

THE IMPACT OF DIGITAL TRANSFORMATION ON THE WORK MOTIVATION OF BANK EMPLOYEES IN HO CHI MINH CITY: THE MEDIATING ROLE OF JOB CHARACTERISTICS

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ABSTRACT

Under the pressure of the digital economy, the banking sector in Ho Chi Minh City experienced significant changes, which transformed the traditional working environment. This study examined the factors in digital transformation that affected employees' work motivation through the mediating role of job characteristics. The research model included four independent variables adapted to the digital context: Training and Development (improving AI and digital skills), Working Conditions (modern digital systems and infrastructure), Leadership (support during digital transformation), and Organizational Culture (a digital-oriented mindset). The results indicated that these digital factors positively influenced Job Characteristics, such as increasing autonomy and task significance through technology use. Job Characteristics then played an important mediating role in enhancing Work Motivation, including employees' enthusiasm and commitment in a digital environment. Using a quantitative research method, data were collected from 427 employees working at commercial banks in Ho Chi Minh City. The data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) to assess both the measurement and structural models, as well as the mediating effects. The study provided practical implications for bank managers in Ho Chi Minh City to improve their human resource strategies, ensuring that digital transformation not only increased operational efficiency but also strengthened employee engagement and long-term commitment.

Keywords: Banking sector, digital transformation, Ho Chi Minh City, job characteristics, work motivation.

1. INTRODUCTION

In the context of Industry 4.0, the banking sector in Vietnam is experiencing rapid digital transformation [1]. The application of AI, Big Data, and automation is no longer optional but has become necessary for banks to remain competitive in an increasingly technology-driven market [2], [3]. Digital platforms, smart banking systems, and data analytics tools are being widely implemented to enhance operational speed, accuracy, and customer responsiveness. However, most recent studies mainly focus on operational efficiency, financial performance, or customer experience, while paying limited attention to the human resource dimension of digital transformation.

In Ho Chi Minh City, bank employees are facing double pressure: they must achieve high business targets and, at the same time, quickly adapt to new digital tools, performance monitoring systems, and technology-based processes. While digitalization is expected to create more flexible and autonomous work environments, there is growing concern that it may

instead reduce employees' intrinsic motivation by increasing work intensity and enforcing standardized procedures. Therefore, it is important to examine how digital transformation influences the nature of work and, consequently, the work motivation of banking employees.

This study aims to examine the relationship between digital transformation factors – including Training, Working Conditions, Leadership, and Organizational Culture – and the Work Motivation of bank employees in Ho Chi Minh City. In addition, it investigates the mediating role of Job Characteristics in this relationship.

2. THEORETICAL BACKGROUND AND LITERATURE REVIEW

2.1. Theoretical background and literature review

In modern organizations, human resources are not only an input of the production process but also an important strategic asset that affects the survival and development of a company. In the context of the Fourth Industrial Revolution, the role of human resource management has changed significantly. It is no longer limited to administrative management but also focuses on employee experience and the ability of workers to adapt to new technologies [4]. Humans, as individuals with emotions, psychology, and creative thinking, do not simply accept technology in a passive way. Instead, they react to technological changes through their attitudes and behaviors at work [5]. For this reason, understanding the interaction between technological systems and human psychology has become an important challenge for managers in the banking sector [6].

In the digital era, human resource management can be understood as the use of technology platforms to attract, train, and retain employees. At the same time, organizations need to redesign jobs to improve cooperation between humans and machines [7]. The goal is not only to increase operational efficiency but also to create a working environment where employees feel motivated and willing to contribute [7], [8]. According to Tran Kim Dung [9], human resource management is a system of philosophies and policies that aims to achieve the best results for both organizations and individuals. In the context of digitalization, these results depend greatly on the ability of organizations to maintain work motivation despite continuous changes.

From a theoretical perspective, work motivation is a psychological state that encourages people to take action to achieve personal and organizational goals. Richard M. Steers and Lyman W. Porter [10] explain that motivation includes three aspects: the direction of behavior, the level of effort, and persistence in completing tasks. In the banking sector in Ho Chi Minh City, where digital transformation is developing rapidly, motivation does not only come from financial rewards. It is also influenced by satisfaction with new working conditions, the level of job autonomy, and support from leaders [11]. If digital transformation focuses mainly on technology while ignoring psychological factors, employees may experience “digital burnout”, which can reduce their internal motivation [12].

2.2. Empirical research

Building on the theoretical background, prior studies have shown that digital transformation can influence employee attitudes and behaviors at work through changes in work processes and organizational practices [13]. In the banking sector, where digital technologies are increasingly adopted, these changes are becoming more visible in employees' daily work experience.

In addition, the role of human resource management and organizational support has been emphasized as an important factor in helping employees adapt to technological changes [4],

[6]. These studies suggest that employee responses to digital transformation are not only determined by technology itself but also by the organizational environment.

However, prior studies often examine specific organizational factors such as training, leadership, or culture in different contexts, making it difficult to fully understand their combined influence on employee motivation in the digital workplace. Therefore, there is a need for a more integrated framework that considers multiple aspects of organizational support simultaneously.

To address this gap, this study focuses on four key factors of digital transformation, including training, working conditions, leadership, and organizational culture. These factors represent different aspects of organizational support that employees experience in their daily work and are expected to influence both work motivation directly and job characteristics indirectly.

Instead of examining these factors separately, this study integrates them into a single framework to better explain their combined effects on employee motivation in the context of digital transformation. Therefore, the following hypotheses are proposed:

Training: Training refers to activities that provide employees with digital knowledge, digital skills, and the ability to adapt to new technologies. These activities help improve professional competence and the effective use of technological tools. When employees feel more confident in using technology, they are more likely to maintain positive attitudes toward their work [14].

Working Conditions: Working conditions refer to the technical infrastructure, supporting software, and the level of integration of digital platforms in banks. Good digital systems can help employees complete tasks faster and more effectively. As a result, supportive working conditions may contribute to higher work motivation [2].

Digital Leadership: Digital leadership refers to leadership style in the digital era. Managers not only set goals but also guide and support employees during the change process. By encouraging communication and providing support, leaders can reduce resistance to change and strengthen employee motivation [3].

Organizational Culture: Organizational culture refers to the shared values, beliefs, and attitudes of an organization toward innovation [15]. A culture that supports learning and experimentation can help employees feel more comfortable with new technologies and maintain positive motivation at work.

Based on the discussion above, this study proposes 10 hypotheses to examine the direct effects of digital transformation factors on employee motivation in the banking sector. These hypotheses focus on how organizational support during the digital transformation process may influence employees' work motivation.

- H1: Training in digital skills has a positive effect on the work motivation of bank employees in Ho Chi Minh City.
- H2: Supportive working conditions in a digital environment have a positive effect on work motivation.
- H3: Leadership support during the digital transformation process has a positive effect on work motivation.
- H4: An organizational culture that is open to innovation and technology has a positive effect on work motivation.

In addition to the direct effects, digital transformation may also influence employees through changes in the nature of their work. The Job Characteristics Model proposed by Hackman and Oldham [16] explains that the design of a job can influence employees'

psychological experiences and motivation. According to this model, a job can be described through five core dimensions: skill variety, task identity, task significance, autonomy, and feedback.

In the current digital context, technology is not only a supporting tool but also a factor that can reshape these job characteristics. For example, digital systems may allow employees to perform more diverse tasks, receive faster feedback, and have greater autonomy in completing their work. At the same time, new management practices and digital culture may also change how employees perceive the value and meaning of their jobs. Therefore, digital transformation factors may improve job characteristics, which in turn can influence employee motivation.

Based on these arguments, the following hypotheses are proposed:

- H5: Training in digital skills has a positive effect on improving employees' job characteristics.
- H6: Supportive working conditions in a digital environment have a positive effect on improving employees' job characteristics.
- H7: Leadership support during the digital transformation process has a positive effect on improving employees' job characteristics.
- H8: An organizational culture that is open to innovation and technology has a positive effect on improving employees' job characteristics.

Work motivation can be defined as a set of energy forces that come from both inside and outside an individual. These forces initiate work-related behavior and influence its direction, intensity, and duration [17]. In this study, the focus is mainly on intrinsic motivation, which refers to motivation that comes from interest, challenge, and the meaningfulness of the work itself. This concept is based on the Self-Determination Theory developed by Deci and Ryan [18].

In the context of digital transformation, when employees experience higher autonomy, greater task variety, and clearer feedback, they may find their work more meaningful and engaging. As a result, improved job characteristics may play an important role in strengthening employees' internal motivation.

Based on this theoretical perspective, the study proposes the following hypotheses:

- H9: Job characteristics (such as autonomy, meaningfulness, and task variety) have a positive effect on the work motivation of bank employees.
- H10: Job characteristics play a mediating role in the relationship between digital transformation factors (Training, Working Conditions, Leadership, and Organizational Culture) and employees' work motivation.

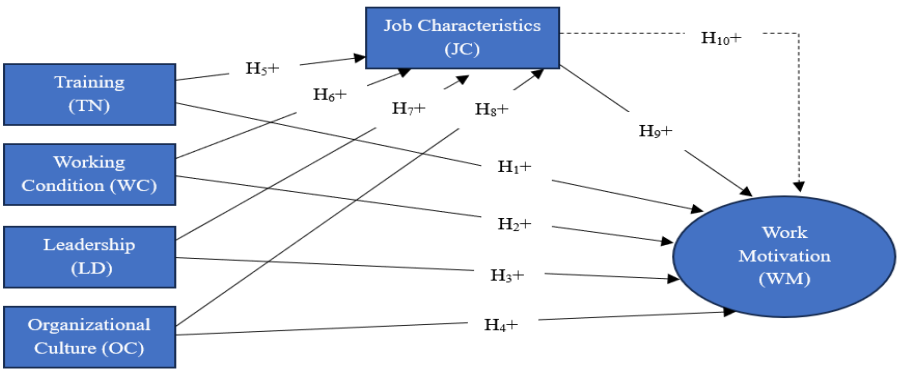


Figure 1. Proposed Research Model

Source: Compiled by the research team

3. METHODOLOGY

To examine the proposed hypotheses, this study was conducted through a two-stage research process, including a preliminary study and a main study. In the preliminary stage, in-depth interviews were conducted with employees who are currently working in private banks. The purpose of these interviews was to adjust the terminology and refine the measurement scales so that they are more suitable for the practical context of the banking sector. After that, a pilot test with 30 employees was carried out to evaluate the clarity and logic of the questionnaire before the official survey was conducted.

In the main research stage, a quantitative method was applied using a structured questionnaire that included 31 observed variables. The data were collected using the convenience sampling method during the period from May 2025 to December 2025. A total of 500 questionnaires were distributed, of which 427 valid responses were obtained, exceeding the minimum sample size required for statistical analysis [19].

This study was conducted in accordance with ethical standards for human research. All participants were informed of the research purpose, the voluntary nature of their participation, and the assurance that their responses would be kept strictly confidential and used solely for academic purposes. By completing the survey, respondents provided their informed consent to participate. No sensitive personal identification information was collected, ensuring the anonymity of all participants throughout the data analysis and reporting process.

This study applies the PLS-SEM (Partial Least Squares Structural Equation Modeling) technique, which has several advantages when analyzing complex relationships between variables. It allows researchers to examine multiple relationships at the same time and estimate the strength of each path in the research model. As a result, PLS-SEM helps improve the explanatory power and reliability of the proposed model.

4. RESULTS

4.1. Descriptive Statistics

Table 1. Sample descriptive statistics

		Frequency	Percentage
Gender	Male	250	58.5%
	Female	177	41.5%
Age	< 25	113	26.5%
	25 – 35	225	52.7%
	36 – 45	23	5.4%
	> 45	66	15.4%
Income (Million VND)	< 10	161	37.7%
	10 – 15	205	48.0%
	> 15 and < 20	51	11.9%
	> 20	10	2.3%
Experiences (Years)	< 1	70	16.4%
	1 – 3	290	67.9%
	3 – 5	49	11.5%
	> 5	18	4.2%

Education level	College Diploma	27	6.3%
	Bachelor's Degree	391	91.6%
	Postgraduate	9	2.1%

Source: Compiled by the research team

The descriptive statistics provide an overview of the demographic characteristics of the survey respondents. In terms of gender, male employees represented a larger proportion of the sample with 58.5% (250 respondents), while female employees accounted for 41.5% (177 respondents).

Regarding age, the group between 25 and 35 years old formed the largest share of the sample at 52.7% (225 respondents). Other groups included employees under 25 years old (26.5%), those over 45 years old (15.4%), and employees aged from 36 to 45, accounting for 5.4%.

In terms of work experience, most respondents had between one and three years of experience, representing 67.9% of the sample. Employees with less than one year of experience accounted for 16.4%, while those with three to five years represented 11.5%. The group with more than five years of experience was the smallest, accounting for 4.2%.

Regarding education, the sample was mainly concentrated at the Bachelor's Degree level with 91.6% (391 respondents). Respondents with a College Diploma accounted for 6.3%, while those with postgraduate qualifications represented only 2.1%.

In terms of income, most respondents earned between 10 and 15 million VND per month, accounting for 48.0% of the sample, followed by those earning below 10 million VND with 37.7%.

Overall, the high proportion of employees aged 25–35 and having one to three years of work experience indicates that the sample includes respondents who are relatively young and in the early stages of their careers. This helps ensure that their responses about work motivation and the organizational environment reflect practical experiences in the banking sector.

4.2. Check the Scale: Reliability and Validity

In the measurement model assessment, the author first examined the outer loadings of the observed variables. To ensure strong convergent validity and reliability of the measurement scales, three observed variables, including JC5, OC3, and WC1, were removed because their loading values were lower than the recommended threshold of 0.7. After removing these items, the remaining indicators in the model met the required standards.

Table 2. Scale reliability test results

	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
TN	0.841	0.887	0.612
WC	0.740	0.837	0.563
LD	0.825	0.877	0.589
OC	0.823	0.894	0.737
JC	0.791	0.856	0.544
WM	0.838	0.881	0.553

Source: Compiled by the research team

Specifically, the Cronbach's Alpha values of the constructs ranged from 0.740 to 0.841, while the Composite Reliability (CR) values ranged from 0.837 to 0.894. All of these values

are higher than the minimum threshold of 0.7, indicating good internal consistency and reliability of the measurement scales [19].

In addition, the Average Variance Extracted (AVE) values of all latent variables were above 0.5, with the lowest value being 0.544 and the highest 0.737 [19]. These results confirm that the constructs in the model achieve adequate convergent validity, which provides a solid basis for further analysis of the structural model.

Table 3. Discriminant validity results

	JC	LD	OC	TN	WM	WC
JC	0.738					
LD	0.319	0.767				
OC	0.303	0.346	0.859			
TN	0.238	0.341	0.352	0.782		
WM	0.443	0.507	0.510	0.555	0.743	
WC	0.321	0.345	0.283	0.252	0.518	0.750

Source: Compiled by the research team

The discriminant validity of the constructs was assessed using the Fornell–Larcker criterion. The results show that the square root of the Average Variance Extracted (AVE) for each construct is greater than its correlations with other constructs, confirming that discriminant validity is established [20]. In addition, the Heterotrait–Monotrait ratio (HTMT) was examined, and all values were below 1, further supporting discriminant validity [21], [22].

4.3. Check the Structural Model: Multicollinearity and Model Suitability

To evaluate the structural model, the issue of multicollinearity was examined using the inner Variance Inflation Factor (VIF) values. The analysis results show that the inner VIF values of the independent constructs range from 1.190 to 1.323. According to the guideline of Hair et al. [19], multicollinearity is considered acceptable when the VIF value is lower than 5. Therefore, the results indicate that the research model does not suffer from serious multicollinearity. This means that the predictor variables remain independent from each other, allowing the following hypothesis testing to be conducted with a reliable level of accuracy.

Table 4. Inner VIF values

	JC	LD	OC	TN	WM	WC
JC					1.226	
LD	1.288				1.323	
OC	1.251				1.283	
TN	1.232				1.239	
WM						
WC	1.190				1.238	

Source: Compiled by the research team

The explanatory power of the structural model was assessed using the coefficient of determination (R^2). The results show that the dependent variable WM has an R^2 value of 0.583, which means that the constructs in the model explain 58.3% of the variance in work motivation. For the mediating variable - JC, the R^2 value is 0.184, indicating that the independent variables explain 18.4% of the variance in this construct.

In addition, the adjusted R^2 values show only a very small difference compared with the original R^2 values (0.578 for WM and 0.177 for JC). This result confirms the stability of the model and suggests that the proposed model has a reasonable level of predictive power for the survey sample.

Table 5. R-square results

	R Square	R Square Adjusted
JC	0.184	0.177
WM	0.583	0.578

Source: Compiled by the research team

4.4. Hypothesis Testing Results

After confirming that the measurement model met the required criteria, the study tested the structural model and research hypotheses using the Bootstrapping procedure with 5,000 resamples. The main findings are summarized below.

Table 6. Results of direct effects (Mean, STDEV, T-values, P-values)

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
JC -> WM	0.161	0.161	0.032	4.985	0.000
LD -> JC	0.170	0.172	0.056	3.012	0.003
LD -> WM	0.184	0.185	0.036	5.145	0.000
OC -> JC	0.162	0.164	0.052	3.124	0.002
OC -> WM	0.213	0.212	0.035	6.127	0.000
TN -> JC	0.073	0.075	0.051	1.423	0.155
TN -> WM	0.312	0.312	0.038	8.188	0.000
WC -> JC	0.198	0.198	0.057	3.449	0.001
WC -> WM	0.264	0.264	0.036	7.316	0.000

Source: Compiled by the research team

4.4.1. Direct effects on Work Motivation (H1, H2, H3, H4, H9)

The results indicate that digital transformation factors and job characteristics have positive and significant relationships with the work motivation of bank employees in Ho Chi Minh City.

- Training – TN (H1) shows the strongest influence on motivation ($\beta = 0.312$, $p < 0.001$), suggesting that improving digital skills plays a key role in motivating employees.
- Working Conditions – WC (H2) represents the second strongest predictor ($\beta = 0.264$, $p < 0.001$).
- Organizational Culture – OC (H4) also contributes positively to motivation ($\beta = 0.213$, $p < 0.001$).
- Leadership Support– LD (H3) demonstrates a significant positive relationship ($\beta = 0.184$, $p < 0.001$).
- Job Characteristics – JC (H9) further show a meaningful influence on work motivation ($\beta = 0.161$, $p < 0.001$).

Overall, H1, H2, H3, H4, and H9 are supported.

4.4.2. Effects on Job Characteristics (H5, H6, H7, H8)

The results also examine how digital transformation factors influence job characteristics.

- WC (H6), LD (H7), and OC (H8) all show positive and statistically significant relationships with job characteristics, with coefficients of 0.198, 0.170, and 0.162 respectively ($p < 0.01$). These findings suggest that a supportive digital environment can increase employees' autonomy and the perceived importance of their work.

- In contrast, TN (H5) does not show a significant relationship with job characteristics ($\beta = 0.073$, $p = 0.155$).

Thus, H6, H7, and H8 are supported, while H5 is rejected.

4.4.3. Mediating role of Job Characteristics (H10)

Table 7. Specific indirect effects analysis

Indirect Path	Original Sample (O)	Boot SE	T Statistics	P-value
WC → JC → WM	0.032	0.010	3.060	0.002
LD → JC → WM	0.027	0.011	2.568	0.010
OC → JC → WM	0.026	0.011	2.410	0.016
TN → JC → WM	0.012	0.009	1.363	0.173

Source: Compiled by the research team

The indirect effect analysis indicates that job characteristics act as a mediator between several digital transformation factors and work motivation.

- Job characteristics mediate the relationships between Working Conditions ($\beta = 0.032$, $p = 0.002$), Leadership Support ($\beta = 0.027$, $p = 0.010$), Organizational Culture ($\beta = 0.026$, $p = 0.016$), and Work Motivation.

- However, this mediating effect is not observed in the relationship between Training and Work Motivation ($p = 0.173$).

Therefore, H10 is partially supported.

The rejection of H5 and the partial support for H10 may reflect the practical situation in the banking sector. Digital training programs tend to increase employee confidence in using technology and improve their work performance. As a result, training can enhance motivation directly, even when job roles and daily procedures remain relatively stable within the banking system.

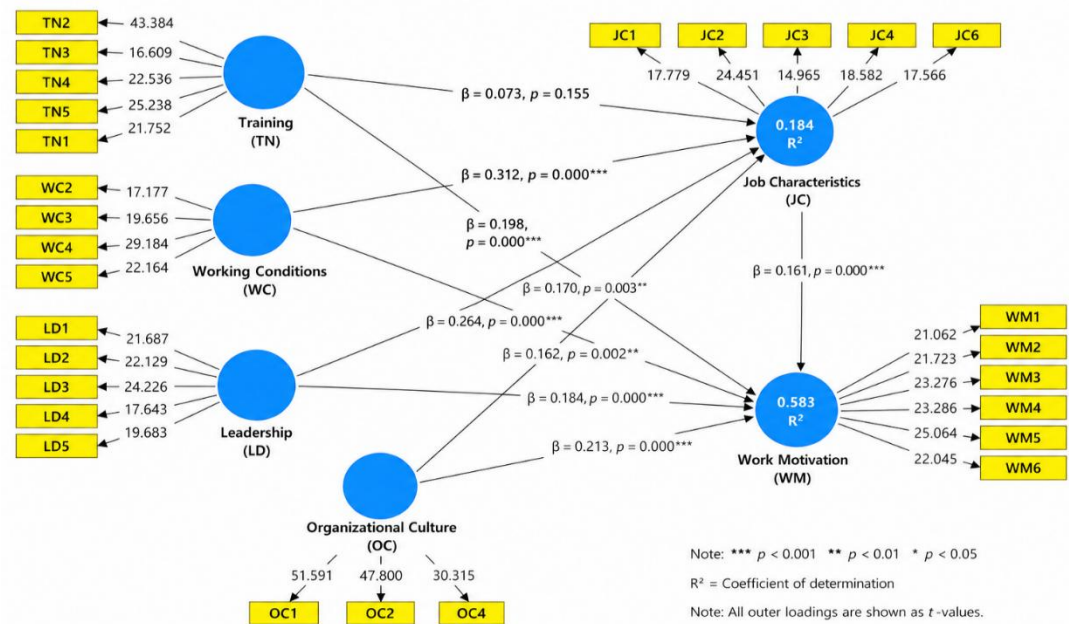


Figure 2. Final research model

Source: Compiled by the research team

The figure displays the path coefficients (β) and their significance levels for the proposed structural model. The results indicate that most independent variables significantly influence Job Characteristics (JC) and Work Motivation (WM), with the exception of the path from Training (TN) to Job Characteristics (JC), which is not statistically significant ($p = 0.155$).

The model explains 18.4% of the variance in Job Characteristics ($R^2 = 0.184$) and 58.3% of the variance in Work Motivation ($R^2 = 0.583$).

Significance levels are denoted as: *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$.

4.5. Blindfolding procedure and Q2 values

In addition to evaluating the R^2 values, the study also applied the Blindfolding technique to assess the out-of-sample predictive relevance (Q^2) of the model. This indicator helps determine whether the model has the ability to predict observations that are not included in the original research sample.

Table 8. Construct Cross-Validated Redundancy (Q^2 values)

	SSO	SSE	$Q^2 (=1-SSE/SSO)$
JC	2135.000	1933.598	0.094
LD	2135.000	2135.000	
OC	1281.000	1281.000	
TN	2135.000	2135.000	
WM	2562.000	1752.839	0.316
WC	1708.000	1708.000	

Source: Compiled by the research team

The results from the Construct Cross-Validated Redundancy table show the following values:

- The dependent variable Work Motivation (WM) has a Q^2 value of 0.316.
- The mediating variable Job Characteristics (JC) has a Q^2 value of 0.094.

According to the evaluation guideline suggested by Hair et al. [19], a Q^2 value greater than zero indicates that the model has predictive relevance for the endogenous constructs.

In this study, the predictive relevance for Job Characteristics is considered small ($0.02 < Q^2 < 0.15$), while the predictive relevance for Work Motivation is moderate and approaching a large level ($0.15 < Q^2 < 0.35$).

Overall, these findings suggest that the research model has an acceptable structural fit and demonstrates meaningful predictive ability in explaining the work motivation of bank employees.

5. DISCUSSION AND CONCLUSION

5.1. Discussion

The results of this study provide important insights into how digital transformation factors influence employee motivation in the banking sector in Ho Chi Minh City. Overall, training, working conditions, leadership, and organizational culture all have positive effects on work motivation, with an explanatory power of $R^2 = 0.583$. This indicates that organizational factors play an important role in shaping employee motivation in the digital context, which is consistent with previous studies on digital transformation and human resource management [6], [14].

Among these factors, training has the strongest direct effect on work motivation ($\beta = 0.312$, $p < 0.001$). This finding suggests that improving employees' digital skills can enhance their confidence and readiness to work in a technology-driven environment. This result is consistent with prior studies, which indicate that digital training improves employees' ability to use new technologies, thereby enhancing motivation [7], [14]. In a rapidly changing banking environment, this psychological readiness plays an important role.

However, training does not have a significant effect on job characteristics ($\beta = 0.073$, $p = 0.155$). This suggests that training mainly improves employees' competence rather than changing how jobs are structured. Grounded in Self-Determination Theory (SDT), this finding implies that Training primarily enhances motivation by fulfilling employees' intrinsic need for "competence." Unlike other digital factors such as Working Conditions or Leadership, which reshape the daily operational structure to influence motivation, Training directly empowers employees by increasing their digital proficiency and confidence. Therefore, the motivational impact of Training appears to be a direct psychological outcome of personal professional growth rather than a structural change in job design, explaining why the indirect path via Job Characteristics is not supported.

Working conditions have a strong positive effect on motivation ($\beta = 0.264$, $p < 0.001$), supporting prior research on the role of digital infrastructure [2]. A stable and well-integrated system helps employees complete tasks more efficiently and reduces work pressure. In addition, working conditions also have a significant effect on job characteristics ($\beta = 0.198$, $p = 0.001$). This indicates that digital infrastructure not only supports task performance but also improves how employees experience their work, such as increasing efficiency and perceived control.

Organizational culture has a positive effect on motivation ($\beta = 0.213$, $p < 0.001$), which is consistent with the view that a culture supporting learning and innovation encourages employees to adapt to change [15]. In addition, organizational culture also significantly affects job characteristics ($\beta = 0.162$, $p = 0.002$). This suggests that culture not only influences attitudes but also shapes how employees perceive their roles and responsibilities. In the context

of continuous digital change, cultural support may become more visible in employees' daily work experience.

Leadership has a significant positive effect on motivation ($\beta = 0.184$, $p < 0.001$), which is in line with previous research emphasizing the role of leadership in digital transformation [3]. Leadership also positively affects job characteristics ($\beta = 0.170$, $p = 0.003$), indicating that managerial support can influence how work is organized and experienced. However, compared to training and working conditions, the effect of leadership is relatively smaller. This suggests that in a highly digital environment, technical systems and working conditions may play a more direct role in shaping employee experience.

Job characteristics have a positive effect on motivation ($\beta = 0.161$, $p < 0.001$), supporting both Hackman & Oldham [16] and Deci & Ryan [18]. Furthermore, this study confirms that Job Characteristics act as a partial mediator in the relationships between Working Conditions, Leadership, Organizational Culture, and Work Motivation. This partial mediation suggests that these factors do not only influence motivation through the structural redesign of tasks - as proposed by the Job Characteristics Model (JCM) - but also exert an independent direct influence on employee attitudes in a digital context. Conversely, the absence of this mediation in the case of Training reinforces the distinct mechanism where skill acquisition functions as a primary driver of motivation, operating independently of task structural design.

Another important result is the relatively low explanatory power for job characteristics ($R^2 = 0.184$), compared to the higher explanatory power for work motivation ($R^2 = 0.583$). This indicates that the model explains Work Motivation more effectively than Job Characteristics. One possible explanation is that Job Characteristics are influenced by additional factors such as job structure, task design, and operational requirements, which are not fully included in this study. In the banking sector, jobs are often standardized and regulated, which may limit the impact of digital transformation on job design. This result is consistent with Hackman & Oldham [16], which emphasizes the importance of task design in shaping job characteristics. Therefore, future research should include additional variables related to job design to better explain this construct.

Overall, this study shows that digital transformation is essential for employee motivation in the banking sector in Ho Chi Minh City. Training, Working Conditions, Leadership, and Organizational Culture are key factors that improve Work Motivation. An interesting finding is that training works directly to increase motivation, while other factors like working conditions, leadership, and culture act both directly and indirectly through job characteristics.

This study contributes to existing knowledge by suggesting that managers should use different strategies for different factors. For example, focusing on digital training can boost motivation quickly. However, investing in the office environment and company culture is better for improving long-term work experiences. These results help bank managers make better decisions to support staff members in the digital age.

5.2. Management Implications

Based on the research results with an explanatory power of $R^2 = 0.583$ and predictive relevance of $Q^2 = 0.316$, this study provides several practical implications for improving employee motivation in the digital transformation context. These implications clarify how different organizational factors influence motivation through distinct mechanisms.

First, banks should prioritize digital Training programs. Since Training has the strongest direct effect on work motivation ($\beta = 0.312$, $p < 0.001$), improving employees' digital skills can enhance their confidence and readiness to work in a technology-driven environment. However, the results also show that training does not have a significant effect on Job Characteristics ($\beta = 0.073$, $p = 0.155$). Therefore, Training should not be implemented in

isolation. Banks should combine training with job redesign to ensure that employees can effectively apply their skills in their daily work, rather than only improving competence.

Second, banks should improve Working Conditions and digital infrastructure. Working Conditions have significant effects on both Job Characteristics ($\beta = 0.198$, $p = 0.001$) and Work Motivation ($\beta = 0.264$, $p < 0.001$). This suggests that stable systems, user-friendly technologies, and well-integrated platforms can reduce work pressure and improve employees' work experience. In addition, better Working Conditions can support job redesign by reducing repetitive tasks and increasing efficiency, allowing employees to focus on more meaningful activities.

Third, banks should strengthen organizational culture and leadership. Organizational Culture ($\beta = 0.213$, $p < 0.001$) and leadership ($\beta = 0.184$, $p < 0.001$) both have positive effects on motivation. Managers should create an open and supportive environment where employees feel safe to share ideas and adapt to digital changes. However, the results also indicate that these factors may not be sufficient on their own. They should be supported by appropriate systems and working conditions to create a stronger overall impact, consistent with organizational behavior perspectives [15].

Finally, banks should focus on job design. Job characteristics have both a direct effect on motivation ($\beta = 0.161$, $p < 0.001$) and a mediating role between several factors and motivation. In line with the Job Characteristics Model proposed by Hackman & Oldham [16], increasing autonomy, task variety, and feedback can significantly improve employee motivation. Therefore, banks should redesign jobs to provide more flexibility and meaningful work, especially in a digital environment where tasks may become more standardized.

Overall, the study shows that employee motivation in the digital era depends on a combination of Training, Working Conditions, Leadership, Organizational Culture, and Job Characteristics, rather than a single factor. Training and Working Conditions are the most important drivers, while Job Characteristics play both a direct and supporting role.

5.3. Limitations and Future Research

Despite the significant insights provided, this study has some limitations that should be addressed in future research.

First, the use of convenience sampling may limit the representativeness of the sample, as it may not fully reflect the diversity of banking employees across Vietnam. As a result, the findings may not fully represent the broader population.

Second, the focus on Ho Chi Minh City may introduce regional bias, since organizational practices and the level of digital transformation can differ across regions. This may affect how employees perceive and respond to these factors.

Third, the cross-sectional design restricts the ability to capture dynamic changes over time, making it difficult to fully explain causal relationships in the context of ongoing digital transformation.

Finally, all constructs were measured using self-reported data, which may be subject to common method bias. Although the full-collinearity VIF approach was applied to reduce this concern, the possibility of bias cannot be completely eliminated.

Future research could extend this study by including a broader geographic sample and applying longitudinal designs. In addition, the use of multiple data sources or mixed methods may help provide a more comprehensive understanding of employee motivation in the digital context.

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APPENDIX: SUMMARY OF SCALES OF FACTOR

Items		Level of Agreement				
		1	2	3	4	5
Training						
TN1	The bank frequently organizes training programs on technology and digital skills (new software, AI, data security) for employees.					
TN2	I am provided with suitable conditions and time to participate in courses that enhance my ability to adapt to new technologies.					
TN3	All employees have equal access to learning resources and guidelines for using the bank’s new technological systems.					
TN4	The bank’s digital skills training programs are well-structured, helping me easily apply new technologies to practical work.					
TN5	The bank’s training policy clearly defines a roadmap for digital competency development for employees to meet the requirements of the modern banking industry.					
Working Conditions						

WC1	The data security and cybersecurity systems at the workplace provide me with peace of mind when operating on digital platforms.					
WC2	I am provided with modern equipment (high-performance computers, digital signatures, tablets, etc.) to perform digital transactions most effectively.					
WC3	Fully digitized workflows make the working environment more scientific, modern, and professional.					
WC4	Online task management tools help record employee contributions in a transparent and fair manner.					
WC5	The bank provides effective online interaction platforms, making it easy for employees to connect and support each other whether working on-site or remotely.					
Leadership						
LD1	My direct supervisor trusts and empowers me to proactively make decisions based on digital tools and data.					
LD2	My direct supervisor is always ready to guide and advise on resolving issues arising from the implementation of new digital processes.					
LD3	My supervisor always listens to and encourages employee feedback on technological improvements before applying new systems.					
LD4	My supervisor builds flexible online interaction channels, making it easy for employees to reach out and provide feedback on digitalization issues.					
LD5	My supervisor evaluates employee performance based on objective data, ensuring fairness in the digital workspace.					
Organizational Culture						
OC1	I am proud to be part of an organization that pioneers technology adoption and continuous digital improvement.					
OC2	The bank builds a culture that encourages innovative thinking and a willingness to embrace new technological experiments.					
OC3	Communication and information sharing via digital platforms make the coordination process fast and efficient.					
OC4	The bank harmoniously combines sustainable core values with the agile spirit of the digital era.					
Job Characteristics						
JC1	Using new technologies (AI, Data, Apps) makes my daily tasks more interesting and less repetitive.					
JC2	Digitalized processes create new challenges that drive me to be creative and enhance my digital professional competencies.					
JC3	I feel my capabilities are fully utilized when working in a data-driven and technology-oriented environment.					
JC4	I recognize that my work plays a significant role in the bank's successful digital transformation roadmap.					

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JC5	Digital tools allow me to have better autonomy and control over the progress and output of my work.					
JC6	Thanks to online connectivity systems, I can handle work flexibly in terms of time and space.					
Work Motivation						
WM1	I feel excited to work and experience modern digital banking solutions.					
WM2	I am willing to maintain high efforts to learn and adapt to the bank's continuous technological changes.					
WM3	The digitalization process provides me with positive energy to successfully achieve my work targets.					
WM4	The bank's digital transformation support policies give me the confidence to make long-term commitments.					
WM5	I always maintain an optimistic and confident mindset when facing changes in the digital work environment.					
WM6	I highly appreciate how the bank timely recognizes and rewards employees' digital innovation efforts.					

Source: Compiled by the research team

(1) Strongly Disagree

(2) Disagree

(3) Neutral

(4) Agree

(5) Strongly Agree