Journal of Asian Scientific Research
ISSN(e): 2223-1331
ISSN(p): 2226-5724
DOI: 10.55493/5003.v16i1.5880
Vol. 16, No. 1, 254-268.

URL: www.aessweb.com

Leadership and organizational culture as a drivers of competitive advantage in Islamic bank the mediating role of digital transformation in Indonesia

Nila Astiti[1+]
Mokhamad Anwar[2]
Yudi Ahmad Faisal[3]
Hilmiana[4]

[1,2,3,4]*Faculty of Economics and Business, Universitas Padjadjaran, Bandung, Indonesia.*
[1]*Email: nila20004@mail.unpad.ac.id*
[2]*Email: mokhamad.anwar@unpad.ac.id*
[3]*Email: yudi.ahmad@unpad.ac.id*
[4]*Email: hilmiana@unpad.ac.id*

(+ Corresponding author)

Article History
Received: 11 September 2025
Revised: 23 December 2025
Accepted: 21 January 2026
Published: 4 February 2026

Keywords
Competitive advantage
Digital transformation
Islamic banks
Leadership
Organizational culture.

ABSTRACT

In the digital era, Islamic banks increasingly rely on digital transformation to develop unique products and services. This study examines the influence of Leadership (LDR) and Organizational Culture (OCL) on Digital Transformation (DTF) and Competitive Advantage (CTA), emphasizing the mediating role of DTF. Using a quantitative approach, data were collected from 143 middle managers and senior leaders of Islamic banks and analyzed using SEM-PLS with SmartPLS 3.0. The findings indicate that LDR significantly affects DTF (Coefficient 0.198) and CTA (Coefficient 0.171). OCL significantly affects DTF (Coefficient 0.660) but has no significant direct effect on CTA (Coefficient 0.195). DTF significantly influences CTA (Coefficient 0.495). Furthermore, DTF mediates the effects of LDR on CTA (Coefficient 0.098) and OCL on CTA (Coefficient 0.326). The analysis demonstrates that digital transformation functions as a key mediating factor in organizational culture for creating a competitive advantage in Islamic banks. The current organizational culture has not yet fully enabled stronger industry positioning, highlighting the need for improved communication of its unique values. The novelty of this study lies in demonstrating that digital transformation is essential for building a competitive advantage in the Islamic banking sector and in providing a clearer overview of its implementation.

Contribution/ Originality: This study contributes to the existing literature by demonstrating that implementing a comprehensive digital transformation (DTF) to support business processes and banking services functions as a new mediating mechanism linking leadership (LDR) and organizational culture (OCL) to competitive advantage (CTA) in Islamic banks. The primary contribution of this paper is establishing this mediation empirically.

1. INTRODUCTION

The history of Islamic banks worldwide dates back to the establishment of Mit Ghamr in 1963. In Indonesia, the history of Islamic banking began in 1992 with the founding of Bank Muamalat in 1412 H/1992 M. The rapid development of digital technology in the banking industry has fundamentally transformed customer service [1, 2]. Face-to-face banking services are increasingly being replaced by innovative self-service technologies (SSTs), which enable customers to access banking services independently using their mobile devices instead of visiting a bank branch [3, 4]. The adoption of technology-driven banking services significantly impacts operational costs, with digital banking operations costing only 25-30% of traditional retail banking expenses [5]. This transition has enabled banks to reduce expenses, increase profitability, and enhance operational efficiency [6, 7].

Human resource management is the most valuable resource for any organization because it implements all its strategies. Every firm attempts to achieve a competitive advantage through technological advancement, cost reduction, and quality improvement, among other strategies. However, these efforts are often limited in their ability to enhance the firm's operational performance beyond a certain point. To progress further, organizations must prioritize their most important asset: human capital. If a company employs a unique strategy that creates value and is not easily replicated by competitors, it can gain a sustainable competitive advantage [8, 9]. Digital technology is gradually transforming banking operations, shifting from labor-intensive processes to systems that rely more on advanced technology and less on human resources.

Managing digitally literate personnel is one of the main challenges faced by banks. To survive amidst rapid business changes and fierce competition, banks must adopt effective human resource strategies. Leadership style plays a crucial role in managing human resources within the service sector, as it directly influences organizational transformation. Digital transformation encourages organizations to enhance their human resources' ability to adapt to evolving digital demands [10, 11]. The environment characterized by volatility, uncertainty, complexity, and ambiguity (VUCA) presents challenges for organizations in managing talent and performance. It necessitates agile human resources, digital skills, and a commitment to sustainable learning [12]. Leadership during the digital transformation process has not been extensively discussed, making Digital Transformation Leadership (DTL) a vital aspect of organizational structure. Industrial analysis indicates that less than 30% of digital transformation initiatives are successful [13].

Increased attention to digital technology and solutions that rapidly change organizations and industries has led to the introduction of digital leadership as a concept. This concept aims to address the competencies that leaders must develop in the current digital era. The core competencies of digital leaders who facilitate digital transformation remain unclear [14]. Digital leaders are capable of taking appropriate actions to ensure their organizations and business environments succeed in strategic digitalization [15, 16]. Successful digital transformation requires leaders who can promote technological adoption and foster an innovative culture, which simultaneously creates new business opportunities and optimizes existing workflows [17]. Leaders involved in transformation focus on both people-oriented and task-oriented approaches to drive the digital transformation of their organizations [18].

Corporate culture serves as an internal social control system by defining appropriate attitudes and behaviors for its members based on a set of common values and standards [19]. According to the literature, organizational culture facilitators and inhibitors influence an organization's ability to be innovative in NPD [20]. It also indicates that mature companies often lose this propensity to be innovative, as the mechanisms that allow them to succeed become inhibitors to innovation [21]. This study will discuss the role of leadership and organizational culture in building a competitive advantage for banks through digital transformation, which has not been widely discussed in previous literature, particularly concerning Islamic banking.

2. LITERATURE REVIEW

2.1. Leadership, Digital Transformation, and Competitive Advantage

The connection between leadership roles and digital transformation has been supported by numerous studies, including Matt, et al. [22] and Lanzolla, et al. [23]. Islamic banks require a dedicated leader responsible for the success of digital transformation. This leader, often referred to as the Chief Digital Officer (CDO), is tasked with integrating various Islamic banking assets, such as products, processes, business strategies, and technology. Additionally, the CDO must identify suitable technologies and areas that require digital transformation, ensuring alignment with the bank's strategic goals and operational efficiency.

Organizations need a Chief Digital Officer (CDO) who assumes full responsibility for the digital transformation process. CDOs must also be capable of overcoming resistance to change and actively engaging with stakeholders to ensure the success of the transformation [24]. Research by Porfírio, et al. [25] and Zaman [26] supports this view

by emphasizing the importance of leadership in driving successful digital transformation as part of the company's mission. Leaders are involved in determining the technology innovations to be adopted, ensuring organizational readiness, providing direction to employees regarding the changes, and identifying the processes or business models that will be enhanced with technology to improve efficiency and productivity [25]. Furthermore, in the context of digital transformation, leaders are responsible for establishing the company's vision and mission. This perspective aligns with Hie [27], who states that the success of digital transformation is driven by clear strategic goals, organizational culture, and effective leadership.

Human resources with digital literacy are a part of digital transformation, including processes and technology. Islamic bank leaders need to enhance human resource capacity to keep pace with technological developments. Digital transformation in Islamic banks aims to accelerate and improve process intelligence, thus requiring leaders capable of motivating teams to effectively adopt change. This aligns with the view of Imran, et al. [28], who emphasize that change can have both positive and negative impacts. Therefore, to ensure the success of the transformation process, leaders need to have expertise in managing the impact of change.

The responsibilities of leaders in Islamic banks are crucial in creating and maintaining a competitive advantage, especially amidst intense competition among financial institutions. A competitive advantage can be built by offering distinctive Islamic banking products, but leaders must also leverage digital technology to enhance process efficiency. Digital innovations, such as unique features in mobile banking examples including pawning, gold installments, and zakat payments can attract attention, particularly from millennial customers. These innovations provide a competitive edge that is difficult for other financial institutions to imitate.

A business leader's success in creating a competitive advantage is influenced by their ability to acquire and integrate new technologies with existing ones. Collaborating with business partners to develop new technologies is also a key element in digital transformation, contributing to a company's competitiveness [29]. Organizations that make digital transformation a strategic priority are more optimistic about future business effectiveness compared to those that do not focus on it Fitzgerald, et al. [30]. Leaders who understand how to leverage digitalization to enhance company value can turn digital technology into a competitive advantage. With a transformative vision, good governance, and active engagement, leaders can ensure that digitalization becomes a strategic investment [31]. Research [32] also highlights the positive impact of leadership that prioritizes digital transformation. This focus can transform business models, increase revenue, improve operational efficiency, and enhance customer experience, ultimately providing companies with a competitive edge. Therefore, our first three research hypotheses (H1, H2, and H3) are based on these insights.

H_1: Leadership has a positive and significant effect on digital transformation.

H_2: Leadership has a positive and significant effect on competitive advantage.

H_3: Leadership through digital transformation has a positive and significant effect on competitive advantage.

2.2. Organizational Culture, Digital Transformation, and Competitive Advantage

Organizational culture in Islamic banks plays a crucial role in the success of digital transformation, as it is formed by diverse employees who share Islamic values. Unlike conventional banks, Islamic banks have a strong cultural foundation anchored in Islamic principles that distinguish them from other financial institutions. In the digital era, organizational culture is a key factor influencing the success of digital transformation initiatives. According to research [33], a strong organizational culture can serve as a strategic asset that supports digital transformation and overall corporate success. The development of digital services and products within Islamic banks can be accelerated through the internalization of a digital culture. The adoption of technology and the internet will influence interaction and communication patterns among employees and will serve as a basis for decision-making and the formulation of technology-based business strategies. Furthermore [34], studies emphasize three critical factors in digital transformation: resources (both tangible, such as personnel and technology, and intangible, such as patents), processes

(including coordination and communication), and values that guide work. Scholars like Christensen and Overdorf [35] highlight the importance of these three factors resources, processes, and values in successfully navigating digital transformation within organizations. However, changing mindsets to adapt to digital developments presents a significant cultural challenge. If employees of Islamic banks do not understand the importance of digital transformation, both technically and psychologically, organizational culture can become a barrier. Lucas Jr and Goh [36] remind us that a culture resistant to change can hinder innovation, as exemplified by Kodak, which failed to adapt to the shift from traditional to digital cameras. This failure offers an important lesson for Islamic banks, helping them avoid the trap of resisting necessary changes to remain competitive in the digital age.

The transformation of Islamic banking services toward digitalization depends on employees who are prepared to adapt and support the change process driven by technological development. Employees in Islamic banks with a progressive mindset, who foster an organizational culture based on values such as innovation, data utilization, technological proficiency, strong teamwork, and collaboration toward shared objectives, can become vital assets in establishing a unique and irreplaceable competitive advantage. Supports this, where a valuable, unique, and difficult-to-imitate organizational culture can be a source of competitive advantage [37]. Highlights the importance of corporate culture and mindset in the pace of business digitalization.

Offering Sharia-compliant digital services and products that differentiate them from competitors can attract customers, especially when supported by employee behavior that reflects Islamic values such as honesty, trustworthiness, sincerity, and intelligence. This positive and strong organizational culture demonstrates to customers the superiority of Islamic banks over their competitors. According to Kane [37], a solid and strategic organizational culture can be key to facing change and fostering innovation. Digital transformation, as part of this change, requires the support of a supportive corporate culture.

The connection between Islamic banking corporate culture and digital innovation lies in the implementation of digital practices, such as data-driven decision-making processes, automation of business procedures, and fostering innovation within business activities. Digital transformation compels Islamic banks to reassess their organizational culture, which in turn influences decisions related to relevant and applicable technologies. According to Saarikko, et al. [38], digital transformation involves developing and implementing new business models through technological application. Kane [37] emphasizes that cultural traits such as proactivity, continuous learning, and collaboration are key drivers for successful digital transformation. Organizations that prioritize cultivating a digital business culture can leverage their organizational culture as a strategic advantage to create a competitive edge.

Research hypotheses four, five, and six (H4, H5, and H6) are as follows:

H_4: Organizational culture has a positive and significant effect on digital transformation.

H_5: Organizational Culture Has a Positive and Significant Effect on Competitive Advantage

H_6: Organizational Culture through Digital Transformation Has a Positive and Significant Effect on Competitive Advantage.

2.3. Digital Transformation and Competitive Advantage

Digitalization has become a necessity for Islamic banks; it is no longer optional. As customer behavior shifts in the digital environment, Islamic banks must adapt to technological advances, ensuring speed and security in banking services to meet customer needs for convenience. To retain existing customers and attract new ones, Islamic banks need to enhance service quality by leveraging digital technology. The competition is intensifying with the emergence of new entrants from both the banking and non-banking sectors, which requires Islamic banks to develop effective strategies to remain competitive. Adapting to digital technology is crucial for Islamic banks in providing the best service to customers by creating unique new products and services or transforming existing business models to gain a competitive advantage. Digital transformation is a vital step in achieving this goal. According to Westerman, et al. [31], the implementation of digital technology tailored to a company's business model is essential for creating a

competitive advantage. Furthermore, Vial [39] states that digital transformation combines cutting-edge technology with an organization's social systems to increase business value, develop better products and services, and update processes and business models. In Islamic banks, digital transformation can be realized through banking services accessible anytime and anywhere, such as mobile applications that not only handle banking transactions but also offer daily lifestyle services like online shopping, QRIS payments, mobile phone top-ups, and digital services related to Hajj and Umrah. Islamic banks that successfully implement digital technology to overhaul their operational methods and customer services can create unique and differentiated products, which become a source of competitive advantage. As stated by Stojkovski and Nenovski [40], digital innovation in banking is crucial for establishing a competitive edge in the banking sector.

H_7: Digital transformation has a positive and significant effect on competitive advantage.

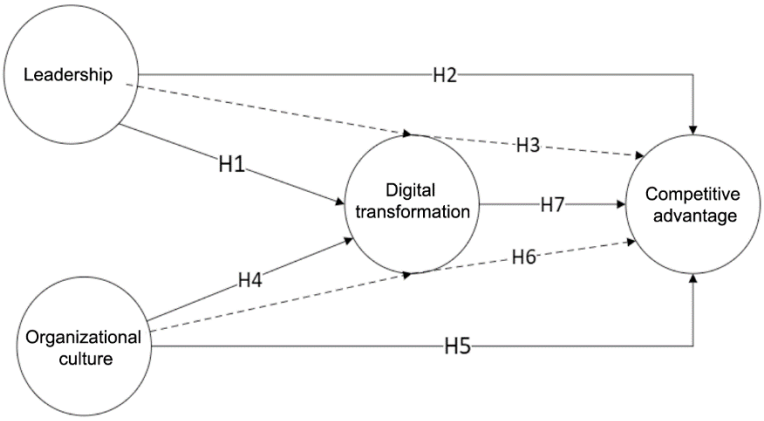

Figure 1. Research framework.

3. RESEARCH METHODOLOGY

3.1. Research Design

The method employed is a quantitative analysis approach utilizing a structural equation modeling technique [41-44]. The exogenous variables considered are leadership and organizational culture, while the intervening variable is digital transformation. The endogenous variable in this model is competitive advantage. A deductive analysis approach is used to test hypotheses and address each problem formulation systematically. To analyze the hypotheses, the study employs SmartPLS version 3 software, utilizing partial least squares structural equation modeling (PLS-SEM) to evaluate the research model. PLS-SEM offers advantages such as accommodating models with a single-item construct and handling non-normally distributed data [44, 45].

3.2. Data Collection and Analysis

A questionnaire was used to collect data and information from middle and senior managers of a syariah bank. The questionnaire [46] employed a Likert scale ranging from 1 (strongly disagree) to 6 (strongly agree). It was divided into two parts: the first part contained 8 questions regarding general information about the respondents, and the second part included 47 questions exploring the relationships between leadership (8 items), organizational culture (9 items), digital transformation (10 items), and competitive advantage (8 items). The item constructs used to measure leadership were adapted from Marques [47] and Larjovuori, et al. [48]. Similarly, the item constructs for measuring organizational culture were adopted from Denison, et al. [49] and Seth, et al. [50]. The item constructs used to assess digital transformation were taken from Hie [27]. Finally, the item constructs employed to measure competitive advantage were adopted from Seth, et al. [50]. Because SEM-PLS is resilient when handling small to medium sample sizes, non-normal data, and complex models including mediating variables, it was used with SmartPLS software. The steps of analysis were:

1. Model evaluation (Outer Model)

To evaluate the model, criteria are used: Convergent Validity, assessed by factor loadings (target > 0.70) and Average Variance Extracted (AVE > 0.50); Discriminant Validity, assessed by the Fornell-Larcker criterion; and Reliability, confirmed using Cronbach's Alpha, Composite Reliability (CR > 0.70), and Average Variance Extracted (AVE).

2. Structural model evaluation (Inner model)

Evaluations of the inner model involve using Path Coefficients and T-values to assess the robustness and significance of the proposed associations. The Coefficient of Determination (R^2) indicates the percentage of variance explained by the independent variables. Additionally, Mediation Analysis is employed to test whether DTF mediates the effects of LDR and OCL on CTA.

3. Hypothesis Test

All statistical hypotheses in this research are analyzed using a p-value of less than 0.005 and a t-statistic greater than 1.96.

3.3. Characteristics of the Sample and Demographics of Respondents

The sample was randomly drawn from the relevant population, specifically managers and senior managers as the observation units, and Islamic banks in Indonesia as the analysis units. Islamic banks in Indonesia consist of Islamic Commercial Banks (BUS) and Islamic Business Units (UUS). The total population of Islamic banks is 33, divided into 12 BUS and 21 UUS. The selection of respondents was based on criteria determined by the researcher, namely executives and management from Islamic Commercial Banks (BUS) and Islamic Business Units (UUS) who hold positions related to decision-making concerning research variables such as leadership, organizational culture, digital transformation, and competitive advantage. The survey was distributed to the entire population of 33 Islamic banks through direct visits to bank offices and online methods. From this distribution, 143 respondents were obtained as observation units from 30 Islamic banks, with a breakdown of 12 BUS and 18 UUS. The total number of respondents from these 30 banks was 143. Table 1 shows the demographics of middle managers and senior staff in Islamic banks.

Table 1. Demographics of respondents.

Characteristic	Distribution Frequency (n)	Percent Percent (%)
Gender		
Male	63	44
Female	80	56
Total	143	100
Age		
under 30 years	74	52
30 – 40 years	38	27
>40 – 50 years	26	18
Above 50 years	5	3
Total	143	100
Position		
Senior Leader	34	24
Middle Manager	53	37
Other Decision Makers	56	39
Total	143	100
Tenure		
Below 5 Years	84	59
>5 – 10 Years	44	31
Above 10 Years	15	10
Total	143	100

4. RESULTS AND DISCUSSION

4.1. Validity and Reliability Test

Construct testing was conducted to ensure the instrument's reliability through reliability and validity tests. The measurement results showed that the loading factor value was between 0.5 and 0.7, which is within acceptable limits [51]. Table 2 displays the Cronbach's alpha and composite reliability (CR) values, both of which are greater than 0.60. This indicates that the construct in this study meets the lower threshold for reliability suggested by Hair, et al. [43], which is 0.7 for Cronbach's alpha. Additionally, for the CR value, [52] states that the lower threshold for CR is 0.7. From Table 2, the Cronbach's alpha and CR values for Leadership, Organizational Culture, Digital Transformation, and Competitive Advantage are all above 0.7. This demonstrates that the instrument used in this study is consistent and reliable for measuring these constructs. If the testing is conducted at different times and locations, the instrument can still be relied upon to assess the constructs of Leadership, Organizational Culture, Digital Transformation, and Competitive Advantage.

Table 2. Cronbach's alpha, CR, and AVE.

Latent variable	Item	Loading	Cronbach's α	CR	AVE
Leadership	LDR1	0.700	**0.889**	**0.911**	**0.563**
	LDR2	0.731			
	LDR3	0.716			
	LDR4	0.760			
	LDR5	0.793			
	LDR6	0.724			
	LDR7	0.819			
	LDR8	0.751			
Organizational culture	OCL1	0.703	**0.907**	**0.924**	**0.576**
	OCL2	0.691			
	OCL3	0.728			
	OCL4	0.799			
	OCL5	0.742			
	OCL6	0.818			
	OCL7	0.766			
	OCL8	0.780			
	OCL9	0.792			
Digital transformation	DTF1	0.537	**0.893**	**0.912**	**0.512**
	DTF2	0.765			
	DTF3	0.687			
	DTF4	0.687			
	DTF5	0.799			
	DTF6	0.671			
	DTF7	0.734			
	DTF8	0.708			
	DTF9	0.786			
	DTF10	0.743			
Competitive advantage	CTA1	0.833	**0.911**	**0.928**	**0.616**
	CTA2	0.781			
	CTA3	0.729			
	CTA4	0.746			
	CTA5	0.768			
	CTA6	0.878			
	CTA7	0.768			
	CTA8	0.781			

Table 2 discusses the results of a validity test conducted in a research study. It highlights that the convergent validity was assessed using the Average Variance Extracted (AVE), which exceeded the threshold of 0.5, indicating that the construct explains more than half of the variance in its indicators. This aligns with the standards suggested

by Hair et al. [43], confirming the instrument's validity in measuring the intended construct. Additionally, the discriminant validity was evaluated using the Heterotrait-Monotrait (HTMT) ratio, which was found to be below 0.9, as shown in Table 3. This result suggests that the constructs are distinct and do not overlap, ensuring that each construct measures a unique aspect without ambiguity. Consequently, the questions posed to respondents effectively capture the specific constructs they are intended to measure, without conflating with other constructs. Overall, the validity tests support the reliability and accuracy of the measurement instruments used in the study, reinforcing the robustness of the research findings [41].

Table 3. Discriminant validity: HTMT ratio.

Variable	OCL	LDR	CTA	DTF
OCL				
LDR	0.888			
CTA	0.802	0.758		
DTF	0.898	0.819	0.848	

4.2. Structure Model (Inner Model)

The next measurement discussed is the coefficient of determination (R^2), which aims to assess how well the independent variables in a model explain the variance in the dependent variable [52]. It is explained that the R^2 value indicates the strength of the relationship between the variables within the model. A more effective model will have a higher R^2 value compared to a lower one. The R^2 value for the variable of competitive advantage is 0.647, meaning that 64.7% of the variance in competitive advantage can be explained by organizational culture and leadership, while the remaining 35.3% is attributed to other variables not included in this research model. Similarly, the R^2 value for the digital transformation variable is 0.685, indicating that 68.5% of its variance can be explained by organizational culture and leadership, with 31.5% explained by other variables outside the scope of this model.

Further measurements were conducted to assess the predictive power of the model developed in this study, which is interpreted as the Q^2 value. If the resulting Q^2 value is greater than 0, it indicates that the model can predict the value of the endogenous variable. Conversely, if the Q^2 value is less than 0, the model's predictive ability is considered poor. Referring to Table 4, the results show that the Q^2 value is greater than 0 for the variables of competitive advantage (0.639) and digital transformation (0.681). This demonstrates that the developed model is capable of effectively predicting how organizational culture, leadership, and digital transformation contribute to competitive advantage. Additionally, the same model indicates that organizational culture and leadership are effective predictors of digital transformation.

Table 4. Results of R^2 and Q^2.

Variable	R^2	Q^2
Competitive advantage	0.647	0.639
Digital transformation	0.685	0.681

The f^2 measurement is used to assess the influence of the exogenous construct on the endogenous construct. According to Cohen [53], weak, moderate, and strong influences are represented by f^2 values of 0.02, 0.15, and 0.35, respectively. From Table 5, the results indicate that organizational culture has a strong impact on digital transformation, with a value of 0.481, while digital transformation has a moderate impact on competitive advantage, with a value of 0.218. Meanwhile, the impacts of organizational culture and leadership on competitive advantage are weak, with values of 0.025 and 0.028, respectively. Leadership has a weak impact on digital transformation. The overall results of the f^2 calculation are summarized in Table 5.

Table 5. Effect size (f^2).

Variable	OCL	LDR	CTA	DTF
OCL	-	-	0.025	0.481
LDR	-	-	0.028	0.043
CTA	-	-	-	-
DTF	-	-	0.218	-

4.3. Hypothesis Testing

The results of the hypothesis tests indicate several significant relationships among the variables studied. For hypothesis H1, leadership has a positive effect on digital transformation, evidenced by a t-statistic of 2.198 (greater than 1.96), a coefficient of 0.198, and a p-value of 0.014 (less than 0.05). This suggests that effective leadership contributes significantly to digital transformation initiatives. Regarding hypothesis H2, leadership also positively influences competitive advantage, with a t-statistic of 1.988 (greater than 1.96), a coefficient of 0.171, and a p-value of 0.025 (less than 0.05), indicating a statistically significant effect. The H4 hypothesis demonstrates that organizational culture has a substantial positive impact on digital transformation, supported by a t-statistic of 8.139 (greater than 1.96), a coefficient of 0.660, and a p-value of 0.000, confirming the strong influence of organizational culture on digital initiatives. For hypothesis H5, organizational culture appears to increase the potential for competitive advantage, with a coefficient of 0.195. However, this effect is not statistically significant, as the t-statistic is 1.4 (less than 1.96) and the p-value is 0.081 (greater than 0.05). The insignificance may be attributed to inconsistent implementation of organizational culture, possibly due to mergers among Islamic banks, which can hinder the development of a uniform organizational culture. Lastly, hypothesis H7 indicates that digital transformation positively affects competitive advantage, with a coefficient of 0.495, a t-statistic of 4.157 (greater than 1.96), and a p-value of 0.000 (<0.05).

Table 6. Hypothesis test.

Hypothesis	SE	T-stat	Coef.	P-values	Result
Direct					
H1: LDR→DTF	0.090	2.198	0.198	0.014	Accepted
H2: LDR→CTA	0.086	1.988	0.171	0.024	Accepted
H4: OCL→DTF	0.081	8.139	0.660	0.000	Accepted
H5: OCL→CTA	0.139	1.400	0.195	0.081	Rejected
H7: DTF→CTA	0.119	4.157	0.495	0.000	Accepted
Indirect					
H3: LDR→DTF→CTA	0.054	1.820	0.098	0.035	Accepted
H6: OCL→DTF→CTA	0.081	4.011	0.326	0.000	Accepted

The next step in the analysis is to examine the influence of digital transformation as a mediator (intervening variable) between organizational culture and leadership on competitive advantage. Based on the statistical results obtained, digital transformation acts as a mediator between leadership and competitive advantage, with a positive coefficient value of 0.098 and a significant effect, indicated by a p-value of 0.035 (<0.05). These results indicate that Hypothesis H3 is accepted. Regarding the influence of digital transformation as a mediator between organizational culture and competitive advantage, it shows a positive effect with a coefficient value of 4.011, which exceeds the critical value of 1.96, and a p-value of 0.000, which is less than 0.05, indicating statistical significance. All hypothesis test results are displayed in Table 6 and Figure 2.

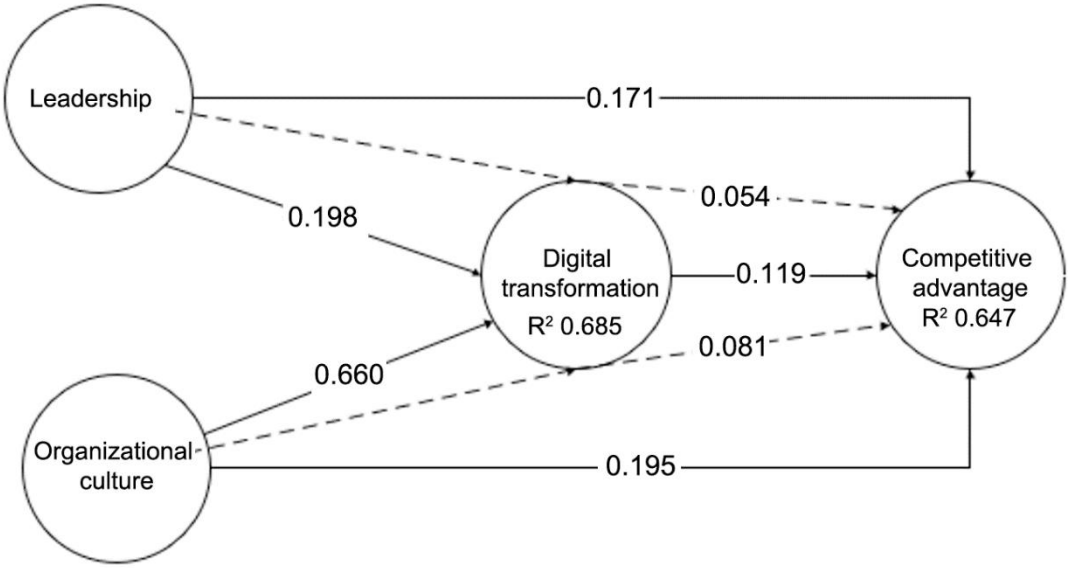

Figure 2. Structural model testing result.

4.4. Discussion

This study identified six hypotheses that were accepted and one that was rejected. It demonstrates that leadership has a positive and significant influence on digital transformation and competitive advantage. This supports Hypotheses 1 and 2, which indicate that leadership within Islamic banks plays a crucial role in the success of digital transformation efforts, ultimately contributing to the creation of a competitive advantage. Leaders who can develop a clear vision and mission supporting digital processes and who inspire their subordinates to participate actively in digital transformation are better positioned to guide Islamic banks toward improved performance and competitiveness in the digital era. For example, many banking processes in Islamic banks have transitioned toward digitalization, such as the adoption of mobile banking as a substitute for traditional in-branch transactions. Customers no longer need to visit branches for certain transactions, including transfers and account openings. These digitalized processes enhance operational efficiency and reduce costs, enabling Islamic banks to develop low-cost, differentiated products as part of their strategy to gain a competitive edge. The findings of this study support previous research on the role of leadership in the digital age, emphasizing that effective leadership is vital for successful digital transformation [54, 55]. Hypothesis 3 confirms that digital transformation, when positively supported by leadership, can generate a competitive advantage for organizations [56, 57]. Additionally, Hypothesis 4 indicates that organizational culture significantly influences digital transformation. Specifically, the organizational culture implemented by Islamic banks, such as the AKHLAK culture characterized by Trustworthiness, Competence, Harmony, Loyalty, Adaptability, and Collaboration serves as a foundation for employees to embrace change and support digital initiatives. Full employee support accelerates digital transformation, leading to more efficient and effective banking processes.

Hypothesis 5 in this study was not accepted. Although organizational culture has a direct influence on competitive advantage, this influence was not statistically significant. Organizational culture encompasses all the values, norms, beliefs, rituals, and behaviors of all members of an organization. The study demonstrates that creating a competitive advantage is not solely dependent on having a positive organizational culture; instead, a platform is necessary to achieve this. The Sharia-based culture implemented in Islamic banks has proven insufficient to serve as a key competitive advantage for these institutions. The widespread distribution of Islamic bank branches throughout Indonesia and the merger of several Islamic banks highlight the need for a platform to integrate these diverse cultures into a unified and innovative Sharia culture that can benefit customers nationwide. Currently, the digital transformation process can serve as a platform to integrate and transform the organizational culture of Islamic banks, making them more innovative and competitive.

Further findings are reflected in Hypothesis 7, which states that digital transformation has a positive and significant influence on competitive advantage. With the support of organizational culture and leadership, the digital transformation process can create a competitive advantage in Islamic banks. The required organizational culture is one that encourages digitalization, supports changes in work processes, and fosters continuous learning about new technologies. Leadership that supports digital transformation is characterized by a vision and mission that prioritize digitalization and the ability to adapt quickly to technological changes. Successful digital transformation in Islamic banks will have several impacts, including creating operational efficiencies, fostering innovation in Islamic banking products and services, providing quality services to customers, and reaching a broader market. All these impacts will ultimately serve as sources of competitive advantage for Islamic banks. Hypothesis 6 posits that organizational culture influences competitive advantage through the mediation of digital transformation. Hypothesis 7 emphasizes that digital transformation has a positive and significant impact on competitive advantage. When supported by organizational culture and leadership, the digital transformation process enables Islamic banks to achieve a competitive edge. The key elements for success include cultivating an organizational culture that promotes digitalization, supports changes in work processes, and encourages continuous learning about emerging technologies. Leadership plays a crucial role by establishing a clear vision and mission that prioritize digital initiatives and demonstrate agility in adapting to technological advancements. The overall impact of digital transformation encompasses operational efficiencies, innovation in banking products and services, enhanced customer service quality, and market expansion. These benefits collectively contribute to establishing a sustainable competitive advantage for Islamic banks, positioning them favorably in the evolving financial landscape.

Hypotheses 3 and 6 examine the mediating effect of digital transformation. The previous paragraph discussed the results of Hypothesis 6, which demonstrated the positive and significant mediating role of digital transformation between organizational culture and competitive advantage. Organizations with a culture that embraces technological advances and innovation are better positioned to drive the success of the digital transformation process. The shift towards digital banking transactions enhances process efficiency, reduces operational costs, and accelerates customer transaction times. These factors are important to customers and contribute to gaining a competitive advantage in the banking sector. The results of Hypothesis 3 indicate that leadership has a positive effect on competitive advantage, mediated by digital transformation. Leadership plays a crucial role in the digital transformation process. Visionary, innovative, and inspiring leaders are essential for implementing digital technologies within organizations. Leaders who can motivate organizational members to adopt technological changes are more likely to succeed in driving digital transformation initiatives within their organizations.

5. CONCLUSIONS

The research analysis using Smart PLS has addressed all the research questions of this study. Leadership has been shown to have a direct impact on digital transformation. This indicates that leadership implemented in Islamic banks influences the digitalization process of banking transactions, such as mobile banking, Islamic internet banking, digital banking, and digital financing. It can be concluded that effective Islamic bank leadership positively impacts Islamic bank management in successfully implementing digital transformation, which ultimately enhances the bank's competitiveness in the industry. Furthermore, this study demonstrates that Islamic bank leaders can overcome organizational obstacles during the transition from traditional to digital systems. Additionally, visionary Islamic bank leaders have proven capable of creating digital products and services that facilitate customer banking transactions. Customer convenience is a crucial factor contributing to the competitive advantage of Islamic banks.

The analysis also demonstrates that digital transformation has become a mediating factor in organizational culture for creating a competitive advantage in Islamic banks. The organizational culture implemented in Islamic banks has not yet fully enabled them to excel in the banking industry. Media is needed to convey to the wider public the unique organizational culture of Islamic banks. Research on digital transformation shows that changes in digital

systems enable organizational culture to be disseminated across all Islamic branches and implemented as a standard. An innovative culture capable of adapting to technological advances will support all Islamic banking operations. Organizational activities will become more effective and efficient, thus providing added value for Islamic banks to compete in the banking industry. Therefore, it is crucial to maintain an innovative organizational culture within Islamic banks to create products and services that will ultimately become a source of competitive advantage for them.

The primary limitation is that this research was conducted at Islamic banks in Indonesia and may not be generalizable to Islamic banks worldwide due to differences in economic conditions and regulations across countries. A second limitation is that respondents were employees at various levels; future research could focus exclusively on upper management. Furthermore, this study concentrated solely on Islamic commercial banks and did not include Islamic rural banks. The BPRS market segment is more unique compared to Islamic commercial banks, as it involves farmers, MSMEs, and micro-entrepreneurs. This diversity can provide a competitive advantage for Islamic banks by adopting a more social or personal approach.

This research aims to provide practical guidance for enhancing Islamic banking products and services to achieve excellence. Consistent implementation of an Islamic banking culture that is responsive to technological changes, supported by leaders who motivate and inspire employees, will enable Islamic banks to successfully navigate the digital transformation process. This transformation is a crucial asset in facing competition in the banking industry in the digital era.

Funding: This study received no specific financial support.
Institutional Review Board Statement: The study involved minimal risk and followed ethical guidelines for social science fieldwork. Formal approval from an Institutional Review Board was not required under the policies of Universitas Padjadjaran, Indonesia. Informed verbal consent was obtained from all participants, and all data were anonymized to protect participant confidentiality.
Transparency: The authors state that the manuscript is honest, truthful, and transparent, that no key aspects of the investigation have been omitted, and that any differences from the study as planned have been clarified. This study followed all writing ethics.
Competing Interests: The authors declare that they have no competing interests.
Authors' Contributions: All authors contributed equally to the conception and design of the study. All authors have read and agreed to the published version of the manuscript.

REFERENCES

[1] N. T. T. Nhung, V. T.-T. Nguyen, N. T. A. Huynh, and B. T. Khoa, "Enhancing the customer's information-sharing intention through omnichannel strategies," *Journal of Distribution Science*, vol. 21, no. 3, pp. 83–92, 2023. https://doi.org/10.15722/jds.21.03.202303.83

[2] P. H. Hai and B. T. Khoa, "Digital service distribution in banking: Understanding customer's continued usage intention of live technology through customer readiness perspective," *Journal of Distribution Science*, vol. 23, no. 3, pp. 35–44, 2025. https://doi.org/10.15722/jds.23.03.202503.35

[3] H. Iberahim, N. K. Mohd Taufik, A. S. Mohd Adzmir, and H. Saharuddin, "Customer satisfaction on reliability and responsiveness of self service technology for retail banking services," *Procedia Economics and Finance*, vol. 37, pp. 13–20, 2016. https://doi.org/10.1016/S2212-5671(16)30086-7

[4] T. M. Sang and L. H. Dac, "Embedded banking in e-commerce distribution: Navigating consumer intention," *Journal of Distribution Science*, vol. 23, no. 1, pp. 51–63, 2025. https://doi.org/10.15722/jds.23.01.202501.51

[5] P. Y. K. Chau and V. S. K. Lai, "An empirical investigation of the determinants of user acceptance of Internet banking," *Journal of Organizational Computing & Electronic Commerce*, vol. 13, no. 2, pp. 123–145, 2003. https://doi.org/10.1207/S15327744JOCE1302_3

[6] N. Chao, Y. Zhou, and H. Yang, "How does digital transformation affect the profitability of rural commercial banks?," *Heliyon*, vol. 10, no. 8, p. e29412, 2024. https://doi.org/10.1016/j.heliyon.2024.e29412

[7] X. Ren, K. Song, K. Zhu, and X. Yang, "Does digital transformation increase bank profit efficiency? Evidence from China," *Pacific-Basin Finance Journal*, vol. 86, p. 102388, 2024. https://doi.org/10.1016/j.pacfin.2024.102388

[8] J. B. Barney, "The emergence of resource-based theory: A personal journey," *Journal of Management*, vol. 47, no. 7, pp. 1663–1676, 2021. https://doi.org/10.1177/01492063211015272

[9] H. A. Najafabadi, A. Shekarchizadeh, A. Nabiollahi, N. Khani, and H. Rastegari, "The innovation roadmap and value creation for information goods pricing as an economic commodity," *Journal of Information Systems and Telecommunication*, vol. 7, no. 26, pp. 155–164, 2020. https://doi.org/10.7508/jist.2019.02.007

[10] S. Bresciani, K. -H. Huarng, A. Malhotra, and A. Ferraris, "Digital transformation as a springboard for product, process and business model innovation," *Journal of Business Research*, vol. 128, pp. 204–210, 2021. https://doi.org/10.1016/j.jbusres.2021.02.003

[11] M. M. Lialestani, A. Khamseh, and R. Radfar, "Digital transformation model, based on grounded theory," *Journal of Information Systems and Telecommunication*, vol. 9, no. 36, pp. 275–284, 2021.

[12] J. F. Maley, M. Dabić, A. Neher, L. Wuersch, L. Martin, and T. Kiessling, "Performance management in a rapidly changing world: Implications for talent management," *Management Decision*, vol. 62, no. 10, pp. 3085–3108, 2024. https://doi.org/10.1108/MD-07-2023-1162

[13] McKinsey & Company, "Unlocking success in digital transformations. McKinsey & Company," Retrieved: https://www.mckinsey.com/business-functions/mckinsey-digital/our-insights/unlocking-success-in-digital-transformations. [Accessed 2018].

[14] F. Imran, K. Shahzad, A. Butt, and J. Kantola, *Leadership competencies for digital transformation: Evidence from multiple cases (Vol. 1209 AISC)*. Cham, Switzerland: Springer International Publishing, 2020.

[15] A. Bharadwaj, O. A. El Sawy, P. A. Pavlou, and N. Venkatraman, "Digital business strategy: Toward a next generation of insights," *MIS Quarterly*, vol. 37, no. 2, pp. 471–482, 2013. https://doi.org/10.25300/MISQ/2013/37:2.3

[16] O. A. El Sawy, H. Amsinck, P. Kræmmergaard, and A. L. Vinther, "How LEGO built the foundations and enterprise capabilities for digital leadership," *MIS Quarterly Executive*, vol. 15, no. 2, pp. 141–166, 2016.

[17] G. Schiuma, E. Schettini, F. Santarsiero, and D. Carlucci, "The transformative leadership compass: Six competencies for digital transformation entrepreneurship," *International Journal of Entrepreneurial Behaviour & Research*, vol. 28, no. 5, pp. 1273–1291, 2022. https://doi.org/10.1108/IJEBR-01-2021-0087

[18] E. Weber, M. Büttgen, and S. Bartsch, "How to take employees on the digital transformation journey: An experimental study on complementary leadership behaviors in managing organizational change," *Journal of Business Research*, vol. 143, pp. 225–238, 2022. https://doi.org/10.1016/j.jbusres.2022.01.036

[19] J. B. Sørensen, "The strength of corporate culture and the reliability of firm performance," *Administrative Science Quarterly*, vol. 47, no. 1, pp. 70–91, 2002. https://doi.org/10.2307/3094891

[20] P. McLaughlin, J. Bessant, and P. Smart, "Developing an organisation culture to facilitate radical innovation," *International Journal of Technology Management*, vol. 44, no. 3–4, pp. 298–323, 2008. https://doi.org/10.1504/IJTM.2008.021041

[21] S. F. Ali and M. Naeem, "Does service quality increase the level of banks performance: Comparative analysis between conventional and Islamic banks," *Journal of Management Development*, vol. 38, no. 6, pp. 442–454, 2019. https://doi.org/10.1108/JMD-05-2018-0149

[22] C. Matt, T. Hess, and A. Benlian, "Digital transformation strategies," *Business & Information Systems Engineering*, vol. 57, no. 5, pp. 339–343, 2015. https://doi.org/10.1007/s12599-015-0401-5

[23] G. Lanzolla, D. Pesce, and C. L. Tucci, "The digital transformation of search and recombination in the innovation function: Tensions and an integrative framework," *Journal of Product Innovation Management*, vol. 38, no. 1, pp. 90–113, 2021. https://doi.org/10.1111/jpim.12546

[24] T. Hess, C. Matt, A. Benlian, and F. Wiesböck, "Options for formulating a digital transformation strategy," *MIS Quarterly Executive*, vol. 15, no. 2, pp. 103–119, 2016.

[25] J. A. Porfírio, T. Carrilho, J. A. Felício, and J. Jardim, "Leadership characteristics and digital transformation," *Journal of Business Research*, vol. 124, pp. 610–619, 2021. https://doi.org/10.1016/j.jbusres.2020.10.058

[26] U. Zaman, "Nexus of consumer trust in FinTok influencers, consumer engagement, data privacy concern, financial literacy and travel scam avoidance," *Pakistan Journal of Commerce and Social Sciences*, vol. 19, no. 1, pp. 1–27, 2025. https://doi.org/10.64534/comm.2025.001

[27] B. P. Hie, "Impact of transforming organizational culture and digital transformation governance toward digital maturity in Indonesian bank," *International Review of Management and Marketing*, vol. 9, no. 6, pp. 51–57, 2019. https://doi.org/10.32479/irmm.8785

[28] F. Imran, K. Shahzad, A. Butt, and J. Kantola, "Digital transformation of industrial organizations: Toward an integrated framework," *Journal of Change Management*, vol. 21, no. 3, pp. 1–29, 2021. https://doi.org/10.1080/14697017.2021.1929406

[29] J. Wu and D. T. V. Chen, "A systematic review of educational digital storytelling," *Computers & Education*, vol. 147, p. 103786, 2020. https://doi.org/10.1016/j.compedu.2019.103786

[30] M. Fitzgerald, N. Kruschwitz, D. Bonnet, and M. Welch, "Embracing digital technology: A new strategic imperative," Research Report. MIT Sloan Management Review and Capgemini Consulting, 2013.

[31] G. Westerman, D. C. L. Bonnet, and A. McAfee, *Leading digital: Turning technology into business transformation*. Boston, MA: Harvard Business Review Press, 2014.

[32] J. K. U. Brock and F. Von Wangenheim, "Demystifying AI: What digital transformation leaders can teach you about realistic artificial intelligence," *California Management Review*, vol. 61, no. 4, pp. 110–134, 2019. https://doi.org/10.1177/1536504219865226

[33] J. Konopik, C. Jahn, T. Schuster, N. Hoßbach, and A. Pflaum, "Mastering the digital transformation through organizational capabilities: A conceptual framework," *Digital Business*, vol. 2, no. 2, p. 100019, 2022. https://doi.org/10.1016/j.digbus.2021.100019

[34] N. Kaltenecker, T. Hess, and S. Huesig, "Managing potentially disruptive innovations in software companies: Transforming from on-premises to the on-demand," *The Journal of Strategic Information Systems*, vol. 24, no. 4, pp. 234–250, 2015. https://doi.org/10.1016/j.jsis.2015.08.006

[35] C. M. Christensen and M. Overdorf, "Meeting the challenge of disruptive change," *Harvard Business Review*, vol. 78, no. 2, pp. 66–76, 2000.

[36] H. C. Lucas Jr and J. M. Goh, "Disruptive technology: How Kodak missed the digital photography revolution," *The Journal of Strategic Information Systems*, vol. 18, no. 1, pp. 46–55, 2009. https://doi.org/10.1016/j.jsis.2009.01.002

[37] G. Kane, "The technology fallacy: People are the real key to digital transformation," *Research-Technology Management*, vol. 62, no. 6, pp. 44–49, 2019. https://doi.org/10.1080/08956308.2019.1661079

[38] T. Saarikko, U. H. Westergren, and T. Blomquist, "Digital transformation: Five recommendations for the digitally conscious firm," *Business Horizons*, vol. 63, no. 6, pp. 825–839, 2020. https://doi.org/10.1016/j.bushor.2020.07.005

[39] G. Vial, "Understanding digital transformation: A review and a research agenda," *The Journal of Strategic Information Systems*, vol. 28, no. 2, pp. 118–144, 2019. https://doi.org/10.1016/j.jsis.2019.01.003

[40] V. Stojkovski and B. Nenovski, "Digital services as a tool for creating competitive advantage in the banking sector in North Macedonia," *Journal of Liberty and International Affairs*, vol. 7, no. 1, pp. 79–93, 2021. https://doi.org/10.47305/JLIA21170079S

[41] J. Henseler, G. Hubona, and P. A. Ray, "Using PLS path modeling in new technology research: Updated guidelines," *Industrial Management & Data Systems*, vol. 116, no. 1, pp. 2-20, 2016. https://doi.org/10.1108/IMDS-09-2015-0382

[42] J. Henseler, C. M. Ringle, and M. Sarstedt, "A new criterion for assessing discriminant validity in variance-based structural equation modeling," *Journal of the Academy of Marketing Science*, vol. 43, no. 1, pp. 115-135, 2015. https://doi.org/10.1007/s11747-014-0403-8

[43] J. F. Hair, W. C. Black, B. J. Babin, and R. E. Anderson, *Multivariate data analysis*, 8th ed. United Kingdom: Cengage Learning EMEA, 2019.

[44] A. Usakli and K. G. Kucukergin, "Using partial least squares structural equation modeling in hospitality and tourism: Do researchers follow practical guidelines?," *International Journal of Contemporary Hospitality Management*, vol. 30, no. 11, pp. 3462–3512, 2018. https://doi.org/10.1108/IJCHM-11-2017-0753

[45] T. Ramayah, J. Cheah, H. Ting, and M. A. Memon, "PLS-SEM using SmartPLS 3.0: Chapter 13: Assessment of moderation analysis. In Handbook of Market Research." Germany: Springer, 2021, pp. 587–632.

[46] L. Chang, "A psychometric evaluation of 4-point and 6-point Likert-type scales in relation to reliability and validity," *Applied Psychological Measurement*, vol. 18, no. 3, pp. 205–215, 1994. https://doi.org/10.1177/014662169401800302

[47] J. Marques, "The changed leadership landscape: What matters today," *Journal of Management Development*, vol. 34, no. 10, pp. 1310–1322, 2015. https://doi.org/10.1108/JMD-02-2015-0010

[48] R. L. Larjovuori, L. Bordi, and K. Heikkilä-Tammi, "Leadership in the digital business transformation," in *ACM International Conference Proceeding Series*. https://doi.org/10.1145/3275116.3275122, 2018, pp. 212–221.

[49] D. Denison, L. Nieminen, and L. Kotrba, "Diagnosing organizational cultures: A conceptual and empirical review of culture effectiveness surveys," *European Journal of Work and Organizational Psychology*, vol. 23, no. 1, pp. 145–161, 2014. https://doi.org/10.1080/1359432X.2012.713173

[50] C. Seth, A. Rajshree, C. Benjamin, and A. Franco, "The effect of firm compensation structures on employee mobility and employee entrepreneurship of extreme performers," presented at the Atlanta Competitive Advantage Conference 2010, 2010.

[51] J. Hair, C. L. Hollingsworth, A. B. Randolph, and A. Y. L. Chong, "An updated and expanded assessment of PLS-SEM in information systems research," *Industrial Management & Data Systems*, vol. 117, no. 3, pp. 442–458, 2017. https://doi.org/10.1108/IMDS-04-2016-0130

[52] J. F. Hair Jr, M. C. Howard, and C. Nitzl, "Assessing measurement model quality in PLS-SEM using confirmatory composite analysis," *Journal of Business Research*, vol. 109, pp. 101–110, 2020. https://doi.org/10.1016/j.jbusres.2019.11.069

[53] J. Cohen, *Statistical power analysis for the behavioral sciences*, 2nd ed. Hillsdale, NJ: Lawrence Erlbaum Associates, 1988.

[54] J. Mahroof, A. Rafi, and A. Ahmad, "Talent management during digital transformation: Role of transformational leadership and resistance to change," *Technology in Society*, vol. 83, p. 102964, 2025. https://doi.org/10.1016/j.techsoc.2025.102964

[55] M. Asrar-Ul-Haq and K. P. Kuchinke, "Impact of leadership styles on employees' attitude towards their leader and performance: Empirical evidence from Pakistani banks," *Future Business Journal*, vol. 2, no. 1, pp. 54–64, 2016. https://doi.org/10.1016/j.fbj.2016.05.002

[56] V. Chotia, K. Khoualdi, L. Broccardo, and M. Z. Yaqub, "The role of cyber security and digital transformation in gaining competitive advantage through strategic management accounting," *Technology in Society*, vol. 81, p. 102851, 2025. https://doi.org/10.1016/j.techsoc.2025.102851

[57] H. W. Tj, J. M. Wibowo, and B. T. Widjaja, "Human capital, competitive advantage, and business performance: A study of Indonesian hospitals," *Journal of Open Innovation: Technology, Market, and Complexity*, vol. 11, no. 2, p. 100515, 2025. https://doi.org/10.1016/j.joitmc.2025.100515