercial banks in Vietnam and provides policy implications for enhancing employees' job performance at commercial banks.

2. Literature Empirical Review and Hypothesis Development

2.1. Job Performance (JP)

Job performance refers to any individual's behavior or activity that aligns his or her ability to perform tasks with organizational goals. Job performance results from executing tasks the organization delegates to its staff for implementation. A job's outcome is successfully fulfilling a task within a specific timeframe. Job results are tangible outcomes or consequences of job performance. Each individual exhibits this conduct due to being allocated a task for its implementation by the organization [3]. Job performance involves correctly completing assigned work and creating as much value as possible compared to the initially set goals. Therefore, task performance in digital banking is described as an employee's ability to do specified duties efficiently, such as processing digital transactions, responding to consumer requests via online platforms, or resolving cybersecurity alarms. This can be quantified by transaction processing times, customer resolution rates, and data entry errors.

2.2. Task Performance (TP)

As various studies state, task-based work outcomes refer to activities associated with a specific position tied to formal job roles and responsibilities. Outcomes were measured by completing the tasks prescribed for one's job. Task performance is how a person performs a task. Task performance is measured by the response time or can be measured by accuracy. Task performance is used to quantify a person's performance on a specific task [4]. The task definition of performance emphasizes the instrumental nature of performance toward organizational goals. It refers to the necessary outcomes and behaviors that serve the organization's objectives.

2.3. Contextual Performance (CP)

Contextual performance is defined as an employee's behavior based on a task with an element of contingency outside of the employee's usual tasks, which is believed to directly promote effective performance without directly affecting

employee productivity. At the same time, contextual activities/jobs are expected for many (or all) jobs and are more or less regulated in the work of individuals within the organization [5]. Additionally, contextual job performance differs from task performance because it includes informal job description activities.

2.4. Knowledge (KN)

Knowledge is an essential intangible asset in corporations. Effective companies are typically characterized by a culture of continuous learning in which all employees consistently acquire, generate, and disseminate knowledge among their colleagues. Hence, employees' expertise is crucial in developing their fundamental capabilities to attain their objectives [6]. Employee expertise is essential in the service sector because it directly impacts employees' understanding of service operations, including clients, goods, services, operational procedures, rivals, and company colleagues. Thus, the authors gave hypotheses H1, H2 and H3 in Figure 1.

2.5. Attitude (AT)

Attitude can be understood as an emotional state expressed in human behavior. They make statements, comments, and judgments and react to the world through gestures, speech, actions, gestures, and facial expressions. Attitude is the verbal, nonverbal, and behavioral expression of opinions, evaluations, and judgments on objects, events, and individuals, including perception, impact, and conduct. Attitudes can be classified as bad or positive based on the outward expressions exhibited by the individual displaying the attitude. Attitude is an enduring characteristic of personality that affects behavior across different circumstances [7]. Thus, the authors proposed the final hypothesis H4, H5 and H6 in Figure 1.

2.6. Hard Skills (HS)

Hard skills can be broadly defined and are contingent on the particular situation in which they are applied. Hard skills encompass the technical components of job tasks and typically encompass information acquisition. Thus, hard talent is predominantly cognitive and shaped by an individual's intelligence quotient. Certain scholars have employed the notion of hard talent in specific managerial contexts [8]. Additional research has frequently categorized hard skills in project management as encompassing processes, procedures, tools, and approaches. Modern banking operations increasingly rely on hard skills that go beyond simple software usage. These skills now encompass knowledge of blockchain technology, artificial intelligence, and big data analysis. Integrating complex abilities like communication and teamwork with soft skills helps staff provide seamless services in digital and conventional banking situations. Thus, the authors gave hypotheses H7, H8 and H9 in Figure 1.

2.7. Soft Skills (SS)

Soft skills are communication, people, or behavioral skills necessary to apply technical and workplace knowledge. Soft skills include skills, abilities, and characteristics related to personality, attitude, and behavior rather than formal or technical knowledge. Another definition of soft skills is also provided. Soft skills refer to interpersonal abilities essential for personal growth, social engagement, and achievement in professional settings [9]. These encompass proficiencies, such as effective communication, the capacity to collaborate in diverse teams, and the ability to adjust to new circumstances. Thus, the authors gave hypotheses H10, H11 and H12 in Figure 1.

2.8. Technology (TE)

Assessing employees' digital capabilities is an essential part of the human resource management process in the banking industry, especially during the digital transformation process. An accurate and effective digital competency assessment framework will help human resource managers assess employees' digital competencies, discover their strengths and weaknesses, and make important decisions, such as career orientation, promotion, or reducing working hours [10]. The framework delineates essential digital skills within five domains, outlining the levels of expertise and providing illustrative instances of their application. Thus, the authors gave hypotheses H13, H14 and H15 in Figure 1.

2.9. Task Performance and Contextual Performance Affecting Job Performance.

Many previous studies are fragmentary and do not focus on all three aspects of career competency. Studies suggest that knowledge, attitudes, and skills impact job performance, but each study only focuses on a particular aspect, either knowledge, attitude, or skill. Only a few studies focus on all three aspects but on areas other than the banking sector.

Regarding job performance assessment, previous studies mainly evaluated the level of job completion associated with specific job positions [11]. This study evaluates overall job performance, including job performance by task and job performance by context. In addition, the results of this research propose a professional competency framework for employees in the banking sector, helping training institutions in human resource management in the finance and banking industry training program to participate. Refer to adjust output standards to suit labor market needs. Thus, the authors gave hypotheses H16 and H17 in Figure 1.

The study focuses on how knowledge, attitude, hard skills, soft skills, and technology interact in real-world circumstances. Knowledge enables the successful use of technologies such as customer relationship management systems, whilst a positive attitude promotes skill growth and adaptability. Soft skills improve teamwork and communication, which is essential when implementing technology-driven processes. Employees with extensive expertise frequently demonstrate superior interpersonal skills, which enhances client and team interactions. A comprehensive combination of these aspects guarantees optimal employee performance and corporate success.

The research model outlines five significant aspects influencing bank employee performance: knowledge, attitude, hard skills, soft skills, and technology. Each element has a specific impact on job categories and technological platforms. Knowledge improves task accuracy and compliance, whereas attitude promotes proactive issue-solving. Hard skills help with technical activities like data analysis, while soft skills increase teamwork and customer involvement. Technology competency promotes flexibility in digital technologies, crucial for success in a continually changing banking industry. Based on the information provided, the authors have put forth a particular study model in Figure 1.
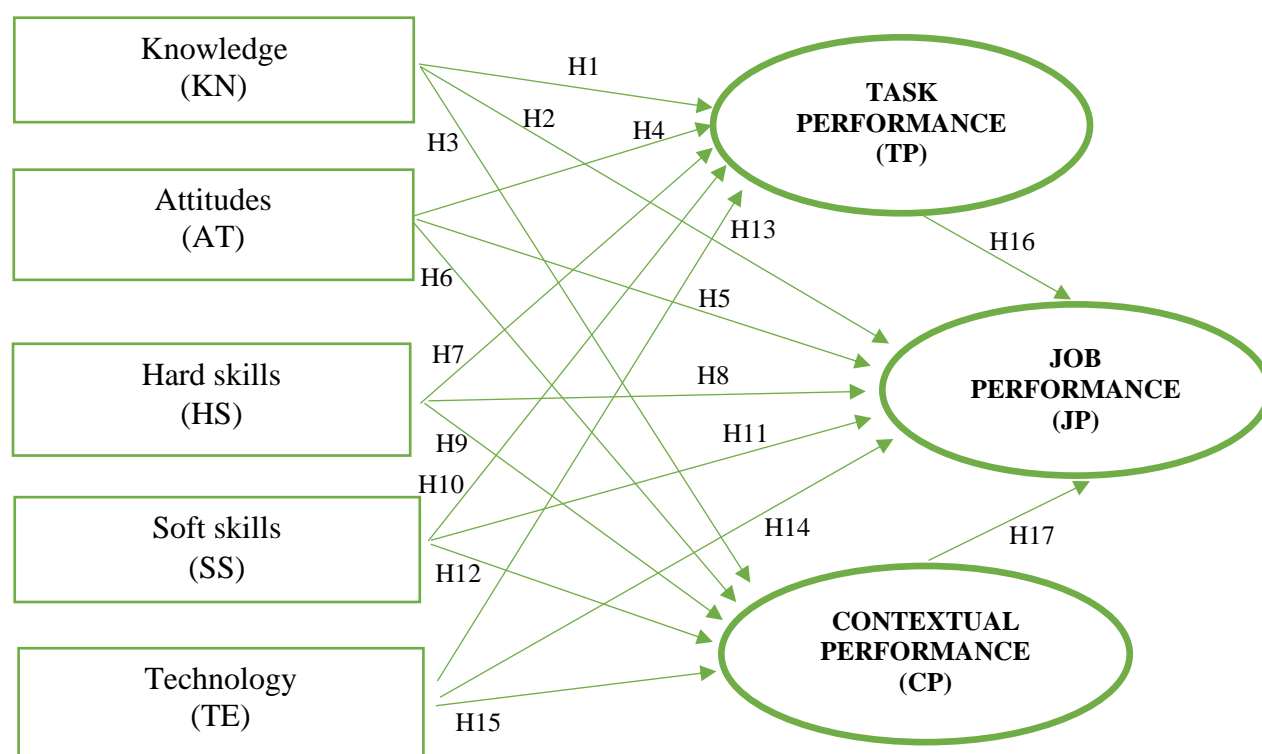

Figure 1. A research model for critical factors influencing employees' job performance at commercial banks

Figure 1 shows five critical factors of career competency on employees' job performance in commercial banks in Vietnam, with essential factors such as (1) knowledge, (2) attitude, (3) hard skills, (4) soft skills, and (5) technology. Figure 1 also shows that the dependent variable, employees' job performance, is evaluated based on three criteria: (1) job performance, (2) task performance, and (3) contextual performance.

3. Methodology and Data

Based on the research model for critical factors influencing employees' job performance at commercial banks, the authors applied the following methodology and data: Step 1: The authors build a scale and draft the questionnaire and

the preliminary survey process. This step built a scale to evaluate the level of factors of career competency on employees' job performance in commercial banks in Vietnam, with essential factors such as (1) knowledge, (2) attitude, (3) hard skills, (4) soft skills, and (5) technology. Dependent variable: Employees' job performance is evaluated based on three criteria: (1) job performance, (2) task performance, and (3) contextual performance. After adjusting the questionnaire, we surveyed large-scale commercial banks in six provinces with commercial banks in the Southeast region, including Ho Chi Minh City, Dong Nai Province, Binh Duong, Binh Phuoc, Tay Ninh, and Ba Ria-Vung Tau Province. In addition, the authors directly discussed 900 survey votes from 40 branches of 15 commercial banks in Vietnam; each province and city was expected to collect 150 employees. Surveys were sent via email and voice directly to the respondents. The survey period was from January 2024 to June 2024, and the online form was available at the 40 branches mentioned above. Convenient and online sampling methods are considered appropriate to reach the target respondents of the research area in terms of geographical distance between bank branches and access to groups of participating interviewers. The survey will be conducted online to ensure safety and compatibility with the current digital banking transformation and to follow the digital transformation situation in Vietnam. The authors clarified the sampling strategy and discussed its implications for the study's external validity, which would provide a more robust methodological foundation. This review of studies shows that two analytical models are used to evaluate the correlation between professional competency framework and work results: the multivariate regression model and the linear structural model. However, this study chooses an equational structural model (SEM) to suit the research direction because this model clearly shows the relationship between latent variables, a concept measured based on many essential variables close together. It examines the structure of the interactions between a series of equations, describing the correlations between dependent and independent variables relevant to the study. Unlike multivariate regression equations, linear structural models have advantages over traditional methods, such as the correlation coefficient method, exploratory factor method (EFA), and multivariate regression. Because they can calculate the measurement error. Furthermore, this method allows us to combine latent concepts with their measurements and consider them independently or in conjunction with the theoretical model simultaneously. Step 2: The questionnaire was cleaned and imported into software for data processing. SPSS 20.0 and Amos are used for data analysis, including Cronbach's Alpha and SEM modeling. To increase transparency, the study should include: (1) Discussing data cleaning and screening before analysis to address missing data, outliers, and discrepancies. (2) SEM assumptions like linearity, normality, and homoscedasticity are tested. (3) Expand reliability measures (Cronbach's Alpha) and address convergent and discriminant validity using AVE and CR. (4) Explain RMSEA, GFI, and CFI calculations and interpretations.

Descriptive statistical results were applied, combining qualitative and quantitative analyses to better understand the causes of the current state of impacting career competency on employees' job performance at commercial banks in Vietnam. After that, the sample size for the study was determined by various parameters, including the processing technique for Cronbach's alpha greater than 0.7, as specified by EFA, SEM - structural equation model, etc., and measured the model's fit with GFI ≥ 0.900, TLI ≥ 0.900, CFI ≥ 0.900, and RMSEA < 0.1 [12]. For the formal quantitative research phase, the complete scale was included in the formal study for CFA confirmatory factor analysis. The authors conducted a quantitative survey of 900 employees, but only 835 valued samples were used. The survey method used was random, convenience sampling, and mainly an email survey of employees in the bank branches listed above. The methodology section should include more information about random and convenient sampling approaches. It could explain how participants were chosen using stratified random sampling or accessible respondents by email. Discuss potential biases, such as the overrepresentation of accessible staff, and how this affect representativeness. Determine whether the sample represents the variety of the banking workforce, including functions and geographies. Finally, discuss how these methodologies may limit generalizability and propose systematic sampling in future studies to improve validity.

4. Empirical Results

4.1. Analysis of Descriptive Statistics and Cronbach's Alpha for Key Factors Affecting Employees' Job Performance at Commercial Banks in Vietnam

Table 1 shows the effects of five variables on employees' job performance at commercial banks in Vietnam, five critical factors of career competency on employees' job performance in commercial banks in Vietnam, with essential factors

such as (1) knowledge, (2) attitude, (3) hard skills, (4) soft skills, and (5) technology. Figure 1 also shows that the dependent variable, employees' job performance, is evaluated based on three criteria: (1) job performance, (2) task performance, and (3) contextual performance. Means, standard deviations, and Cronbach's alpha are used to evaluate these parameters in Table 1 below, which needs more explanation. Moreover, staff members working on digital banking platforms should be well-versed in client-facing technologies like mobile apps and online banking portals to provide excellent customer service, troubleshoot technical issues, and guarantee a smooth user experience. Additionally, fraud detection software and encryption systems are essential security technologies that rely on knowledge of cybersecurity protocols and tools to protect sensitive financial and customer data.

Table 1. Testing of Cronbach's alpha for factors affecting employees' job performance at commercial banks

Items		Minimum	Maximum	Cronbach's alpha	Mean	Std. Deviation
Knowledge (KN)				**0.924**	**3.028**	**0.998**
	KN1	1	5	0.880	3.055	1.000
	KN2	1	5	0.895	3.029	1.020
	KN3	1	5	0.918	2.989	1.017
	KN4	1	5	0.909	3.038	1.009
Attitudes (AT)				**0.908**	**3.026**	**0.984**
	AT1	1	5	0.865	2.997	0.992
	AT2	1	5	0.861	3.033	0.993
	AT3	1	5	0.877	3.045	0.966
Hard skills (HS)				**0.938**	**3.051**	**1.003**
	HS1	1	5	0.924	3.000	1.025
	HS2	1	5	0.927	3.052	1.006
	HS3	1	5	0.921	3.083	0.975
	HS4	1	5	0.901	3.065	1.007
Soft skills (SS)				**0.897**	**3.306**	**0.986**
	SS1	1	5	0.887	3.332	0.990
	SS2	1	5	0.783	3.344	0.956
	SS3	1	5	0.887	3.239	1.013
Technology (TE)				**0.856**	**3.400**	**0.930**
	TE1	1	5	0.806	3.384	0.873
	TE2	1	5	0.812	3.511	0.965
	TE3	1	5	0.845	3.325	0.979
	TE4	1	5	0.802	3.378	0.902
Task performance (TP)				**0.879**	**3.295**	**0.994**
	TP1	1	5	0.865	3.283	1.020
	TP2	1	5	0.771	3.367	0.947
	TP3	1	5	0.852	3.232	1.016
Job performance (JP)				**0.830**	**2.374**	**0.659**
	JP1	1	5	0.786	2.325	0.655
	JP2	1	5	0.737	2.421	0.673
	JP3	1	5	0.771	2.373	0.651
Contextual performance (CP)				**0.879**	**3.289**	**0.998**
	CP1	1	5	0.864	3.275	1.026
	CP2	1	5	0.770	3.361	0.951
	CP3	1	5	0.853	3.228	1.016

Table 1 tests the reliability of the scale, including key factors: (1) knowledge, (2) attitude, (3) hard skills, (4) soft skills, and (5) technology. Figure 1 also shows that the dependent variable, employees' job performance, is evaluated based on three criteria: (1) job performance, (2) task performance, and (3) contextual performance. Table 1 shows that the research team used SPSS 20.0, Amos, to test the direct factors affecting employees' job performance at commercial banks in Vietnam. The total number of questionnaires issued was 900, and the expected return rate was 92.78% (835 samples). The questionnaire mainly aims to collect data to analyze banks' awareness of the career competency of employees' job performance and evaluate factors affecting employees' job performance. Initial scale testing showed a Cronbach's alpha value of 0.856–0.938. This result confirms that the scale ensures reliability [12], a Cronbach's alpha coefficient of 0.7 or higher is a usable scale, and the correlation is significant at the 0.05 level (2-tailed) in Table 1.

Moreover, table 2 below presents evidence-based results for testing the SEM model for factors affecting employees' job performance at commercial banks in Vietnam.

Table 2. Testing critical factors affecting employees' job performance at commercial banks

Relationships			Standardized Estimate	S.E	C.R	P	SE-Bias	Hypothesis	Result
KN	→	CP	0.574	0.032	15.876	***	0.001	H1	Accepted
AT	→	CP	0.086	0.025	2.811	0.005	0.002	H4	Accepted
HS	→	CP	0.094	0.023	3.197	0.001	0.004	H7	Accepted
SS	→	CP	0.057	0.032	2.689	0.007	0.003	H10	Accepted
TE	→	CP	0.156	0.030	4.910	***	0.004	H13	Accepted
KN	→	TP	0.223	0.033	6.060	***	0.002	H2	Accepted
AT	→	TP	0.088	0.029	2.448	0.014	0.004	H5	Accepted
HS	→	TP	0.111	0.028	3.190	0.001	0.004	H8	Accepted
SS	→	TP	0.052	0.038	2.123	0.034	0.003	H11	Accepted
TE	→	TP	0.138	0.035	3.746	***	0.003	H14	Accepted
KN	→	JP	0.298	0.024	6.806	***	0.001	H3	Accepted
AT	→	JP	0.086	0.017	2.610	0.009	0.003	H6	Accepted
HS	→	JP	0.073	0.016	2.351	0.019	0.001	H9	Accepted
SS	→	JP	0.050	0.021	2.246	0.025	0.005	H12	Accepted
TE	→	JP	0.093	0.020	2.767	0.006	0.001	H15	Accepted
TP	→	JP	0.060	0.021	1.770	0.077	0.001	H16	Accepted
CP	→	JP	0.345	0.028	7.675	***	0.001	H17	Accepted

*Note: *** with 1%.*

Table 2 indicates the significance threshold (0.05) for the critical components of career competency on employees' job performance in commercial banks in Vietnam, with essential elements such as (1) knowledge, (2) attitude, (3) hard skills, (4) soft skills, and (5) technology. In addition, this article emphasizes the importance of the digital skills and capacity assessment framework in the banking industry and mentions some international experiences and implications for Vietnam on how to design and implement the assessment framework of digital capacity. Human resources are a prerequisite for successful adaptation to technological advances and digital transformation requirements.

Table 2 shows that the knowledge (KN): The first priority factor averages 3.028; the standardized estimate is 0.574 with sig. 0.0001 [13]. The technology (TE): The second-factor average is 3.4000, and the standardized estimate is 0.156 with sig. 0.0001 [14]. The hard skills (HS): The third factor averages 3.051; the standardized estimate is 0.094 with sig. 0.001. The attitudes (AT): The fourth factor averages 3.026; the standardized estimate is 0.086 with sig. 0.005. Improved soft skills (SS): The final factor averages 3.306; the standardized estimate is 0.057 with sig. 0.007. These results are similar to previous studies and would contextualize the results within the broader field of human resource management. Besides, task performance positively affects job performance, and contextual performance affects job performance. The article could clarify employee job performance by splitting it down into particular aspects for banking roles. Frontline jobs can prioritize KPIs such as reaction time and client satisfaction. Back-office jobs could monitor data processing accuracy and regulatory compliance. IT specialists may be evaluated on system availability and cybersecurity success, whereas managers may be evaluated on team productivity and strategic goal achievement. Finally, sales jobs can focus on fulfilling sales targets and client retention rates. Moreover, the connections between the five independent and three dependent variables were examined in the SEM study, as shown in Figure 2. Several model fit indices, including RMSEA, GFI, TLI, and Chi-square/df, confirm that the model is adequate. The measures show the hypothesized correlations of the factors in Figure 2 below.
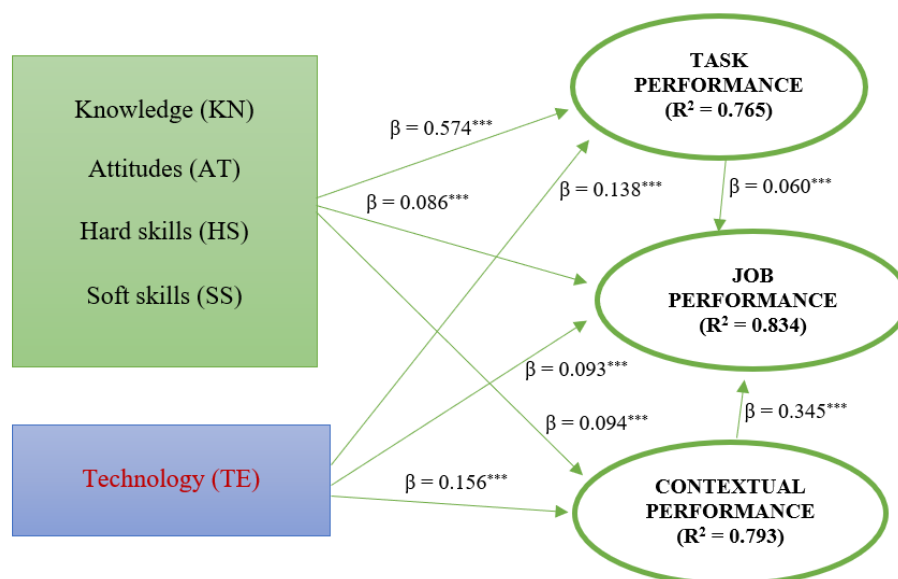
Figure 2. Testing SEM for factors affecting employees' job performance at commercial banks in Vietnam

Figure 2 shows that the assessment of the critical factors affecting employees' job performance at commercial banks in Vietnam based on CMIN/DF = 2.977 (<5.0), GFI = 0.931 (>0.800), TLI = 0.957 (>0.900), CFI = 0.965 (> 0.900) and RMSEA = 0.049 (<0.08). The study aims to determine the five factors affecting employees' job performance at commercial banks in Vietnam, especially the knowledge that emerged as a pivotal determinant, with a standardized estimate of 0.574, indicating a robust and positive influence on contextual performance. This underscores the essential role of a comprehensive knowledge base in facilitating task-specific outcomes and broader organizational contributions, with a standardized estimate of 0.574, which is the most important.

Moreover, table 3 shows the outcomes of a Bootstrap analysis with 60.000 resamples, which gives substantial estimates of the links between the employees' job performance at commercial banks and five critical parameters. Testing Bootstrap 60.000 samples for factors affecting employees' job performance at commercial banks.

Table 3. Testing Bootstrap 60.000 samples for factors affecting the employees' job performance

Parameter			SE	SE-SE	Mean	Bias	SE-Bias	C.R	Results
KN	→	CP	0.041	0.001	0.500	0.001	0.001	1.000	Accepted H1
AT	→	CP	0.024	0.001	0.066	0.004	0.003	1.330	Accepted H4
HS	→	CP	0.025	0.001	0.068	0.003	0.002	1.500	Accepted H7
SS	→	CP	0.038	0.001	0.082	0.004	0.003	1.330	Accepted H10
TE	→	CP	0.034	0.001	0.142	0.006	0.005	1.200	Accepted H13
KN	→	TP	0.037	0.001	0.195	0.003	0.002	1.500	Accepted H2
AT	→	TP	0.030	0.001	0.065	0.003	0.003	1.000	Accepted H5
HS	→	TP	0.030	0.001	0.084	0.006	0.004	1.500	Accepted H8
SS	→	TP	0.044	0.001	0.084	0.004	0.003	1.330	Accepted H11
TE	→	TP	0.036	0.001	0.129	0.004	0.005	0.800	Accepted H14
KN	→	JP	0.026	0.001	0.164	0.001	0.001	1.000	Accepted H3
AT	→	JP	0.018	0.000	0.039	0.003	0.004	0.750	Accepted H6
HS	→	JP	0.025	0.001	0.035	0.001	0.001	1.000	Accepted H9
SS	→	JP	0.026	0.001	0.039	0.002	0.002	1.000	Accepted H12
TE	→	JP	0.020	0.000	0.054	0.002	0.003	0.670	Accepted H15
TP	→	JP	0.019	0.000	0.037	0.000	0.001	0.000	Accepted H16
CP	→	JP	0.033	0.001	0.217	0.000	0.001	0.000	Accepted H17

Table 3 demonstrates the variables influencing employees' job performance at commercial banks were investigated through Bootstrap testing with 60.000 samples, with a significant level of 0.05 (C.R < 1.96). This outcome is in complete harmony with the principles of employees' job performance at commercial banks. This finding provides

scientific evidence that policymakers can utilize to inform their predictions. The study emphasizes the positive effect of knowledge and attitude on performance, but it would be even more relevant if it went into practical applications. For instance, knowing banking software or regulatory compliance inside and out could drastically reduce task completion times by saving mistakes and improving workflows. Similarly, having a proactive attitude that is resilient and adaptable can improve decision-making efficiency when faced with high-pressure situations, like dealing with customer complaints or navigating digital transformations.

4.2. Result Discussion

The findings derived from the structural equation modeling (SEM) and confirmatory factor analysis (CFA) provide significant insights into the multifaceted determinants of employees' job performance in Vietnam's commercial banking sector. The relationships explored across dimensions of task performance, contextual performance, and overall job performance highlight critical drivers of employee effectiveness.

(1) Knowledge emerged as a pivotal determinant, with a standardized estimate of 0.574, indicating a robust and positive influence on contextual performance [15]. This underscores the essential role of a comprehensive knowledge base in facilitating task-specific outcomes and broader organizational contributions. Employees adept at acquiring, sharing, and applying knowledge demonstrate enhanced adaptability and problem-solving capacities, which are vital for navigating the complexities of modern banking operations. Therefore, commercial banks should prioritize employee training programs to improve knowledge and technical skills. Knowledge-sharing platforms and regular upskilling initiatives can drive task and contextual performance.

(2) Attitude was identified as another critical factor, significantly impacting task and contextual performance, with standardized estimates of 0.088 and 0.086, respectively [16], [17], [18]. Positive employee attitudes are associated with heightened engagement, resilience, and alignment with organizational objectives. This finding corroborates established literature emphasizing the nexus between emotional intelligence, workplace satisfaction, and productivity. Therefore, commercial banks should promote positive workplace attitudes by recognizing employee contributions and fostering satisfaction through rewards and acknowledgment.

(3) with a standardized estimate of 0.094 on contextual performance, hard skills reinforce their instrumental role in enabling employees to precisely execute technical and operational tasks. These skills are particularly crucial in digital transformation, where proficiency in technology and analytical tools enhances operational efficiency and compliance with evolving industry standards. Therefore, commercial banks should develop soft and hard skills development based on soft skills, which are less impactful than hard skills; they are crucial for decision-making and collaboration. A balanced development approach is necessary

(4) Although contributing more modestly based on the standardized estimate of 0.057, soft skills remain indispensable for fostering interpersonal collaboration and adaptability in an evolving work environment [18], [19], [21], [22]. Effective communication, conflict resolution, and teamwork are vital for sustaining organizational cohesion and innovation, especially in sectors reliant on client interaction and service delivery.

(5) The role of technological competency was significantly highlighted, particularly in its influence on contextual performance based on the standardized estimate of 0.156 [20], [21], [25]. This finding accentuates the imperative for digital literacy and innovation within the banking sector, aligning with global trends towards technology-driven service enhancements. Employees proficient in digital tools improve operational efficiency and elevate customer satisfaction, positioning banks competitively in an increasingly digital marketplace. Therefore, commercial banks should be technology Integration based on investing in digital tools and technologies to improve work processes and support employees in leveraging technological capabilities for better outcomes.

(6) The study further identified a strong correlation between contextual and overall job performance based on the standardized estimate of 0.345 [22], [23], [26]. Employees who excel in roles requiring initiative, collaboration, and adaptability are likelier to exhibit comprehensive effectiveness, underscoring the need for integrative competency development frameworks that address technical and contextual dimensions. Therefore, commercial banks should foster contextual performance by encouraging a workplace culture where employees voluntarily contribute to organizational success through idea generation, risk mitigation, and brand promotion.

(7) The findings provide a compelling case for prioritizing holistic employee development strategies. Emphasis on structured knowledge acquisition programs, attitude enhancement initiatives, and integration of advanced digital tools are critical to addressing the demands of a rapidly evolving banking industry [27], [28]. These measures will enhance employee performance and foster resilience and innovation across organizational hierarchies. Alignment with existing literature based on the results corroborates prior research, which posits that professional competency are multidimensional and interdependent, exerting significant influence on individual and organizational outcomes. Including technological capability as a core competency factor is particularly salient, reflecting the sector's adaptation to the exigencies of digital transformation [29], [30]. Moreover, theoretical and managerial contributions are based on the theoretical discourse by integrating technology into the competency framework, a novel addition within the banking context. Managerially, it provides actionable insights for designing targeted interventions to bolster employee competencies, ultimately fostering enhanced organizational performance and competitiveness.

Conformity with regulations employees is better able to handle complicated reporting requirements, which has improved operational reliability and reduced errors, thanks to knowledge gained through frequent training on compliance with financial standards. Regarding risk assessment methods and other best practices, some banks' workers use internal knowledge-sharing platforms to share ideas and encourage innovation and growth amongst themselves. Incorporating these real-world examples would strengthen the study's theoretical conclusions by offering practical insights into how a knowledge base directly leads to improved task-specific outcomes. The results section might be enhanced by examining how correlations change with external factors. Market situations, such as economic downturns, may heighten the value of customer interaction abilities. Technological breakthroughs, such as AI, may emphasize technology-related skills. Customer expectations for individualized services may increase the demand for technical and soft abilities. Furthermore, legal changes and geographic or cultural considerations may influence how employee abilities affect performance in various circumstances.

5. Conclusions and Policy Recommendations

5.1. Conclusions

The structural equation model assesses the factors affecting employees' job performance at commercial banks in Vietnam. We surveyed large-scale commercial banks in six provinces with commercial banks in the Southeast region, including Ho Chi Minh City, Dong Nai Province, Binh Duong, Binh Phuoc, Tay Ninh, and Ba Ria-Vung Tau Province. In addition, the authors directly discussed 900 survey votes from 40 branches of 15 commercial banks in Vietnam; each province and city were expected to collect 150 employees. Surveys were sent via email and voice directly to the respondents. The survey period was from January 2024 to June 2024, and the online form was available at the 40 branches of commercial banks. An analysis was conducted using SPSS version 20.0 and Amos software. The study's originality identifies five pivotal factors affecting the employees' job performance at commercial banks at a significance level of 0.05 and all the validated hypotheses. Based on the research results, the authors provided empirical evidence that the professional competency framework includes three factors: Knowledge, Attitude, and Skills (hard and soft skills) that have a positive impact on task-specific job performance, contextual job performance, and overall job performance of banking sector employees. Research results also show that the banking sector employees' knowledge, attitudes, and skills are essential in performing their duties. Research shows that employees' knowledge bases and positive attitudes toward work contribute significantly to their ability to effectively perform their duties. An employee's skills also affect an individual's overall job performance. In addition, research results show that the technological capabilities of employees in the banking sector play a critical role in performing their duties. Research shows that employees' knowledge bases and positive attitudes toward technology contribute significantly to their ability to perform their tasks effectively. The skills an employee possesses also impact an individual's work performance.

5.2. Policy Recommendations

Continuous learning research emphasizes the need for adaptation and innovation in banking. Reports on digital literacy training highlight its significance for operational efficiency and customer happiness. Research linking communication training to teamwork and engagement may aid soft skill development. Furthermore, examples from multinational banks provide practical frameworks for successfully applying these tactics. Based on testing the impact of career competency

on employees' job performance in commercial banks, the authors proposed five policy implications for employees' job performance in Vietnam.

(1) Improved knowledge (KN): The first priority factor averages 3.028; the standardized estimate is 0.574 with sig. 0.0001 (in table 1 and table 2). Therefore, commercial banks should foster knowledge-sharing and continuous learning by implementing knowledge-sharing platforms to facilitate collaborative learning among employees. Moreover, regularly organize workshops and training sessions to update employees on industry developments and best practices. Encourage mentorship programs where experienced employees can guide others, improving organizational knowledge. As mentioned, knowledge is a significant factor in helping employees understand their work and positively impacts work results. Knowledge is measured through three aspects: knowledge that an employee currently possesses, knowledge that employees share with others, and knowledge accumulated from colleagues or learning from experience. Therefore, managers need reasonable policies to help employees improve and enhance their knowledge of all three aspects. To do this, discussions should be organized regularly so that employees can discuss and share their experiences. At the same time, it creates conditions for veteran members to continue to improve their professional practice through courses or specialized training.

(2) Improve technology (TE): The second-factor average is 3.4000; the standardized estimate is 0.156 with sig. 0.0001 (in table 1 and table 2). Therefore, commercial banks should enhance technical and technological proficiency by investing in employee training focused on using digital tools and technologies relevant to their roles. Moreover, commercial banks provide opportunities for employees to experiment with and adopt new technologies, fostering innovation and process optimization. Finally, commercial banks develop a structured digital transformation strategy to integrate technology into daily operations. Some specific recommendations to improve digital capacity for banking human resources through the state and commercial banks must clearly identify the need to train and foster human resources to build a team of IT experts. The planning staff and experts must implement specialized training and retraining programs. Reasonable remuneration policies will help competent people adhere to the industry and develop their capabilities. Regularly evaluating the planning will help eliminate unqualified staff from the planning while only maintaining those who can serve the unit's work.

(3) Improved hard skills (HS): The third-factor average is 3.051; the standardized estimate is 0.094 with sig. 0.001 (in table 1 and table 2). Currently, the economy depends heavily on banks. In the digital era, many positions are gradually replaced by the strong development of artificial intelligence (AI), big data, and the Internet of Things (IoT). Particularly in the banking industry, it is done by people and requires a team of well-trained staff with management capacity and good performance in banking activities. Thus, banks must train communication skills, adaptability, and teamwork, considered the most important criteria employers need for new graduates. Additionally, credit institutions can enhance the engagement of all employees in the workplace by creating a learning culture and personal development plans. Employee engagement increases customer satisfaction and the quality of service. In addition, they are encouraged to be creative, develop new ideas, and solve problems quickly and effectively. To improve the quality of hard skills training for bank employees, it is necessary to build integrated training programs, ensuring that employees are continuously monitored for their tasks and trained in the skills necessary to perform those tasks. The training structure should closely follow and reflect employees' working days to accumulate necessary work experience.

(4) Improve attitudes (AT): The fourth factor averages 3.026; the standardized estimate is 0.086 with sig. 0.005 (in table 1 and table 2). Therefore, commercial banks should improve employee attitudes and motivation by conducting regular employee satisfaction surveys to understand their concerns and improve workplace morale. Moreover, commercial banks should implement incentive programs linked to performance metrics, including monetary rewards and career advancement opportunities. Finally, foster a customer-centric culture by highlighting the value of satisfied customers and their honor to the organization. Another important factor is improving employees' working attitudes to achieve better efficiency. The attitudes measured in this study primarily describe the employees' positive feelings at work. Many studies show that taking short breaks during a workday can increase feelings of refreshment and improve job satisfaction, leading to increased productivity and work performance. Therefore, bank managers care about employees, not only their work but also their life balance and mental health. Focusing only on work without rest or play can lead to stagnation, fatigue, and reduced performance. Research has shown that rest and play can help improve

concentration, increase strength, and increase creativity, helping employees become more alert and more evident at work.

(5) Improved soft skills (SS): The final factor has an average value of 3.306; the standardized estimate is 0.057 with sig. 0.007 (in table 1 and table 2). Regarding soft skills, banks need to focus on four groups based on the results of the scale: influencing, relationship-building, decision-making, and teamwork skills. Human resource training and development policies in most banks today are fully formalized in detail for synchronous applications throughout the system. Bank training and human resource development are promoted and regularly paid attention to. It is crucial to prioritize the development of internal strength in self-training. This involves a comprehensive and synchronized approach encompassing various aspects such as form, content, and training subjects. The aim was to meet the requirements of enhancing and updating professional knowledge, skills, career skills, executive management capacity, foreign language proficiency, and modern information technology. Additionally, it aims to fulfill the needs of business operations, implement banking modernization projects, and prepare a well-equipped human resource team for integration. Banks have established uniform internal procedures, including training implementation, curriculum creation, logistical organization, and financial operations. Finally, many employees have specialized knowledge and hard skills, and the proportion of employees equipped with soft skills is relatively tiny. This is a significant challenge for businesses. Experts confirm that soft skills and attitudes account for 90% of work success. However, most businesses today have inferior soft skills. Not equipped with the necessary soft skills slows down each employee's work. Employees need to possess excellent empathy abilities to provide a more tailored and fulfilling experience for customers using digital channels. Due to the absence of physical indications, misconceptions can arise in virtual conflict resolution systems. Staff members adept at resolving conflicts can help keep customers happy and minimize the impact of these problems. To better understand their influence and keep up with industry advancements, the study should address the growing importance of these interpersonal skills in digital banking.

When upper-level management isn't convinced of the value of investing in staff skill sets, they may resist change. Financial institutions can gain support from upper management by presenting data showing how investments in education and technology increase productivity and earnings. It might be difficult for mid-level managers to prioritize training programs when they are also responsible for personnel management and juggling operational chores. Active involvement and seamless implementation can be facilitated by customizing managerial training to match individual team goals and workflows. According to new hires, a steep learning curve may be difficult for entry-level workers to adapt, particularly in digital tools and processes. Structured onboarding programs and mentoring activities could help simplify the shift and boost productivity initially.

This research provides valuable insights into the drivers of job performance among commercial bank workers, but certain limitations should be acknowledged to contextualize the findings and lay the groundwork for future research. The research met its goals, although it has limitations: The first goal was to assess how the professional competency framework affected job results. The model omitted several other aspects, according to the results. Future research must consider other elements in the research model. Three ways to evaluate work results are self-evaluation, peer assessment, and senior-leader assessment. Due to access issues, this study relied on employee self-assessment. The results are still not objective from many views. Thus, future research should divide the survey into two groups: one group of survey questions for group employees and managers and two survey samples. Finally, the research is limited to establishing and building a scale of 15 managers in 6 Vietnamese provinces and cities. Therefore, future research should broaden this study. The survey table and expert conversations involve banking HR managers: (1) Future study should include organizational atmosphere, employee engagement, and macroeconomic factors. These characteristics may illuminate job performance factors in a broader context. (2) Longitudinal studies can reveal how competencies develop and how they affect performance. Such studies can also track interventions and organizational strategy changes. (3) Comparative assessments of studies from different nations, industries, or organizational sizes can improve competency framework generalizability. This would illuminate contextual differences and emphasize universal vs regional characteristics.

To improve the limits section, give specific recommendations for future studies employing triangulation approaches to improve data dependability. (1) Peer evaluations based on future research could include assessments from coworkers to provide a more comprehensive picture of employee performance, particularly in collaboration and collaborative

tasks. (2) Manager assessments, including supervisor evaluations, would provide an authoritative perspective on task-specific and contextual performance that aligns with organizational standards.

6. Declarations

6.1. Author Contributions

Conceptualization: L.T.H. and P.T.T.; Methodology: P.T.T.; Software: L.T.H.; Validation: L.T.H. and P.T.T.; Formal Analysis: L.T.H. and P.T.T.; Investigation: L.T.H.; Resources: P.T.T.; Data Curation: P.T.T.; Writing Original Draft Preparation: L.T.H. and P.T.T.; Writing Review and Editing: L.T.H.; Visualization: L.T.H.; All authors have read and agreed to the published version of the manuscript.

6.2. Data Availability Statement

The data presented in this study are available on request from the corresponding author.

6.3. Funding

6.4. Institutional Review Board Statement

Not applicable.

6.5. Informed Consent Statement

Not applicable.

6.6. Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

References

[1] A. M. S. Abukhalifa and N. L. M. Kamil, "Intensifying employees' job performance in Palestine banking sector: How personal attributes tell us?," *International Journal of Business and Society*, vol. 23, no. 1, pp. 560–584, 2022.

[2] A. Adekiya, "Perceived job insecurity and task performance: What aspect of performance is related to which facet of job insecurity," *Current Psychology*, vol. 43, no. 2024, pp. 1340–1358, 2024.

[3] M. Akdere and T. Egan, "Transformational leadership and human resource development: Linking employee learning, job satisfaction, and organizational performance," *Human Resource Development Quarterly*, vol. 31, no. 4, pp. 393–421, 2020.

[4] A. Demir, M. Kiziloglu, T. Budur, and A. Heshmati, "Elaborating on the links between declarative knowledge, procedural knowledge, and employee performance," *SN Business and Economics*, vol. 3, no. 23, pp. 1–30, 2023.

[5] H. Deng, S. X. Duan, and S. Wibowo, "Digital technology-driven knowledge sharing for job performance," *Journal of Knowledge Management*, vol. 27, no. 2, pp. 404–425, 2023.

[6] S. X. Duan, H. Deng, and S. Wibowo, "Technology affordances for enhancing job performance in digital work," *Journal of Computer Information Systems*, vol. 21, no. 2, pp. 1–13, 2023.

[7] D. Elamalki, A. Kaddar, and N. Beniich, "Impact of motivation on the job performance of public sector employees: The case of Morocco," *Future Business Journal*, vol. 10, no. 53, pp. 1–15, 2024.

[8] I. Hafeez, Z. Yingjun, S. Hafeez, R. Mansoor, and K. U. Rehman, "Impact of workplace environment on employee performance: Mediating role of employee health," *Business, Management and Education*, vol. 17, no. 2, pp. 173–193, 2019.

[9] V. Kisekka and S. Goel, "An investigation of the factors that influence job performance during extreme events: The role of information security policies," *Information Systems Frontiers*, vol. 25, no. 2023, pp. 1439–1458, 2023.

[10] M. Krijgsheld, L. G. Tummers, and F. E. Scheepers, "Job performance in healthcare: A systematic review," *BMC Health Services Research*, vol. 22, no. 149, pp. 1–17, 2022.

[11] J. Kumari and J. Kumar, "Influence of motivation on teachers' job performance," *Humanities and Social Sciences Communications*, vol. 10, no. 158, pp. 1–11, 2023.

[12] J. Hair, R. Anderson, R. Tatham, and W. Black, *Multivariate Data Analysis*, Prentice-Hall, Upper Saddle River, NJ, USA, 2018.

[13] Y. M. Kundi, M. Aboramadan, E. M. I. Elhamalawi, and S. Shahid, "Employee psychological well-being and job performance: Exploring mediating and moderating mechanisms," *International Journal of Organizational Analysis*, vol. 29, no. 3, pp. 736–754, 2021.

[14] S. Y. Lee and S. W. Lee, "Social media use and job performance in the workplace: The effects of Facebook and KakaoTalk use on job performance in South Korea," *Sustainability*, vol. 12, no. 10, pp. 1–18, 2020.

[15] Z. Luo, E. Ma, and A. Li, "Driving frontline employee performance through mentorship, training, and interpersonal helping: The case of upscale hotels in China," *International Journal of Tourism Research*, vol. 23, no. 5, pp. 846–857, 2021.

[16] K. T. Mahmud, I. S. Wahid, I. Arif, and J. B. Martinez, "Impact of training needs assessment on the performance of employees: Evidence from Bangladesh," *Cogent Social Sciences*, vol. 5, no. 1, pp. 1–14, 2019.

[17] E. Marescaux, S. De Winne, and A. Forrier, "Developmental HRM, employee well-being, and performance: The moderating role of developing leadership," *European Management Review*, vol. 16, no. 2, pp. 317–331, 2019.

[18] R. Muhammad, F. Muhammad, A. Saman, S. Fakhar, and K. Imrane, "Linking job crafting, innovation performance, and career satisfaction: The mediating role of work engagement," *work*, vol. 75, no. 3, pp. 877–886, 2023.

[19] C. Ng, W. Wider, C. Yang, L. Jiang, A. Vasudevan, P. Bhandari, and H. P. T. Lee, "Keys factor affecting employee performance in the banking sector: A Delphi study," *Cogent Business and Management*, vol. 11, no. 1, pp. 1–17, 2024.

[20] J. Park, S. J. Han, J. Kim, and W. Kim, "Structural relationships among leadership, affective organizational commitment, and job performance: The mediating role of work engagement," *European Journal of Training and Development*, vol. 46, no. 9, pp. 920–936, 2022.

[21] T. Ren, X. Jin, M. Rafiq, and T. Chin, "Moderation of housing-related factors on psychological capital–job embeddedness association," *Frontiers in Psychology*, vol. 10, pp. 1–6, 2019.

[22] C. M. Ringle, M. Sarstedt, R. Mitchell, and S. P. Gudergan, "Partial least squares structural equation modeling in HRM research," *The International Journal of Human Resource Management*, vol. 31, no. 12, pp. 1617–1643, 2020.

[23] S. K. Roy, M. R. Khan, and N. I. Shanto, "Bankers' job stress, job performance, and job commitment trajectories during the COVID-19 pandemic," *Journal of Entrepreneurship, Management, and Innovation*, vol. 19, no. 3, pp. 203–228, 2023.

[24] N. Saffar and A. Obeidat, "The effect of total quality management practices on employee performance: The moderating role of knowledge sharing," *Management Science Letters*, vol. 10, no. 1, pp. 77–90, 2020.

[25] S. Sahoo, "Assessment of TPM and TQM practices on business performance: A multi-sector analysis," *Journal of Quality in Maintenance Engineering*, vol. 25, no. 3, pp. 412–434, 2019.

[26] D. A. Shepherd, V. Souitaris, and M. Gruber, "Creating new ventures: A review and research agenda," *Journal of Management*, vol. 47, no. 1, pp. 11–42, 2021.

[27] B. Sypniewska, M. Baran, and M. Kłos, "Work engagement and employee satisfaction in the practice of sustainable human resource management – Based on the study of Polish employees," *International Entrepreneurship and Management Journal*, vol. 19, no. 2023, pp. 1069–1100, 2023.

[28] N. H. Utin and S. Y. Yosepha, "The model of employee performance," *International Review of Management and Marketing*, vol. 9, no. 3, pp. 69–73, 2019.

[29] J. F. Ybema, V. T. Vuuren, and V. K. Dam, "HR practices for enhancing sustainable employability: Implementation, use, and outcomes," *International Journal of Human Resource Management*, vol. 31, no. 7, pp. 886–907, 2020.

[30] L. Yiming, L. Yan, and Z. Jinsheng, "Effects of organizational climate on employee job satisfaction and psychological well-being: The role of technological influence in Chinese higher education," *BMC Psychology*, vol. 12, no. 536, pp. 1–12, 2024.