The Application of Artificial Intelligence (AI) to Transform Organizational Culture in the Banking and Finance Sector: A Case Study in Ho Chi Minh City

Bui Duc Sinh[1,*]

[1] *Faculty of Business Administration, Ho Chi Minh University of Banking, Vietnam.*
[*] *Corresponding author. Email: sinhbd@hub.edu.vn*

ABSTRACT
This study aims to explore the impact of Artificial Intelligence (AI) adoption on organizational culture change within the banking and finance sector in Ho Chi Minh City. Employing a quantitative approach and utilizing the PLS- SEM model with 413 survey responses, the results reveal that AI exerts a positive influence on fostering a data-driven culture and internal innovation, thereby enhancing change acceptance and leading to organizational culture transformation. All research hypotheses are strongly supported with a high level of statistical significance ($p < 0.001$). These findings underscore the strategic role of AI not only in technological innovation but also in restructuring corporate culture, thereby strengthening banks' adaptability and competitiveness in the context of rapid digital transformation. Furthermore, the study emphasizes the critical need for investment in the development of digital human resources to ensure sustainable growth in the future.

Keywords: *Artificial Intelligence (AI), Organizational Culture, Data Culture, Change Acceptance.*

1. INTRODUCTION

The foundation of the current technological revolution is the explosion of Artificial Intelligence (AI), which is considered a key factor in revolutionizing business operations, particularly in the banking and finance sector. In the context of fierce competition and the constant need to improve management effectiveness, the application of AI not only brings technical benefits but also profoundly influences corporate culture. The transformation of corporate culture under the impact of AI requires alignment between human factors, technology, and management strategies, as confirmed in several recent studies (Ghimire et al., 2021; Han et al., 2023). In the banking sector, traditional corporate culture is often based on centralized management mechanisms, complex administrative processes, and a conservative approach to change acceptance. However, with the implementation of advanced AI technologies, the image of a bank moving towards a digital model has become more feasible than ever before. AI is recognized as a powerful tool in analyzing big data, automating administrative tasks, and improving customer service quality, thereby contributing to reshaping the work culture towards transparency, openness to innovation, and flexibility (Han et al., 2023; Ghandour, 2021). This transformation not only creates a modern, creative work environment but also promotes greater cohesion among organizational members, thereby forming a corporate culture that is adaptable to market fluctuations (Ghimire et al., 2021).

Advanced AI systems improve the decision-making process based on accurate and continuously updated data, which positively impacts the bank's adaptability in the context of rapid technological development. Thanks to its ability to extract knowledge from data and automate operational processes, AI influences not only business activities but also directly impacts communication, interaction, and collaboration between departments within the bank (Guo & Polák, 2024). Moreover, the implementation of AI enhances human capital competitiveness by promoting training, developing digital skills, and encouraging employee creativity, creating a dynamic and modern corporate culture (Hussain et al., 2024). Experiments and studies have shown that this transformation not only helps reduce operational costs and optimize business performance but also positively affects the quality of customer service. When AI systems are capable of making forecasts and recommendations based on data analysis, banks can adjust their business strategies in a timely manner, ensuring flexibility and rapid response to market changes (Han et al., 2023). On the other hand, integrating AI into internal management systems helps enhance supervision, risk control, and maintain transparency in financial management-key elements in shaping a modern corporate culture (Ghandour, 2021).

From a strategic perspective, the application of AI requires a comprehensive change in human resource management systems and corporate culture. The integration of artificial intelligence and modern corporate culture will lay a solid

foundation for the sustainable development of banks in the digital age. Therefore, studying the impact of AI on corporate culture, with a focus on the banking and finance sector, not only affirms the value of technology but also opens up new directions for governance and strategic development (Fatima, 2019; Han et al., 2023).

Thus, applying AI to transform corporate culture in the banking and finance sector is an inevitable trend that requires alignment between technology and human factors. Through this, banks can not only affirm their competitive position in the market but also realize the goal of sustainable development in the digital era, contributing to the overall development of the economy and society (Ghimire et al., 2021; Ghandour, 2021).

2. RESEARCH METHOD

To explore and test the relationship between the application of Artificial Intelligence (AI) and organizational culture change in the banking and finance sector, this study employs a quantitative approach. The quantitative method allows for the collection and analysis of data from a large number of survey participants, ensuring objectivity, reliability, and generalizability of the research findings. In addition, to enhance the depth and accuracy of the data analysis, the study utilizes the SmartPLS 4.0 tool – a popular software for Structural Equation Modeling (SEM) based on the Partial Least Squares (PLS) method. SmartPLS supports the validation of theoretical models, examining causal relationships between variables, and evaluating the reliability and convergent validity of measurement scales.

2.1. Overview of key variables in the study

2.1.1. Level of AI adoption in organizations

In the era of Industry 4.0, the application of Artificial Intelligence (AI) within organizations helps improve operational efficiency and increase competitiveness (Na, 2024; Iwuanyanwu, 2021). AI is integrated into recruitment and training processes, reducing time and increasing accuracy in candidate screening (Na, 2024; Rožman et al., 2022). Additionally, AI supports business data analysis, enhancing leadership's forecasting and decision-making abilities (Haridasan, 2024). The automation of processes and workload reduction for employees is facilitated by AI, creating room for creativity (Rožman et al., 2022). Furthermore, AI provides flexibility for organizations of all sizes, from small enterprises to large corporations (Rožman et al., 2023). As a result, investing in AI becomes a strategic factor in enhancing the organization's competitive advantage (Iwuanyanwu, 2021; Jarrahi et al., 2022).

2.1.2. Changes in Data-Driven Culture

The shift towards a data-driven culture is a crucial trend in the digital age. Organizations today leverage data to make strategic decisions, optimize business operations, and boost competitiveness (Zaghmout, 2024). The application of data analytics and intelligent technologies transforms raw information into business value and effective management (Hurbean et al., 2023). Business leaders play a pivotal role in creating a data-driven environment that fosters continuous innovation (Zaghmout, 2024). A data governance system ensures the quality, security, and reduced risk of decision-making (Huang, 2023). Through this transformation, organizations develop strategic thinking, enhance analytical capabilities, and create sustainable competitive advantages (Zaghmout, 2024; Huang, 2023). The new data culture supports organizations in quickly adapting to market fluctuations.

2.1.3. Internal Innovation

Internal innovation is a key factor that helps organizations improve performance and foster a culture that encourages individual initiative, creating a positive working environment (Tseng & Tseng, 2019). An internal innovation strategy, based on human resource investment and flexible management, helps mitigate risks, boost creativity, and improve sustainable business performance (Tseng & Tseng, 2019). A positive organizational culture drives internal innovation through knowledge sharing, encouraging creativity, and openness, thus enhancing operational effectiveness (Efridah, 2019). Therefore, internal innovation brings business benefits and promotes sustainable development, helping organizations quickly adapt to market changes effectively (Tseng & Tseng, 2019).

2.1.4. Employee Change Acceptance

Employee change acceptance is a critical factor in organizational development (Dewi et al., 2024; Tayal et al., 2018). Research indicates that training and empowerment help employees grasp and adapt to new processes (Satpaulina et al., 2022; Tayal et al., 2018). When provided with sufficient information, employees enhance their commitment and cooperation, thereby reducing resistance to change (Satpaulina et al., 2022). The role of transformational leadership also

fosters a flexible and creative work environment (Dewi et al., 2024; Tayal et al., 2018). Specifically, effective communication and listening to employees' opinions build trust and stabilize the organization (Taoussi & AFILAL, 2024). The integration of these factors improves the capacity for change acceptance and supports the sustainable development of the business (Dewi et al., 2024; Satpaulina et al., 2022).

2.1.5. Organizational Culture Change

Organizational culture change plays a pivotal role in steering the sustainable development of businesses today. According to Jewapatarakul and Ueasangkomsate (2024), cultural transformation helps create a positive collaborative environment and accelerates digital transformation through innovation. At the same time, Roy and Perrin (2018) emphasize that cultural change needs careful diagnosis and the development of a specific action plan to preserve core values. The study by Kulvinskienė and Šeimienė (2009) shows that cultural factors not only affect financial performance but also contribute to internal cohesion and adaptation to external fluctuations. In the context of global competition, applying transformational leadership strategies to culture is key to enhancing flexibility, creativity, and the work spirit of all employees.

2.2. Data collection, analysis, and processing

The study collected data through both direct and online surveys, targeting employees, middle managers, and senior leaders working at commercial banks in Ho Chi Minh City, Vietnam. A total of 413 valid survey responses were collected. A convenience sampling method was applied, with controls for the distribution of respondents across job positions and age groups to ensure a relatively representative sample.

The collected data were processed in two stages. First, descriptive analysis and reliability testing of measurement scales using Cronbach's Alpha. Scales were considered reliable if the Cronbach's Alpha coefficient was greater than 0.7. Second, Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM) were performed using SmartPLS software. The steps involved included: Assessing Composite Reliability (CR); Testing convergent validity through Average Variance Extracted (AVE); Examining discriminant validity using the Fornell-Larcker criterion and the Heterotrait-Monotrait Ratio (HTMT); Evaluating the model fit through R^2 and Q^2 values; Testing the statistical significance of path coefficients based on Beta coefficients and P-values (< 0.05).

The choice of SmartPLS software was appropriate for the research objectives, as the model contained multiple latent variables, the sample size was moderate ($n > 300$), and the data did not ensure perfect normal distribution. A measurement model was considered acceptable when $CR > 0.7$ and $AVE > 0.5$. Discriminant validity was confirmed when the Fornell-Larcker and HTMT criteria were met. The research hypotheses were tested based on the Beta coefficients and statistical significance with P-values less than 0.05.

3. RESULTS & DISCUSSION

3.1. Descriptive statistics

The Table 1 shows a relatively balanced distribution of gender and job positions. Males account for 56.7%, while females represent 43.3% of the sample. In terms of job positions, 65% of respondents are employees, 25% are middle managers, and 10% are senior leaders. This distribution ensures a comprehensive view of perspectives from various levels within the banking and finance sector in Ho Chi Minh City, Vietnam.

Table 1. Demographic Statistics of The Respondents

Variable	Frequency	Percentage (%)
Gender		
- Male	234	56,7
- Female	179	43,3
Job Position		
- Employee	268	65
- Middle Manager	103	25
- Senior Leader	42	10
Total	413	100

This distribution indicates that the study sample is relatively balanced in terms of gender and job positions, making it suitable for reflecting the perspectives of the workforce in the banking and finance sector in Vietnam.

3.2. Reliability and construct validity testing

Table 2 shows that all measurement scales demonstrate high reliability with Cronbach's Alpha values greater than 0.7, ensuring internal consistency. Additionally, the Composite Reliability (CR) values exceed 0.8, and the Average Variance Extracted (AVE) values are above 0.5, indicating that the scales possess good convergent validity and composite reliability. These results confirm the appropriateness of the scales for subsequent analyses.

Table 2. Reliability and Convergent Validity Testing of the Measurement Scales

Measurement Scale	Cronbach's Alpha	Composite Reliability (CR)	Average Variance Extracted (AVE)
AI Adoption	0.882	0.87	0.58
Data-Driven Culture	0.863	0.91	0.63
Internal Innovation	0.871	0.84	0.57
Employee Change Acceptance	0.851	0.86	0.63
Organizational Culture Change	0.893	0.83	0.61

Moreover, the Fornell-Larcker criterion and HTMT index all meet the required thresholds, confirming that the measurement model ensures both convergent and discriminant validity.

3.3. Structural model testing (SEM-PLS) and hypothesis testing

3.3.1. R^2 Values

The results of the analysis indicate that the R^2 values for the endogenous variables range from moderate to high: Data-Driven Culture ($R^2 = 0.456$), Internal Innovation ($R^2 = 0.512$), Employee Change Acceptance ($R^2 = 0.474$), and Organizational Culture Change ($R^2 = 0.603$). These findings suggest that the proposed factors account for between 45.6% and 60.3% of the variance observed in the dependent variables, with the model demonstrating particularly strong explanatory power for organizational culture change.

3.3.2. Hypothesis Testing

All research hypotheses, as presented in Table 3, are strongly supported with a high level of statistical significance ($p < 0.001$). This outcome affirms the robustness, internal consistency, and validity of the hypothesized relationships within the proposed research model.

Table 3. Hypothesis Testing Results

Hypothesis	Relationship	β Coefficient	p-value	Conclusion
H1	AI Adoption → Data-Driven Culture	0.675	< 0.001	Accepted
H2	AI Adoption → Internal Innovation	0.701	< 0.001	Accepted
H3	Data-Driven Culture → Employee Change Acceptance	0.583	< 0.001	Accepted
H4	Internal Innovation → Employee Change Acceptance	0.537	< 0.001	Accepted
H5	Employee Change Acceptance → Organizational Culture Change	0.777	< 0.001	Accepted

All hypotheses are supported with high statistical significance ($p < 0.001$), confirming the robustness and rationality of the relationships in the research model.

3.3.3. Model Fit Evaluation

SRMR (Standardized Root Mean Square Residual) = 0.067 (< 0.08), indicating a good fit of the model. The Q^2 values for all endogenous variables are greater than 0, demonstrating that the model has significant predictive power. Overall, the results of the tests confirm that the research model meets the requirements for reliability, explanatory value, and predictive capability.

3.4. Discussion

The research findings confirm that AI application has a significant impact on promoting data culture ($\beta = 0.675$) and internal innovation ($\beta = 0.701$), while indirectly increasing change acceptance and driving organizational culture change. This is in line with the views of Han et al. (2023) and Ghandour (2021), who argued that AI not only optimizes operations but also creates a new corporate culture that is more open and innovative. Additionally, the impact of data culture on change acceptance ($\beta = 0.583$) aligns with the research of Hurbean et al. (2023) and Zaghmout (2024), emphasizing the role of data as a "catalyst" in the organizational innovation process. Internal innovation also shows a positive impact on change acceptance ($\beta = 0.537$), which is consistent with Tseng & Tseng (2019) and Efridah (2019), who suggested that an innovative environment fosters collaboration, adaptability, and creativity within the organization. The results also reinforce the findings of Dewi et al. (2024) and Satpaulina et al. (2022), who found that change acceptance depends on employee empowerment and digital skills training. Notably, change acceptance has a very strong impact on organizational culture change ($\beta = 0.777$), aligning with the work of Jewapatarakul & Ueasangkomsate (2024) and Roy & Perrin (2018), who emphasized the role of human factors in maintaining core values and adapting in a digitalized environment. Moreover, the application of AI aligns with recent studies by Guo & Polák (2024) and Hussain et al. (2024), which affirmed that AI not only improves business operations but also promotes interdepartmental collaboration, enhances risk monitoring capabilities, and develops human resources. Thus, the research results expand empirical evidence regarding the central role of AI in reshaping modern corporate culture, harmonizing both technological and human factors in the sustainable development strategy of financial organizations.

4. CONCLUSION

This study affirms that the application of Artificial Intelligence (AI) plays a central role in driving organizational culture change within the banking and finance sector in Ho Chi Minh City. By fostering a data-driven culture and promoting internal innovation, AI indirectly enhances employees' acceptance of change, thereby shaping a modern, flexible, and adaptive organizational environment capable of responding to market fluctuations. All research hypotheses were validated with a high level of statistical significance ($p < 0.001$), demonstrating the rigor and reliability of the proposed model. The findings further provide empirical evidence on the critical mediating role of change acceptance in the process of organizational culture transformation. Moreover, the study underscores the importance of investing in digital human resource development alongside technological adoption to ensure the sustainable growth of banks amid the rapid pace of digital transformation. From a practical perspective, the results suggest that banks should formulate comprehensive management strategies that harmoniously integrate technology and human factors as a foundation for development. Future research is encouraged to further explore the impact of AI on other cultural dimensions, such as interdepartmental collaboration, organizational creativity, and resilience to change, to deepen the understanding of AI's strategic role in the context of global digitalization.

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