

The role of disruptive technology in enhancing organizational culture, transformational leadership, organizational learning, and individual readiness for change: A study on Bank Jago

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Abstract: This study aims to examine the influence of disruptive technology on organizational culture, transformational leadership, organizational learning, and individual readiness for change (IRFC) in the context of a fully digital banking transformation at Bank Jago. Utilizing a quantitative research design, data were collected through a structured questionnaire distributed to 387 employees with permanent status and over five years of experience. The data were analyzed using the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach. The findings reveal that disruptive technology significantly and positively affects organizational culture, transformational leadership, and organizational learning. These three variables, in turn, mediate the effect of disruptive technology on IRFC. Organizational learning emerges as the strongest mediator in enhancing employees' adaptability to digital change. The study concludes that disruptive technology not only transforms operational practices but also necessitates cultural and leadership shifts to ensure successful change adoption. Practical implications highlight the importance for digital banks to invest in leadership development, continuous learning initiatives, and adaptive organizational practices. These efforts are essential to increase employee readiness and reduce resistance to ongoing technological innovation in the banking sector.

Keywords: Change readiness, Digital banking, Disruptive technology, Organizational learning, Transformational leadership.

1. Introduction

The digital age has brought significant disruption to various sectors, including banking, by changing the way businesses operate and services are delivered. In this industry, changing consumer needs that increasingly prioritize speed, efficiency, and accessibility are driving financial institutions to fundamentally transform [1]. Technology is a key driver in this process, enabling banks to adopt innovative solutions such as internet banking, mobile applications, and artificial intelligence. This transformation not only enhances convenience for consumers but also helps banks achieve higher operational efficiency, expand service reach, and adapt to evolving market expectations [2].

Disruption is a fundamental change in the way businesses operate triggered by technological innovation, creating new models that are more efficient and fit for the needs of the times [3]. In the banking sector, this disruption can be seen in the significant difference between traditional business models that rely on physical offices to serve customers, and digital models that rely on technology to provide services virtually [4]. Digital banks such as Revolut in the UK and N26 in Germany are global examples of institutions that operate entirely without physical offices Hanziuk, et al. [5] while in Indonesia, banks such as Artos Indonesia which is now Bank Jago have pioneered virtual-based banking services that are flexible and easily accessible to customers anytime and anywhere [6].

The main drivers of banks' transformation to virtual offices include the increasing internet penetration and rapid adoption of mobile devices, enabling more flexible and faster access to financial services [7]. In addition, the need for operational efficiency is important in the face of increasing competition in the banking industry. The COVID-19 pandemic acted as a catalyst that accelerated the adoption of digital technology, forcing banks to transform to stay relevant to changing customer behavior [8]. The pressure from financial technology and other digital-based financial services is also pushing banks to innovate, improve competitiveness, and offer more practical and efficient solutions for customers [9].

The benefits of transformation to virtual offices for banks are significant, including the reduction of operational costs, especially those related to building leases and physical infrastructure, which can now be minimized thanks to the use of digital technology [10]. In addition, virtual offices enable wider service accessibility, without being limited by geographical factors, so that customers in various locations can enjoy the same services without having to visit a physical branch [11]. This transformation also has an impact on improving customer experience, by leveraging technology-based services such as chatbots and mobile applications, which provide convenience, speed, and personalization in interacting with the bank [12].

The transformation to virtual offices also presents various challenges that banks need to face. One of them is the change in work culture from a physical to a digital model, which requires adjusting the mindset and skills of employees [10]. Technology readiness is a big challenge, especially in ensuring a supportive infrastructure and guaranteed cybersecurity to protect customer data and transactions. In addition, there is a risk of losing the personal element in customer interactions, which has been one of the strengths of banking services. Equally important, banks must ensure compliance with evolving regulations, especially related to data protection and digital financial services, to continue operating with proper legality [13].

In conclusion, the insights gained from the transformation of banks into virtual offices provide valuable contributions to both theoretical frameworks and practical strategies for managing technological change effectively. By understanding the driving factors, benefits, and challenges of this shift, organizations can better navigate the complexities of digital transformation. These insights not only enhance the academic discourse around technological adoption in the financial sector but also serve as a guide for practitioners in implementing strategies that ensure successful and sustainable change, ultimately leading to improved operational efficiency and customer experience.

2. Background

The research model, according to Tortorella, et al. [14] starts with an organization's decision to implement disruptive technology in banking (organizational change). In the case of Bank Jago, this transformation is marked by its transition from a conventional banking institution to a fully digital bank. Employees receive training and skill development (training & skill development) to ensure they are ready to implement digital banking technologies. Three research variables were chosen by the researchers, citing the work of Tortorella, et al. [14] which include organizational learning, individual preparedness for change, and training and employee readiness to adapt to disruptive technology in digital banking. Additionally, transformative leadership and organizational culture are introduced as determinants of successful transformation.

Individual readiness for change research at Bank Jago is crucial in the context of its shift to a digital banking model. This transformation is not only relevant in the initial phase of digital adoption but also crucial in anticipating future advancements in financial technology. As described in Bank Jago's annual reports and supported by Diener and Špaček [10] digital transformation in banking is a continuous process. The integration of AI-driven financial services, blockchain technology, and automated financial advisory tools are among the anticipated future developments [15]. Understanding how employees and

customers adapt to these continuous changes will provide valuable insights into the acceptance of disruptive technologies in the banking sector.

Dabbous, et al. [16] highlight that disruptive technology (DT) has generated a digital revolution over the past three decades, primarily through internet-based solutions that significantly impact economic systems, entrepreneurial environments, and corporate competition. In the banking industry, disruptive technology has led to the emergence of fully digital banks like Bank Jago, which operate without physical branches and provide financial services exclusively through mobile applications. This shift aligns with the definition of disruptive technology proposed by Edwards, et al. [17] who state that DT is a new combination of existing or emerging technologies that redefine operational and business paradigms, leading to major industry-wide transformations.

According to Aboramadan, et al. [18] describe organizational culture as a shared ideology, values, behaviors, and norms that influence how an organization adapts to external changes. In the case of Bank Jago, fostering an agile and technology-driven culture is essential for ensuring smooth adaptation to its digital banking model. The culture of innovation and adaptability within the organization plays a significant role in driving the successful adoption of new technologies and maintaining internal consistency in the face of industry disruption.

According to Siangchokyo, et al. [19] transformational leadership is a process that modifies and inspires individuals by addressing their values, ethics, and long-term objectives. At Bank Jago, leadership plays a crucial role in guiding employees through the shift from traditional banking practices to a digital-first approach. Transformational leaders ensure that employees understand the vision of digital banking, motivate them to embrace technological advancements, and provide necessary support to facilitate a smooth transition.

According to Tefera and Hunsaker [20] organizational learning is crucial as it relates to the continuous development of value from an organization's intangible assets. In a digital banking institution like Bank Jago, leveraging technology to enhance knowledge acquisition and operational efficiency is a key driver of long-term success. The ability to adapt, learn, and innovate in response to technological advancements will determine the sustainability and competitiveness of Bank Jago in the evolving financial landscape.

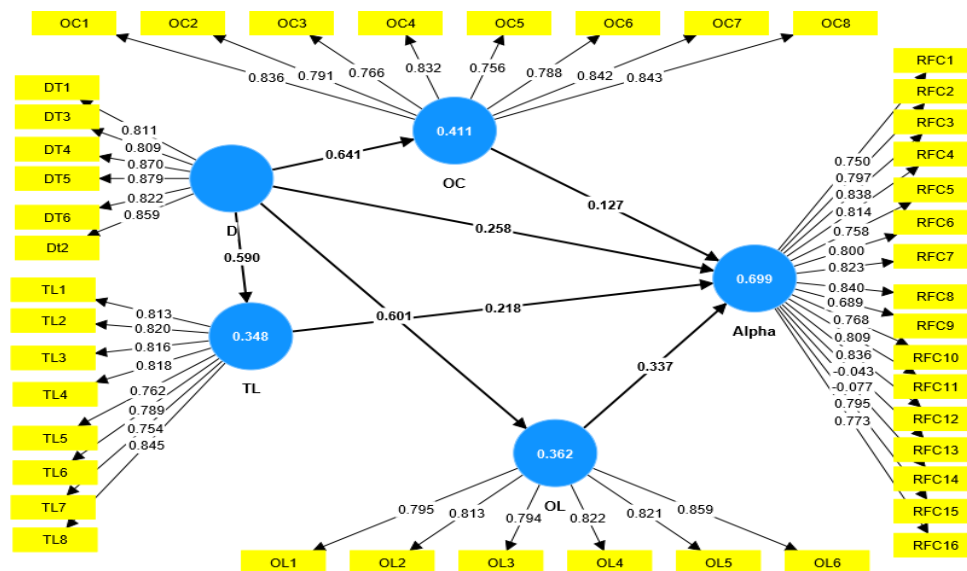


Figure 1.
Bootstrap SmartPLS

3. Research Hypotheses

This study tests four dependent variables and one independent variable. There is disruptive technology (X1), three mediating variables, organizational culture (X2), transformational leadership (X3), and organizational learning (X4). And one dependent variable, individual change readiness (Y). The proposes hypotheses are:

- H₁: Disruptive technology has a direct positive and significant effect on organizational culture*
- H₂: Disruptive technology has a direct positive and significant effect on transformational leadership.*
- H₃: Disruptive technology has a direct positive and significant effect on organizational learning.*
- H₄: Disruptive technology has a direct positive and significant effect on individual readiness for change*
- H₅: Organizational culture has a positive and significant direct effect on individual readiness for change.*
- H₆: Transformational leadership has a positive and significant direct effect on individual readiness for change.*
- H₇: Organizational learning has a positive and significant direct effect on individual readiness for change.*
- H₈: Disruptive technology has a positive and significant indirect effect on individual readiness for change, through organizational culture.*
- H₉: Disruptive technology has a positive and significant indirect effect on individual readiness for change, through transformational leadership.*
- H₁₀: Disruptive technology has a positive and significant indirect effect on individual readiness for change, through organizational learning.*

4. Research Methodology

This is a quantitative survey study employing PLS-SEM (Partial Least Square Structural Equation Model) analysis. To determine (1) the effect of disruptive technology determinants on corporate culture. (2) the impact of variables related to disruptive technologies on transformational leadership. (3) the impact of variables associated with disruptive technologies on organizational learning. (4) the impact of disruptive technology variables on individual change readiness. (5) the impact of organizational culture elements on an individual's adaptability. (6) the impact of transformational leadership variables on individual change preparation. (7) the impact of organizational learning variables on individual change readiness. (8) the impact of disruptive technology variables on individual change preparedness as mediated by corporate culture. (9) the impact of disruptive technology variables on readiness for change as influenced by transformational leadership. (10) the impact of disruptive technology variables on individual change preparedness because of organizational learning.

4.1. Place and Time of Research

The research was conducted from July to September 2021, at the Faculty of Economics and Business, State University of Jakarta and Bank Jago, Indonesia.

4.2. Population and Sample

The study population consists of Bank Jago employees with permanent employment status who have worked for more than five years. This study solely includes employees involved in digital banking operations and customer service. This research focuses on operational employees, particularly in the digital banking sector, because they are directly affected by the introduction of disruptive technologies related to the transformation from traditional banking to fully virtual banking services.

4.3. Data Collection and Analysis

The research was conducted in three stages:

- Literature Review: An extensive review of relevant theories and related to the topic to be researched.
- Data Collection: Survey questionnaires using a Google form to gather the necessary data.

- **Data Analysis:** The study employs the Partial Least Squares Structural Equation Modeling (PLS-SEM) method to analyze the collected data. In this analysis, there are seven paths between latent variables. The sample used in this research is 387 participants. The sampling method used is stratified random sampling.

5. Results and Discussion

This section provides experimental results Outer Loading Factor. Observing that the value of the Outer Loading Factor acquired by all indicators exceeds 0.70, it can be concluded that the construct variables of Disruptive Technology (DT), Organizational Culture (OC), Transformational Leadership (TL), Organizational Learning (OL), and Individual willingness to change are valid.

Table 1.
Outer Loading Factor Table.

	DT	OC	TL	OL
DT1	0.876			
DT2	0.912			
DT3	0.880			
DT4	0.847			
DT5	0.879			
DT6	0.897			
OC1		0.884		
OC2		0.869		
OC3		0.788		
OC4		0.823		
OC5		0.824		
OC6		0.805		
OC7		0.819		
OC8		0.881		
TL1			0.873	
TL2			0.859	
TL3			0.837	
TL4			0.856	
TL5			0.857	
TL6			0.815	
TL7			0.884	
TL8			0.878	
OL1				0.897
OL2				0.812
OL3				0.854
OL4				0.822
OL5				0.841
OL6				0.867

5.1. Outer Loading Factor Results

Observing that the value of the Outer Loading Factor acquired by all indicators exceeds 0.70, it can be concluded that the construct variables of disruptive technology, organizational culture, transformational leadership, organizational learning, and individual willingness to change are valid. To determine the amount of validity of the indicator for each construct, the value of Cronbach's alpha can also be used. If Cronbach's alpha is greater than 0.60, the construct is deemed valid.

Table 2.
Cronbach's Alpha.

Variable	Cronbach's Alpha
Disruptive Technology	0.943
Organizational Culture	0.939
Transformational Leadership	0.949
Organizational Learning	0.923
IRFC	0.970

In the Analysis of Variance (R²) or Determination Test, the r-square is used to identify the influence of independent variables on dependent variables and mediating variables. The greater the r-square number, the more accurate the proposed research model's prediction model is:

- If R² > 0.75, then the association or influence between constructs is strong or significant.
- If R² is less than 0.50, the relationship or influence between constructs is weak or minimal.

Table 3.
R-Square (R²)

Variable	R Square	Adjusted R Square
Organizational Culture	0.704	0.703
Transformational Leadership	0.708	0.708
Organizational Learning	0.705	0.704
IRFC	0.725	0.722

Based on table 3, the R-Square (R²) value of the IFRC variable is 0.725, even though the value is below 0.75, the influence relationship is quite strong, meaning that the ability of the independent variable, namely disruptive technology, affects the IRFC dependent variable by 72.5%, while the rest 27.5% is influenced by variables other than disruptive technology variables.

5.2. Hypotheses Results

After testing the outer model and inner model analysis, the next step is to analyze the measurement results on structural relationships or relationships between constructs (hypothesis testing). In testing the hypothesis, it can be seen from the value of the t-statistic and the probability value. For hypothesis testing, namely by using statistical values, for alpha 5% the t-statistic value used is 1.96. So that the criteria for accepting or rejecting the hypothesis H_a are accepted and H₀ is rejected because the t-statistic > 1.96. To reject or accept the hypothesis using probability, H_a is accepted if the p value < 0.05.

H₁: Disruptive technology has a direct positive and significant effect on organizational culture

Table 4.
Hypothesis 1 (H₁): DT -> OC.

H1: DT->OC	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics	P Values
	0.832	0.831	0.044	19.066	0.000

Based on the results of the Path Coefficient calculation in table 4.13, the Original Sample value is 0.832, the t-statistic is 19.066 > 1.96 and the P Values are 0.000 < 0.05. Thus, it can be concluded that disruptive technology variables have a positive and significant effect on organizational culture. Then H₁ in this study is accepted.

The research results obtained are in accordance with previous research conducted by Zhang and Zhu [21]; Love, et al. [22] and Antonio and Kanbach [2] which stated that there is a positive and significant effect of disruptive technology on organizational culture. These technologies challenge traditional ways of working, encouraging employees to embrace change and develop new skills to remain competitive. Moreover, the integration of disruptive technology often leads to more transparent communication, enhanced decision-making processes, and a focus on agility.

H₂: Disruptive technology has a direct positive and significant effect on transformational leadership

Table 5.

Hypothesis 2 (H₂): DT -> TL

H ₂ : DT->TL	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics	P Values
	0.789	0.787	0.050	15.711	0.000

Based on the results of the Path Coefficient calculation in table 4.14, the Original Sample value is 0.789, the t-statistic is 15.711 > 1.96 and the P Values are 0.000 < 0.05. Thus, it can be concluded that disruptive technology variables have a positive and significant effect on transformational leadership. Then H₂ in this study is accepted.

The results of this study are also in accordance with previous studies conducted by Auliasari, et al. [23]; Sulaeman and Wibowo [24] and Priyashantha [25] that there is a positive and significant effect of disruptive technology on transformational leadership. With the integration of technologies such as artificial intelligence, big data, and advanced automation, leaders are equipped with tools that provide valuable insights, improve decision-making, and streamline operations. The synergy between disruptive technology and transformational leadership drives innovation, enhances organizational resilience, and creates a competitive advantage in rapidly evolving markets.

H₃: Disruptive technology has a direct positive and significant effect on organizational learning.

Table 6.

Hypothesis 3 (H₃): DT -> OL

H ₃ : DT->OL	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics	P Values
	0.840	0.840	0.024	35.172	0.000

Based on the results of the Path Coefficient calculation in table 4.15, the Original Sample value is 0.840, the t-statistic is 35.172 > 1.96 and the P Values are 0.000 < 0.05. Thus, it can be concluded that disruptive technology variables have a positive and significant effect on organizational learning. Then H₃ in this study is accepted.

The results of this study are also in accordance with previous studies conducted by Chen and Zheng [26]; Hongyun, et al. [27] and Sharan, et al. [28] which states that there is a positive and significant influence between technology on organizational learning. Technologies facilitate the creation of dynamic learning environments where knowledge is constantly updated and easily accessible across teams, breaking down traditional silos and promoting cross-functional collaboration. By fostering a culture of curiosity, adaptability, and experimentation, disruptive technologies not only enhance the speed and efficiency of learning but also prepare organizations to thrive in complex and rapidly changing environments. Ultimately, the integration of disruptive technology into organizational learning strategies helps businesses remain competitive, innovative, resilient in the face of ongoing disruption.

H₄: Disruptive technology has a direct positive and significant effect on individual readiness for change.

Table 7.

Hypothesis 4 (H₄): DT -> IRFC

H ₄ : DT->IRFC	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics	P Values
	0.334	0.326	0.088	3.794	0.000

The fourth hypothesis aims to examine the influence of disruptive technologies on IRFC.

Based on the results of the Path Coefficient calculation in table 4.16, the Original Sample value is 0.334, the t-statistic is 3.794 > 1.96 and the P Values are 0.000 < 0.05. Thus, it can be concluded that

disruptive technology variables have a positive and significant effect on IRFC. So H4 in this study is accepted.

The results of this study are also in accordance with previous studies conducted by Priyashantha [25]; Sunarmo, et al. [29]; Marocco and Garofolo [30] and Iranmanesh, et al. [31] which stated that disruptive technology has a positive and significant effect on IRFC. Technological evolution often reduces resistance to change. Organizations that proactively implement disruptive technologies tend to cultivate a culture of innovation and agility, further encouraging employees to embrace change.

H₅: Organizational culture has a positive and significant direct effect on individual readiness for change.

Table 8.

Hypothesis 5 (H5): OC -> IRFC.

H5: OC-> IRFC	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics	P Values
	0.232	0.237	0.076	3.058	0.001

Based on the results of the Path Coefficient calculation, the Original Sample value is 0.232, the t-statistic is 3.058 > 1.96 and the P Values are 0.001 < 0.05. Thus it can be concluded that organizational culture variables have a positive and significant effect on IRFC. Then H5 in this study is accepted.

The results of this study are also consistent with previous studies conducted by Wardjianto, et al. [32]; Mathur, et al. [33] and Haffar, et al. [34] which state that there is a positive and significant influence between organizational culture on individual readiness for change. Organizational culture has a positive and significant direct effect on individual readiness for change because it shapes the beliefs, attitudes, and behaviors of employees in relation to change initiatives. When employees feel that the organizational values align with their own and that leaders genuinely support their development, they are more likely to embrace new processes, technologies, or strategies. A positive organizational culture acts as a foundation that motivates individuals to align with change efforts, ensuring smoother transitions, and greater success in achieving organizational goals.

H₆: Transformational leadership has a positive and significant direct effect on individual readiness for change.

Table 9.

Hypothesis 6 (H6): TL -> IRFC.

H6: TL-> IRFC	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics	P Values
	0.122	0.126	0.072	2.691	0.004

Based on the results of the Path Coefficient calculation in table 4.18, the Original Sample value is 0.122, the t-statistic is 2.691 > 1.96 and the P Values are 0.035 < 0.05. Thus, it can be concluded that the transformational leadership variable has a positive and significant effect on IRFC. So H6 in this study is accepted.

The results of this study are also consistent with previous studies conducted by Islam, et al. [35]; Peng, et al. [36] and Henricks, et al. [37] which state that there is a positive and significant influence of transformational leadership on individual readiness for change. Transformational leaders are known for their ability to articulate a compelling vision of the future, making employees feel connected to the larger goals of the organization. Transformational leaders also model behaviors they are expected to adopt. Furthermore, these leaders provide consistent support, guidance, and resources throughout the change process, ensuring that employees feel equipped and confident to navigate transitions.

H₇: Organizational learning has a positive and significant direct effect on individual readiness for change.

Table 10.

Hypothesis 7 (H7): OL -> IRFC

H7: OL-> IRFC	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics	P Values
	0.221	0.219	0.087	2.537	0.006

Based on the results of the Path Coefficient calculation in table 4.19, the Original Sample value is 0.221, the t-statistic is 2.537 < 1.96 and the P Values are 0.006 > 0.05. Thus it can be concluded that organizational learning variables have a positive and significant effect on IRFC. So H7 in this study is accepted.

The results of this study are also consistent with previous studies conducted by Mathur, et al. [33]; Haffar, et al. [34] and Talaja and Dumanić [38] which stated that there is a positive and significant effect between organizational learning on individual readiness for change. When organizations foster a learning-oriented culture, employees are more likely to view change as an opportunity for personal and professional growth rather than as a disruption. Continuous learning helps individuals stay informed about industry trends, technological advancements, and innovative practices, making them more confident and prepared to embrace change.

H₈: Disruptive technology has a positive and significant indirect effect on individual readiness for change, through organizational culture.

Table 11.

Hypothesis 8 (H₈): DT -> OC -> IRFC

H ₈ : DT-> OC-> IRFC	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics	P Values
	0.193	0.198	0.061	3.142	0.002

The eighth hypothesis examines whether organizational culture mediates the relationship between disruptive technology and individual readiness for change (IRFC). Based on the Path Coefficient calculation, the Original Sample value is 0.193, the t-statistic is 3.142 > 1.96, and the P-value is 0.002 < 0.05. Thus, it can be concluded that disruptive technology has a positive and significant indirect effect on IRFC through organizational culture. Therefore, H8 in this study is accepted.

The findings align with previous studies conducted by Zighan [39]; Bozkus [40] and Deep [41] which highlight that disruptive technologies drive organizational culture changes that enhance adaptability. Companies adopting digital transformation often see a shift towards more agile, innovative, and learning-oriented cultures. This cultural shift fosters a positive employee mindset towards change, reducing resistance and enhancing their readiness to embrace new technologies and processes. Moreover, a supportive organizational culture ensures that employees perceive technological advancements as opportunities rather than threats, further strengthening their willingness to adapt.

H₉: Disruptive technology has a positive and significant indirect effect on individual readiness for change, through transformational leadership.

Table 12.

Hypothesis 9 (H₉): DT -> TL -> IRFC.

H ₉ : DT-> TL-> IRFC	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics	P Values
	0.157	0.162	0.055	2.874	0.004

The ninth hypothesis explores the mediating role of transformational leadership in the relationship between disruptive technology and individual readiness for change (IRFC). Based on the Path Coefficient calculation, the Original Sample value is 0.157, the t-statistic is 2.874 > 1.96, and the P-value is 0.004 < 0.05. Thus, it can be concluded that disruptive technology has a positive and significant indirect effect on IRFC through transformational leadership. Therefore, H9 in this study is accepted.

This finding supports previous research by Karakose, et al. [42]; Alakaş [43] and Senadjki, et al. [44] which emphasize the critical role of transformational leadership in digital transformation initiatives. Transformational leaders inspire employees by articulating a compelling vision for technology-driven changes, fostering a culture of trust, motivation, and adaptability. By effectively managing disruptions, transformational leaders help employees navigate uncertainties and embrace

innovation, ultimately enhancing their readiness for change. Furthermore, these leaders provide the necessary guidance, training, and emotional support that empower employees to integrate new technologies into their daily tasks confidently.

H₁₀: *Disruptive technology has a positive and significant indirect effect on individual readiness for change, through organizational learning.*

Table 13.

Hypothesis 10 (H10): DT -> OL -> IRFC

H10: DT-> OL-> IRFC	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics	P Values
	0.186	0.188	0.055	3.382	0.001

Based on Table 13, the Original Sample value is 0.186, t-statistic is 3.382 > 1.96, and P Values are 0.001 < 0.05. This confirms that disruptive technology has an indirect positive and significant effect on individual readiness to change through organizational learning. This finding supports previous research by Mathur, et al. [33]; Chang, et al. [45] and Mahendrati and Mangundjaya [46].

6. Conclusion

This study examines the impact of disruptive technology on organizational culture, transformational leadership, organizational learning, and individual readiness for change (IRFC) within Bank Jago. The findings indicate that disruptive technology plays a crucial role in shaping an adaptive and resilient organizational environment.

The results confirm that disruptive technology has a significant positive effect on organizational culture, transformational leadership, and organizational learning. Furthermore, these factors mediate the relationship between disruptive technology and IRFC, emphasizing their importance in fostering employee adaptability.

Organizational learning is identified as a key mechanism through which disruptive technology influences individual readiness for change. Employees who engage in continuous learning processes are more likely to embrace technological advancements and organizational transformations.

Additionally, transformational leadership strengthens this transition by providing guidance, motivation, and strategic vision, ensuring that employees align with the evolving business landscape.

These findings suggest that organizations, particularly in the banking sector, should invest in leadership development and organizational learning initiatives to enhance employee readiness for change in response to technological disruptions. Future research could explore longitudinal impacts and sector-specific variations to deepen the understanding of these relationships.

Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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References

- [1] D. Harahap, "Will digital banking transformation affect consumer behavior in the financial sector?," *Journal of Applied Structural Equation Modeling*, vol. 8, no. 1, pp. 1–20, 2024. [https://doi.org/10.47263/JASEM.8\(1\)06](https://doi.org/10.47263/JASEM.8(1)06)
- [2] J. L. Antonio and D. K. Kanbach, "Contextual factors of disruptive innovation: A systematic review and framework," *Technological Forecasting and Social Change*, vol. 188, p. 122274, 2023.

- [3] V. Roblek, M. Meško, F. Pušavec, and B. Likar, "The role and meaning of the digital transformation as a disruptive innovation on small and medium manufacturing enterprises," *Frontiers in Psychology*, vol. 12, p. 592528, 2021. <https://doi.org/10.3389/FPSYG.2021.592528/BIBTEX>
- [4] Y. Qi, "Digital transformation of business models in the banking sector," in *2022 International Conference on Social Sciences and Humanities and Arts (SSHAA 2022)*, 2022: Atlantis Press, pp. 951-954.
- [5] S. Hanzuik, H. Dzharfarova, and M. Domin, "development of neobanking in Europe and ukraine," *Black Sea Economic Studies*, no. 83, 2023. <https://doi.org/10.32782/BSES.83-16>
- [6] M. Y. Ahdallah and S. Sukarno, "Indonesian Digital Bank Stock Valuation: Case Study of Bank Jago in 2022," 2022.
- [7] R. Shanti, H. Siregar, N. Zulfainarni, and Tony, "Role of digital transformation on digital business model banks," *Sustainability*, vol. 15, no. 23, p. 16293, 2023.
- [8] Y. Zhu and S. Jin, "COVID-19, digital transformation of banks, and operational capabilities of commercial banks," *Sustainability*, vol. 15, no. 11, p. 8783, 2023. <https://doi.org/10.3390/SU15118783>
- [9] Y. Wang, S. Xiuping, and Q. Zhang, "Can fintech improve the efficiency of commercial banks?—An analysis based on big data," *Research in international business and finance*, vol. 55, p. 101338, 2021. <https://doi.org/10.1016/J.RIBAF.2020.101338>
- [10] F. Diener and M. Špaček, "Digital transformation in banking: A managerial perspective on barriers to change," *Sustainability*, vol. 13, no. 4, p. 2032, 2021. <https://doi.org/10.3390/SU13042032>
- [11] J. S. Fathima, "Challenge management of banking services—with special reference to virtual banking service challenges," *Shanlax International Journal of Management*, vol. 7, no. 3, pp. 57-66, 2020.
- [12] S. Kondybayeva *et al.*, "A New Concept of Transforming Service: Impact of Generative Voice Chatbots on Customer Satisfaction and Banking Industry Productivity," *Emerging Science Journal*, vol. 8, no. 6, pp. 2278-2311, 2024.
- [13] S. Wang, M. Asif, M. F. Shahzad, and M. Ashfaq, "Data privacy and cybersecurity challenges in the digital transformation of the banking sector," *Computers & security*, vol. 147, p. 104051, 2024.
- [14] G. L. Tortorella, A. M. C. Vergara, J. A. Garza-Reyes, and R. Sawhney, "Organizational learning paths based upon industry 4.0 adoption: An empirical study with Brazilian manufacturers," *International Journal of Production Economics*, vol. 219, pp. 284-294, 2020.
- [15] D. Ressi, R. Romanello, C. Piazza, and S. Rossi, "AI-enhanced blockchain technology: A review of advancements and opportunities," *Journal of Network and Computer Applications*, p. 103858, 2024.
- [16] A. Dabbous, K. A. Barakat, and S. Kraus, "The impact of digitalization on entrepreneurial activity and sustainable competitiveness: A panel data analysis," *Technology in Society*, vol. 73, p. 102224, 2023. <https://doi.org/10.1016/J.TECHSOC.2023.102224>
- [17] C. M. Edwards, R. R. Nilchiani, A. Ganguly, and M. Vierlboeck, "Evaluating the tipping point of a complex system: The case of disruptive technology," *Systems Engineering*, vol. 28, no. 1, pp. 69-81, 2025.
- [18] M. Aboramadan, B. Albashiti, H. Alharazin, and S. Zaidoune, "Organizational culture, innovation and performance: a study from a non-western context," *Journal of Management Development*, vol. 39, no. 4, pp. 437-451, 2020.
- [19] N. Siangchokyo, R. L. Klinger, and E. D. Campion, "Follower transformation as the linchpin of transformational leadership theory: A systematic review and future research agenda," *The Leadership Quarterly*, vol. 31, no. 1, p. 101341, 2020.
- [20] C. A. Tefera and W. D. Hunsaker, "Intangible assets and organizational citizenship behavior: A conceptual model," *Heliyon*, vol. 6, no. 7, 2020.
- [21] F. Zhang and L. Zhu, "Social media strategic capability, organizational unlearning, and disruptive innovation of SMEs: The moderating roles of TMT heterogeneity and environmental dynamism," *Journal of Business Research*, vol. 133, pp. 183-193, 2021. <https://doi.org/10.1016/J.JBUSRES.2021.04.071>
- [22] P. E. Love, J. Matthews, and J. Zhou, "Is it just too good to be true? Unearthing the benefits of disruptive technology," *International Journal of Information Management*, vol. 52, p. 102096, 2020. <https://doi.org/10.1016/J.IJINFOMGT.2020.102096>
- [23] R. W. Auliasari, A. Santoso, and F. Setiawan, "Transforming sustainability: The role of transformational leadership and knowledge in disruptive innovation," *Utamax: Journal of Ultimate Research and Trends in Education*, vol. 5, no. 3, pp. 231-245, 2023.
- [24] M. M. Sulaeman and S. N. Wibowo, "Disruptive technology: Foundations of human resource transformation and its impact on technopreneurship practices," *Technopreneurship and Educational Development Review*, vol. 1, no. 1, pp. 35-40, 2024. <https://doi.org/10.61100/TENDER.V1I1.150>
- [25] K. Priyashantha, "Disruptive technologies for human resource management: a conceptual framework development and research agenda," *Journal of Work-Applied Management*, vol. 15, no. 1, pp. 21-36, 2023. <https://doi.org/10.1108/JWAM-10-2022-0069/FULL/PDF>
- [26] S. Chen and J. Zheng, "Influence of organizational learning and dynamic capability on organizational performance of human resource service enterprises: moderation effect of technology environment and market environment," *Frontiers in Psychology*, vol. 13, p. 889327, 2022.
- [27] S. Hongyun, S. Iqbal, S. F. Ashraf, and I. Bashir, "Impact of organization learning capability on performance innovation: mediating role of information technology," *Technology*, vol. 3, no. 01, pp. 146-150, 2021.

- [28] K. Sharan, D. Dhayanithy, and D. Sethi, "Interrelationship between strategic factors, technology and organizational learning: A systematic literature review," *Journal of Knowledge Management*, vol. 27, no. 9, pp. 2462-2483, 2023. <https://doi.org/10.1108/JKM-09-2022-0706/FULL/PDF>
- [29] S. Sunarmo, P. Rini, D. Nurdiana, N. Albart, and S. Hasanah, "The importance of innovative leadership in improving organisational readiness for technology disruption," *Jurnal Minfo Polgan*, vol. 12, no. 1, pp. 1427-1436, 2023. <https://doi.org/10.33395/JMP.V12I1.12803>
- [30] M. Marocco and I. Garofolo, "Integrating disruptive technologies with facilities management: A literature review and future research directions," *Automation in Construction*, vol. 131, p. 103917, 2021. <https://doi.org/10.1016/J.AUTCON.2021.103917>
- [31] M. Iranmanesh, M. Ghobakhloo, M. Nilashi, M.-L. Tseng, E. Yadegaridehkordi, and N. Leung, "Applications of disruptive digital technologies in hotel industry: A systematic review," *International Journal of Hospitality Management*, vol. 107, p. 103304, 2022.
- [32] W. Wardjianto, D. Purwana, and E. Clara, "The Influence of Organizational Culture on Employee Affective Commitment to Change with Employee Resilience and Employee Readiness to Change as Mediators," *International Journal of Research and Review*, vol. 9, no. 8, pp. 733-748, 2022.
- [33] M. Mathur, T. Kapoor, and S. Swami, "Readiness for organizational change: the effects of individual and organizational factors," *Journal of advances in management research*, vol. 20, no. 4, pp. 730-757, 2023.
- [34] M. Haffar *et al.*, "Organizational culture and affective commitment to e-learning changes during COVID-19 pandemic: The underlying effects of readiness for change," *Journal of Business Research*, vol. 155, p. 113396, 2023. <https://doi.org/10.1016/J.JBUSRES.2022.113396>
- [35] M. N. Islam, F. Furuoka, and A. Idris, "Mapping the relationship between transformational leadership, trust in leadership and employee championing behavior during organizational change," *Asia Pacific Management Review*, vol. 26, no. 2, pp. 95-102, 2021.
- [36] J. Peng, M. Li, Z. Wang, and Y. Lin, "Transformational leadership and employees' reactions to organizational change: Evidence from a meta-analysis," *The Journal of applied behavioral science*, vol. 57, no. 3, pp. 369-397, 2021.
- [37] M. D. Henricks, M. Young, and E. J. Kehoe, "Attitudes toward change and transformational leadership: A longitudinal study," *Journal of change management*, vol. 20, no. 3, pp. 202-219, 2020.
- [38] A. Talaja and V. Dumanić, "Organizational learning capacity as a mediator in change readiness–change success relationship," *Ekonomika misao i praksa*, pp. 0-0, 2023.
- [39] S. Zighan, "Disruptive technology from an organizational management perspective," presented at the In 2022 International Conference on Business Analytics for Technology and Security (ICBATS) (pp. 1-5). IEEE, 2022.
- [40] K. Bozkus, "Organizational culture change and technology: Navigating the digital transformation," in *Organizational Culture-Cultural Change and Technology*: IntechOpen, 2023.
- [41] G. Deep, "Digital transformation's impact on organizational culture," *International Journal of Science and Research Archive*, vol. 10, no. 2, pp. 396-401, 2023. <https://doi.org/10.30574/IJSRA.2023.10.2.0977>
- [42] T. Karakose, I. Kocabas, R. Yirci, S. Papadakis, T. Y. Ozdemir, and M. Demirkol, "The development and evolution of digital leadership: A bibliometric mapping approach-based study," *Sustainability*, vol. 14, no. 23, p. 16171, 2022.
- [43] E. Ö. Alakaş, "Digital transformational leadership and organizational agility in digital transformation: Structural equation modelling of the moderating effects of digital culture and digital strategy," *The Journal of High Technology Management Research*, vol. 35, no. 2, p. 100517, 2024.
- [44] A. Senadjki, H. N. A. Yong, T. Ganapathy, and S. Ogbeibu, "Unlocking the potential: the impact of digital leadership on firms' performance through digital transformation," *Journal of Business and Socio-economic Development*, vol. 4, no. 2, pp. 161-177, 2023. <https://doi.org/10.1108/JBSED-06-2023-0050/FULL/PDF>
- [45] N. Chang, Y. Zhang, D. Lu, X. Zheng, and J. Xue, "Is a disruptive technology disruptive? The readiness perspective based on TOE," presented at the In 2020 IEEE International Conference on Industrial Engineering and Engineering Management (IEEM) (pp. 893-897), 2020.
- [46] H. A. Mahendrati and W. Mangundjaya, "Individual readiness for change and affective commitment to change: The mediation effect of technology readiness on public sector," in *3rd Forum in Research, Science, and Technology (FIRST 2019)*, 2020, pp. 52-59.