









# “The impact of collaboration capability, ambidextrous leadership and digital capability on bank performance sustainability”

AUTHORS	Suhardjo Moeliadi  Mts. Arief  Willy Gunadi  Rano Kartono Rahim 
ARTICLE INFO	Suhardjo Moeliadi, Mts. Arief, Willy Gunadi and Rano Kartono Rahim (2025). The impact of collaboration capability, ambidextrous leadership and digital capability on bank performance sustainability. <i>Banks and Bank Systems</i> , 20(1), 231-247. doi: <a href="https://doi.org/10.21511/bbs.20(1).2025.19">10.21511/bbs.20(1).2025.19</a>
DOI	<a href="http://dx.doi.org/10.21511/bbs.20(1).2025.19">http://dx.doi.org/10.21511/bbs.20(1).2025.19</a>
RELEASED ON	Tuesday, 18 March 2025
RECEIVED ON	Tuesday, 03 September 2024
ACCEPTED ON	Wednesday, 05 February 2025
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JOURNAL	"Banks and Bank Systems"
ISSN PRINT	1816-7403
ISSN ONLINE	1991-7074
PUBLISHER	LLC “Consulting Publishing Company “Business Perspectives”
FOUNDER	LLC “Consulting Publishing Company “Business Perspectives”

		
NUMBER OF REFERENCES	NUMBER OF FIGURES	NUMBER OF TABLES
52	4	11

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## BUSINESS PERSPECTIVES



LLC "CPC "Business Perspectives"  
Hryhorii Skovoroda lane, 10,  
Sumy, 40022, Ukraine  
[www.businessperspectives.org](http://www.businessperspectives.org)

**Received on:** 3<sup>rd</sup> of September, 2024

**Accepted on:** 5<sup>th</sup> of February, 2025

**Published on:** 18<sup>th</sup> of March, 2025

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Suhardjo Moeliadi, Ph.D. Student, Management Department, BINUS Business School Doctor of Research in Management, Bina Nusantara University, Indonesia. (Corresponding author)

Mts. Arief, Ph.D., Professor, Management Department, BINUS Business School Doctor of Research in Management, Bina Nusantara University, Indonesia.

Willy Gunadi, Ph.D., Lecturer, Management Department, BINUS Business School Doctor of Research in Management, Bina Nusantara University, Indonesia.

Rano Kartono Rahim, Ph.D., Lecturer, Management Department, BINUS Business School Doctor of Research in Management, Bina Nusantara University, Indonesia.



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**Conflict of interest statement:**

Author(s) reported no conflict of interest

Suhardjo Moeliadi (Indonesia), Mts. Arief (Indonesia), Willy Gunadi (Indonesia), Rano Kartono Rahim (Indonesia)

# THE IMPACT OF COLLABORATION CAPABILITY, AMBIDEXTROUS LEADERSHIP AND DIGITAL CAPABILITY ON BANK PERFORMANCE SUSTAINABILITY

## Abstract

To survive the competition in the banking industry after the fintech uprisings, banks implement various collaborations, but they often turn out to be unsuccessful. This study examines the impact of collaboration capability on bank performance sustainability, as well as how ambidextrous leadership and digital capability influence it. The methodological framework includes the development of instruments based on previous literature and quantitative procedures. The data were obtained by distributing questionnaires to 101 private commercial banks in Indonesia. The proposed model is analyzed using structural equation modelling techniques with partial least squares (SEM-PLS), using SmartPLS 4.0. This study's findings show that collaboration capability has a direct positive effect on bank performance sustainability, digital capability has a direct positive effect on both collaboration capability and bank performance sustainability; while ambidextrous leadership has a direct positive effect on collaboration capability but not on bank performance sustainability. This study contributes to the development and validation of a new model on the influence of collaboration capability on performance sustainability along with the influence of ambidextrous leadership and digital capability in the Indonesian banking sector.

## Keywords

banking industry, Indonesia, sustainable performance, quantitative research

## JEL Classification

G21, L25

## INTRODUCTION

There is a phenomenon of decreasing the number of bank branches in Indonesia that has occurred to date, banks reduce the number of branches due to competition. The World Bank reported that the number of bank branches in Indonesia has decreased from 17.3 offices in 2016 to 11.69 offices per 100 thousand adults in 2023. In their efforts to survive, banks are collaborating with fintech companies, technology providers, and other third parties to innovate, improve customer experiences, and meet evolving financial needs. According to the U.S. Banking Strategic Partnership survey, about 40% of all bank partnerships fail to operationalize, mostly due to ineffective strategies, scalability issues, and poor organizational alignment (Akuma, 2023), which is ultimately detrimental to bank customers. For that reason, banks need to build collaboration capability to make a successful partnership.

Studying the impact of collaboration capability on banking performance is crucial for several reasons. Firstly, the rapidly developing financial technology trend increasingly meets customers' financial needs. Banks have difficulty developing innovative products and services, especially those related to technology, which require special expertise and are costly.

Secondly, collaboration capability in the supply chain has been widely discussed and researched (Um & Kim, 2019; Zhang & Zhu, 2020), while collaboration on banking has not been widely studied. Thirdly, several studies have shown that collaboration capability has a positive and significant impact on company performance (Chen, 2024; Corvello et al., 2023), while other studies have found that many collaborations cause conflict, and collaboration can be detrimental to company performance (Piezunka & Grohsjean, 2023). This study will help clarify the influence of bank collaboration capability on bank performance.

Leaders greatly influence organizational policies in carrying out collaboration (Alade, 2022; Voet & Steijn, 2021). Leaders must foster lasting relationships with business partners, encourage open communication, facilitate active involvement, and encourage cooperation among team members and various functions. Ambidextrous leadership, a leadership style that balances two approaches: exploration and exploitation, is seen as being able to build sustainable relationships with business partners, encourage open communication, active participation, and collaboration among team members and different functions (Lawrence et al., 2022). In today's digital era, collaboration also requires a bank's digital capability to communicate information and data, which is critical to ensuring fast and reliable communication with partners (Annarelli et al., 2021; Wang et al., 2022). Digital capability is the capacity of an organization to combine digital and other resources to innovate products, services, and processes to provide added value for customers. This study also examines the influence of ambidextrous leadership and digital capability in developing bank collaboration capability and their influence on performance.

## 1. LITERATURE REVIEW

Collaboration capability is an integration concept that enables and explains many successes in joint knowledge creation and innovation, and emphasizes the relational aspect where communication, trust and commitment serve as the fundamental elements distinguishing relational to transactional exchange (Blomqvist & Levy, 2006). Theoretical approach to collaboration capability is closely related to Resource-Based View (RBV) theory (Barney, 1991; Wernerfelt, 1984) and Dynamic Capability View (DCV) theory (Eisenhardt & Martin, 2000; Teece et al., 1997). RBV and DCV highlight company-specific and internal factors as the foundation for competitiveness. RBV assumes that firm-specific resources underpin competitiveness, while collaboration capability is regarded as an aspect of dynamic capabilities and combinative capabilities (Teece et al., 1997).

According to DCV, collaboration capability comprises three components: scanning, relational skills, and adaptation to effectively manage inter-company collaboration through sensing, seizing, and reconfiguring partnerships. Prior research has pointed out the significance of all these elements in managing and sustaining effective inter-firm collaborations. In the pre-formation phase, companies are requested to implement external

sensing mechanisms to identify new collaborative opportunities. At the initial stage of collaboration, companies must have relational competencies that will allow them to take full advantage of collaborative opportunities. Companies also need to develop adaptation mechanisms to rebuild ties throughout the post-establishment phase due to the inability to completely anticipate and promptly address coordination issues and uncertainties in cooperation. Consequently, those three elements typically encompass the essential aspects of collaboration capability. At the company's capability-based view, collaboration capability is a diverse attribute derived from a company's collected experience and learning in collaborative activities, facilitating the acquisition of knowledge from partners. A company must comprehend the processes, routines, and competencies required to effectively manage via networking activities (Zhang & Zhu, 2020).

Previous studies have found that collaboration capability significantly enhances operational performance and positively influences overall company performance, produces more efficient and effective processes, and sustainable performance (Jin et al., 2019; Kareem & Kummitha, 2020; Nguyen & Le, 2020). However, not all researchers agree that collaboration supports improved performance, as shown by recent research from Piezunka and Grohsjean (2023), which shows that when a com-

pany and competitors engage with the same partner, they vie for the partner's resources and attention. A company's performance and ability to obtain resources are both adversely affected by this kind of rivalry. Previous studies also find that collaboration results in conflict between partners as a result of miscommunication and misunderstanding (Bertello et al., 2022). Therefore, the influence of collaboration capability on bank performance sustainability needs to be studied further.

Digital capability is the integration of a company's digital assets and business resources to enhance organizational performance through innovation in management, service, and product (Annarelli et al., 2021). Banks' digital capabilities are necessary to build collaboration in the digital era. Therefore, digital capability can be considered as an antecedent of collaboration capability. Banks are far more inclined to partner with fintech companies when they implement a clearly articulated digital strategy (Hornuf et al., 2021).

Some studies conceptualize digital capability as a singular dimension, while others implement a multidimensional scheme. Lenka et al. (2017) suggested a structure consisting of three dimensions: intelligence capability, connect capability, and analytic capability. Ajaegbu (2019) uses the DCV perspective to define digital capabilities as data capture capability, analytical capability, and connect capability. De la Calle et al. (2020) define digital capability into three dimensions, namely products, business relationships, and software development. Annarelli et al. (2021) suggest that digital capability is achieved by reconfiguring the digital resources and routines of firms, leveraging their digital capabilities, and identifying opportunities and threats. Wang et al. (2022) suggest that digital capability can be classified into three dimensions: fundamental digital abilities, digital operational capabilities, and digital integration capabilities. All these previous studies offer valuable insights in determining dimensions for digital capability that are specifically tailored to the banking context.

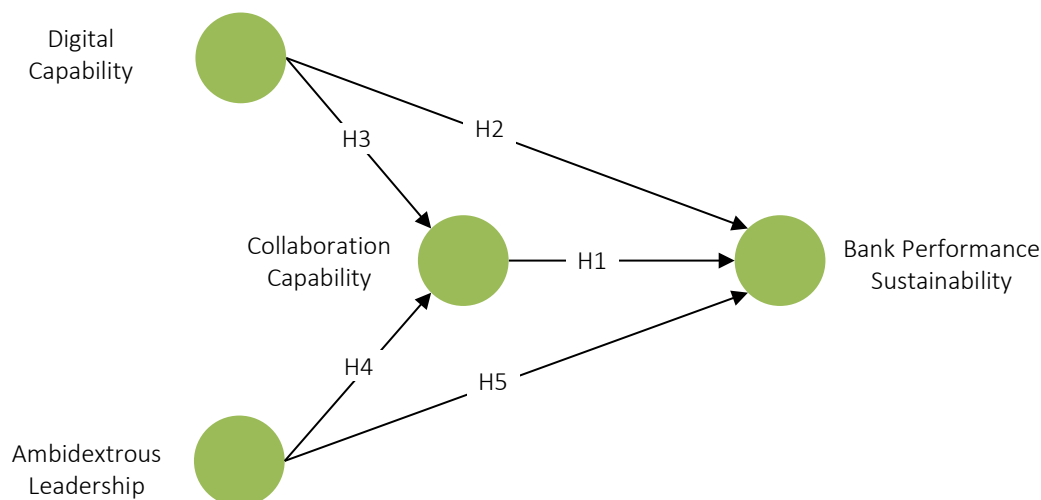
It can be concluded that digital capability is the capacity of an organization to innovate products, services, and processes by combining digital assets and business resources, utilizing digital networks to achieve organizational learning, and added val-

ue for customers. Previous empirical studies found that digital capability has a positive effect on collaboration capability (Dubey et al., 2023; Nasiri et al., 2020). Chen et al. (2023) and Ferreira et al. (2024) also found that digital capability has a significant positive effect on firm resilience and performance. Therefore, the influence of digital capability on collaboration capability and bank performance sustainability will be examined in this study.

Ambidextrous leadership refers to a leadership style that balances two seemingly opposing approaches: exploration (innovative thinking and experimentation) and exploitation (efficiency, consistency, and execution). Leadership style is a combination of behaviors, skills, and characteristics that leaders utilize in their engagements with followers, it describes the most appropriate leadership style based on the leader, followers, and organizational context (Oberer & Erkollar, 2018). The capacity of leaders to apply best practices to existing business models and take risks by investigating new opportunities and leveraging current resources to enhance business operations. Exploitation is predicated on the optimization of resources, the enhancement of processes and competencies, and the utilization of technology to ensure the effective and efficient execution of tasks. Exploration is the process by which an organization takes risks to experiment, explore creative ideas and alternatives, seek new chances, and embrace innovations.

Ambidextrous leadership consists of a leader's dynamic ability to articulate a strategic vision, adapt, integrate, and reconfigure organizational skills, and explore and exploit resources to survive in a changing business environment (O'Reilly & Tushman, 2011). Ambidextrous leadership is formed by two complementary sets of leadership behaviors that fit the requirements of the organization and the environment. The most important characteristic of Ambidextrous leadership is flexibility so that the leader can switch between the two leadership behaviors as required by the organizational task (Rosing et al., 2011).

Zheng et al. (2017) and Prabhu and Srivastava (2023) found that leadership style can help create partner satisfaction and a collaborative atmosphere, so it is possible that ambidextrous leadership can act as an antecedent of collaboration



**Figure 1.** Conceptual framework

capability. Previous research shows that ambidextrous leadership positively affects project performance, service innovation, and service recovery performance (Ahmad et al., 2022; Gentle & Metselaar, 2020; Martínez-Climent et al., 2019; Zheng et al., 2017). The influence of ambidextrous leadership on collaboration capability and performance will be studied.

This study aims to examine the impact of collaboration capability on bank performance sustainability, as well as how ambidextrous leadership and digital capability influence it. A conceptual framework was developed as shown in Figure 1 and the following hypotheses were proposed:

- $H_1$ : *Collaboration Capability has a positive effect on Bank Performance Sustainability.*
- $H_2$ : *Digital Capability has a positive effect on Bank Performance Sustainability.*
- $H_3$ : *Digital Capability has a positive effect on Collaboration Capability.*
- $H_4$ : *Ambidextrous Leadership has a positive effect on Collaboration Capability.*
- $H_5$ : *Ambidextrous Leadership has a positive effect on Bank Performance Sustainability.*

Referring to the RBV and DCV theories and the results of previous empirical research, the bank performance sustainability may be achieved through collaboration.

## 2. METHODS

This study uses descriptive analysis methodology to describe phenomena quantitatively with the aim of testing and interpreting the relationship between the variables studied. In 2023, there were a total of 101 private commercial banks in Indonesia, so the population in this study was 101 private commercial banks (Appendix B). A survey was conducted on senior executive officers at each bank (Regional/Branch Heads, Division Heads) to obtain representative research results, one bank was represented by one respondent. Respondents are expected to understand the current condition of Indonesian banking, have adequate expertise, authority, objectivity, and independence.

A questionnaire was developed to collect primary data to answer the hypotheses. The questionnaire consists of two parts: respondent profile and 4 research variables, and used a five-point Likert scale. The variable Digital Capability consists of three dimensions: digital adaptability (Puckett, 2022; Zhou & Wu, 2010), digital transformation (Annarelli et al., 2021; Zhou & Wu, 2010), and digital agility (Grover, 2022), represented by 11 indicators. The variable Ambidextrous Leadership consists of two dimensions, namely exploration and exploitation (Alamsjah, 2022; Zacher & Rosing, 2015), represented by 8 indicators. The Collaboration Capability variable has three dimensions: scanning, relational skills, and adaptation (Jin et al., 2019; Zhang & Zhu, 2020) with 11 indicators.



Lastly, the Bank Performance Sustainability variable consists of four dimensions: operational, economic, social, and environment (Sigalas & Papadakis, 2018; Zheng et al., 2021), with a total of 15 indicators.

This quantitative research uses the Structural Equation Modeling with the Partial Least Squares (SEM-PLS) method to describe the correlation between variables, and the data will be analyzed using SmartPLS 4.0. Measurement evaluation includes outer model and inner model, using a two-step approach.

The survey was conducted using a cross-sectional design, and the questionnaire was sent directly to respondents online using a Google form. The data collection process was carried out during August 2024, and 83 valid data were obtained, indicating a response rate of 82.2%.

According to respondents' demographic data, 72% or 60 respondents are male, and 28% or 23 respondents are female. All respondents are bank senior executives, where 10% are regional heads, 79% are branch heads, and 11% are high-level managers/division heads, with the majority (89%) above 40 years. Respondents have an educational level of 63% bachelor's degree, 35% master's degree, and 2% Ph.D. Respondents are quite representative since 99% of respondents have had experience in banking for more than 10 years and are currently occupying the role of senior executive officers; qualities that suggest that respondents are leaders and familiar with the current conditions of banking in Indonesia. Table 1 provides detailed demographic information of the respondents.

**Table 1.** Respondents' demographics

Demographic data	Categories	Total	%
Gender	Male	60	72%
	Female	23	28%
Position	Regional Head	8	10%
	Branch Head	66	79%
	High Level Manager	9	11%
Age	21-30 years old	0	0%
	31-40 years old	9	11%
	41-50 years old	40	48%
	51-60 years old	34	41%
Education	Bachelor / S1	52	63%
	Master / S2	29	35%
	Ph.D. / S3	2	2%
Experience	1-5 years	0	0%
	6-10 years	1	1%
	11-15 years	5	6%
	> 15 years	77	93%

### 3. RESULTS

#### 3.1. First stage evaluation of the measurement model (Outer model)

Table 2 presents the final list of indicators, the dimensions and variables each of the indicators belong to, and their loading factors. Loading factors of  $\geq 0.70$  and AVE values of  $\geq 0.50$  suggest that the chosen indicators are valid in describing each dimension (Hair et al., 2019; Haryono, 2016).

Based on Fornell-Larcker (Table 3), the discriminant validity has been satisfied, as evidenced by the fact that the AVE root value of each dimension exceeds the correlation between the construct and other constructs (Haryono, 2016).

**Table 2.** Convergent validity (1<sup>st</sup> stage)

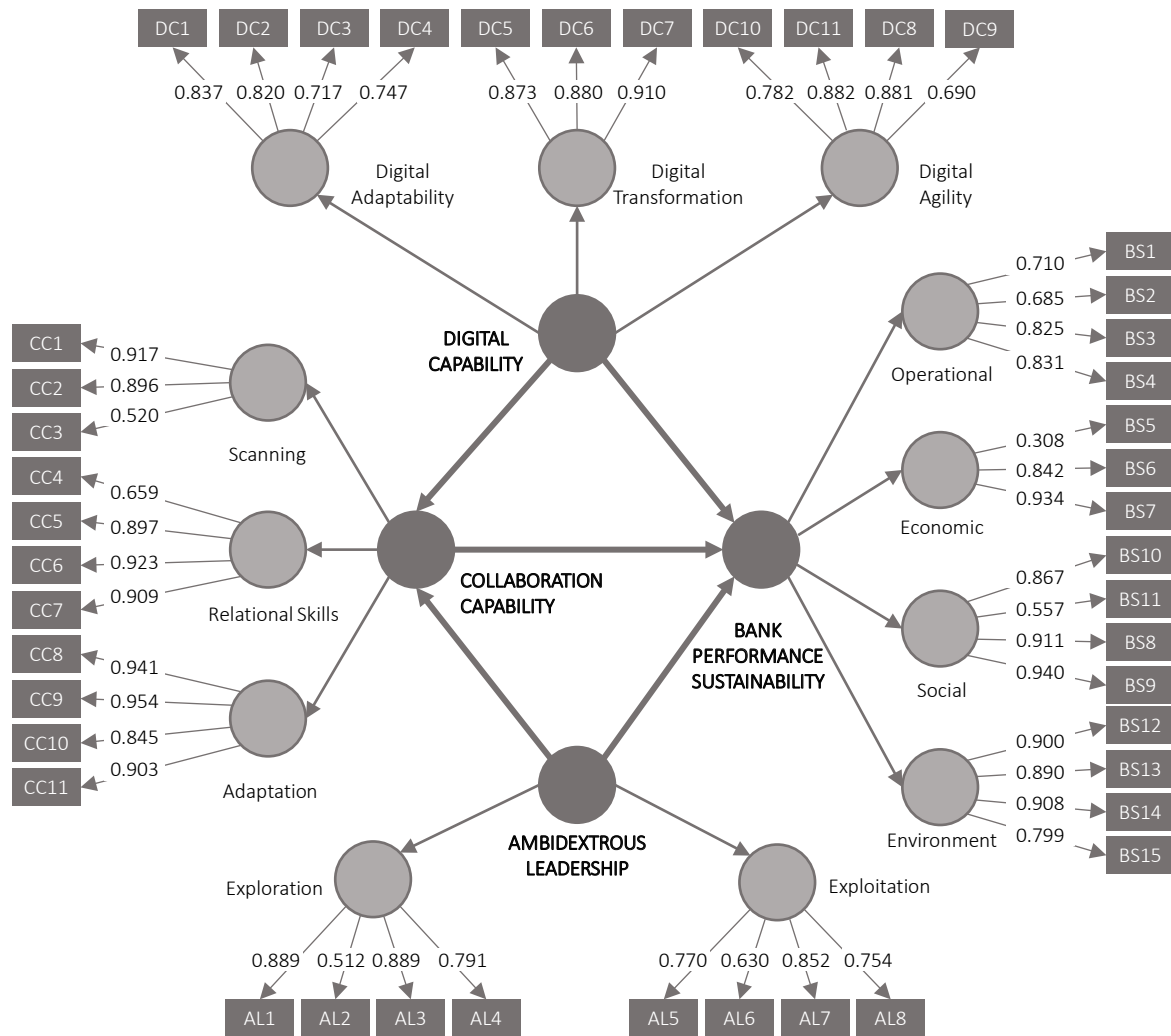
Variable	Dimension	Indicator	Loading factor	AVE
Digital Capability	Digital Adaptability	DC1	0.856	0.642
		DC2	0.825	
		DC3	0.717	
		—	—	
	Digital Transformation	DC5	0.872	0.788
		DC6	0.881	
		DC7	0.910	
		DC8	0.888	
	Digital Agility	—	—	0.752
		DC10	0.837	
		DC11	0.876	

**Table 2 (cont.).** Convergent validity (1<sup>st</sup> stage)

Variable	Dimension	Indicator	Loading factor	AVE
Ambidextrous Leadership	Exploration	AL1	0.912	0.763
		—	—	
		AL3	0.920	
		AL4	0.782	
	Exploitation	AL5	0.793	0.661
		—	—	
		AL7	0.856	
		AL8	0.787	
Collaboration Capability	Scanning	CC1	0.943	0.878
		CC2	0.930	
		—	—	
	Relational Skills	—	—	0.855
		CC5	0.899	
		CC6	0.942	
		CC7	0.933	
	Adaptation	CC8	0.942	0.832
		CC9	0.955	
		CC10	0.844	
		CC11	0.904	
Bank Performance Sustainability	Operational	BS1	0.783	0.581
		BS2	0.777	
		—	—	
		BS4	0.726	
	Economic	—	—	0.802
		BS6	0.847	
		BS7	0.942	
	Social	BS8	0.942	0.599
		BS9	0.961	
		BS10	0.882	
		—	—	
	Environment	BS12	0.900	0.766
		BS13	0.891	
		BS14	0.908	
		BS15	0.798	
		—	—	

**Table 3.** Discriminant validity (Fornell-Larcker criterion) (1<sup>st</sup> stage)

Dimension	Adaptation	Digital Adaptability	Digital Agility	Digital Transformation	Economic	Environment	Exploitation	Exploration	Operational	Relational Skills	Scanning	Social
Adaptation	0.912	—	—	—	—	—	—	—	—	—	—	—
Digital Adaptability	0.569	0.801	—	—	—	—	—	—	—	—	—	—
Digital Agility	0.502	0.688	0.867	—	—	—	—	—	—	—	—	—
Digital Transformation	0.672	0.759	0.825	0.888	—	—	—	—	—	—	—	—
Economic	0.603	0.422	0.505	0.652	1.000	—	—	—	—	—	—	—
Environment	0.635	0.548	0.619	0.725	0.605	0.875	—	—	—	—	—	—
Exploitation	0.616	0.314	0.267	0.357	0.495	0.356	0.813	—	—	—	—	—
Exploration	0.790	0.440	0.372	0.501	0.563	0.381	0.803	0.874	—	—	—	—
Operational	0.628	0.589	0.589	0.737	0.692	0.724	0.442	0.459	0.762	—	—	—
Relational Skills	0.780	0.689	0.726	0.773	0.521	0.821	0.457	0.564	0.695	0.925	—	—
Scanning	0.608	0.436	0.632	0.607	0.400	0.525	0.343	0.458	0.509	0.712	0.937	—
Social	0.709	0.529	0.558	0.723	0.543	0.692	0.454	0.633	0.614	0.630	0.441	0.929



**Figure 2.** Convergent validity test (1<sup>st</sup> stage)

**Table 4.** Reliability test (1<sup>st</sup> stage)

Variable	Dimension	Cronbach's alpha	Composite reliability (rho_c)
Ambidextrous Leadership	Exploration	0.842	0.906
	Exploitation	0.742	0.854
Digital Capability	Digital Adaptability	0.719	0.843
	Digital Transformation	0.866	0.918
	Digital Agility	0.835	0.901
Collaboration Capability	Scanning	0.861	0.935
	Relational Skills	0.915	0.946
	Adaptation	0.932	0.952
Bank Performance Sustainability	Operational	0.604	0.806
	Economic	0.764	0.802
	Social	0.920	0.950
	Environment	0.897	0.929

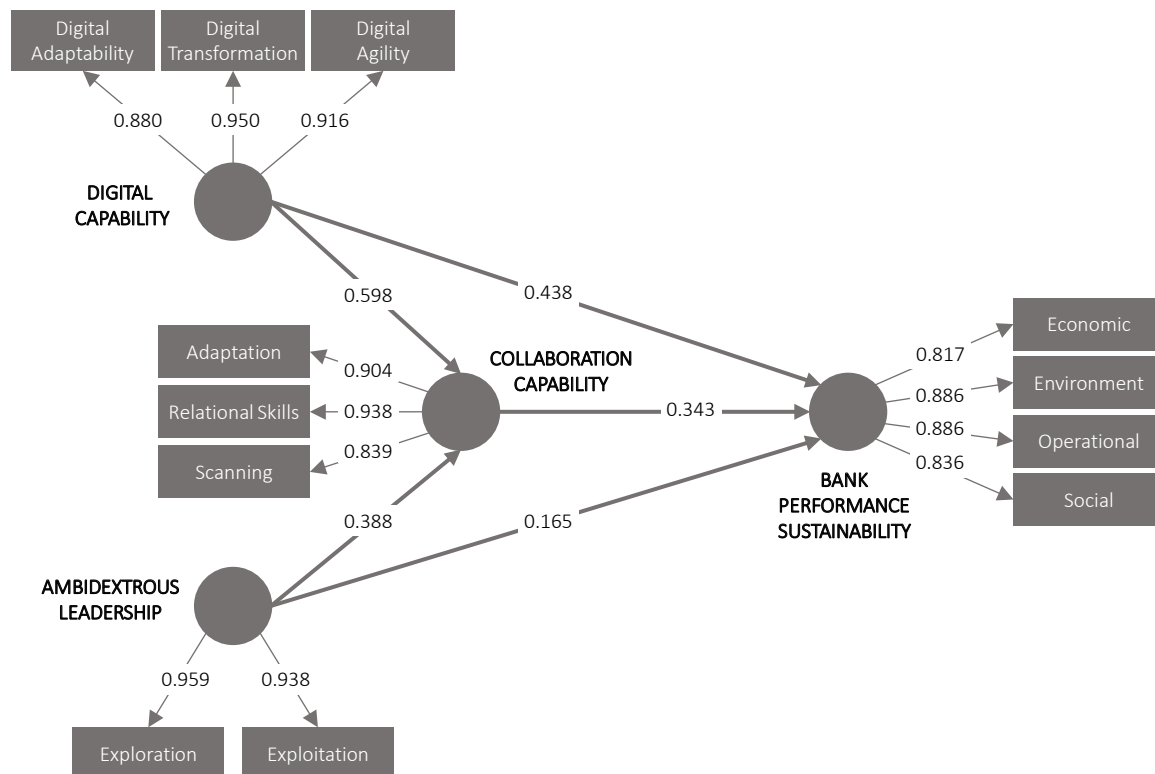
As shown in Table 4, Cronbach's alpha and composite reliability values of all dimensions are >

0.70, except for the operational dimension where the Cronbach's alpha is 0.604. However, Ghazali (2016) claimed that the Cronbach's alpha value of > 0.6 can still be considered as acceptable, therefore all dimensions have good reliability. This composite reliability test shows that the indicators used are consistent in assessing the variables (Hair et al., 2019).

### 3.2. Second stage evaluation of the measurement model (Outer model)

Loading factor value of all indicators and dimensions of each variable is  $\geq 0.70$ , and the AVE value of all variables is > 0.50, which suggests that all indicators and dimensions, along with its corresponding variables, have convergent validity (Table 5) (Hair et al., 2019; Haryono, 2016). For





**Figure 3.** Convergent validity test (2<sup>nd</sup> stage)

**Table 5.** Convergent validity result (2<sup>nd</sup> stage)

Variable	Dimension	Indicator	Loading Factor	AVE
Digital Capability	Digital Adaptability	–	0.88	0.838
	Digital Transformation	–	0.95	
	Digital Agility	–	0.916	
Ambidextrous Leadership	Exploration	–	0.959	0.901
	Exploitation	–	0.938	
Collaboration Capability	Scanning	–	0.839	0.800
	Relational Skills	–	0.938	
	Adaptation	–	0.904	
Bank Performance Sustainability	Operational	–	0.886	0.734
	Economic	–	0.817	
	Social	–	0.836	
	Environment	–	0.886	

**Table 6.** Discriminant validity (Fornell-Larcker criterion) (2<sup>nd</sup> stage)

Variable	Ambidextrous Leadership	Bank Performance Sustainability	Collaboration Capability	Digital Capability
Ambidextrous Leadership	0.949	–	–	–
Bank Performance Sustainability	0.582	0.857	–	–
Collaboration Capability	0.652	0.788	0.894	–
Digital Capability	0.441	0.775	0.769	0.916

the Digital Capability variable, the digital transformation dimension loading factor has the highest value (0.95), indicating that the dimension is very descriptive of Digital Capability. Exploration, relational skills, and operational are the dimen-

sions that best explain the variance in relation to each of their variables.

In conclusion, the discriminant validity has been satisfied, as the AVE root value of each variable

**Table 7.** Reliability test (2<sup>nd</sup> stage)

Variable	Cronbach's alpha	Composite reliability (rho c)
Ambidextrous Leadership	0.891	0.948
Digital Capability	0.904	0.940
Collaboration Capability	0.875	0.923
Bank Performance Sustainability	0.879	0.917

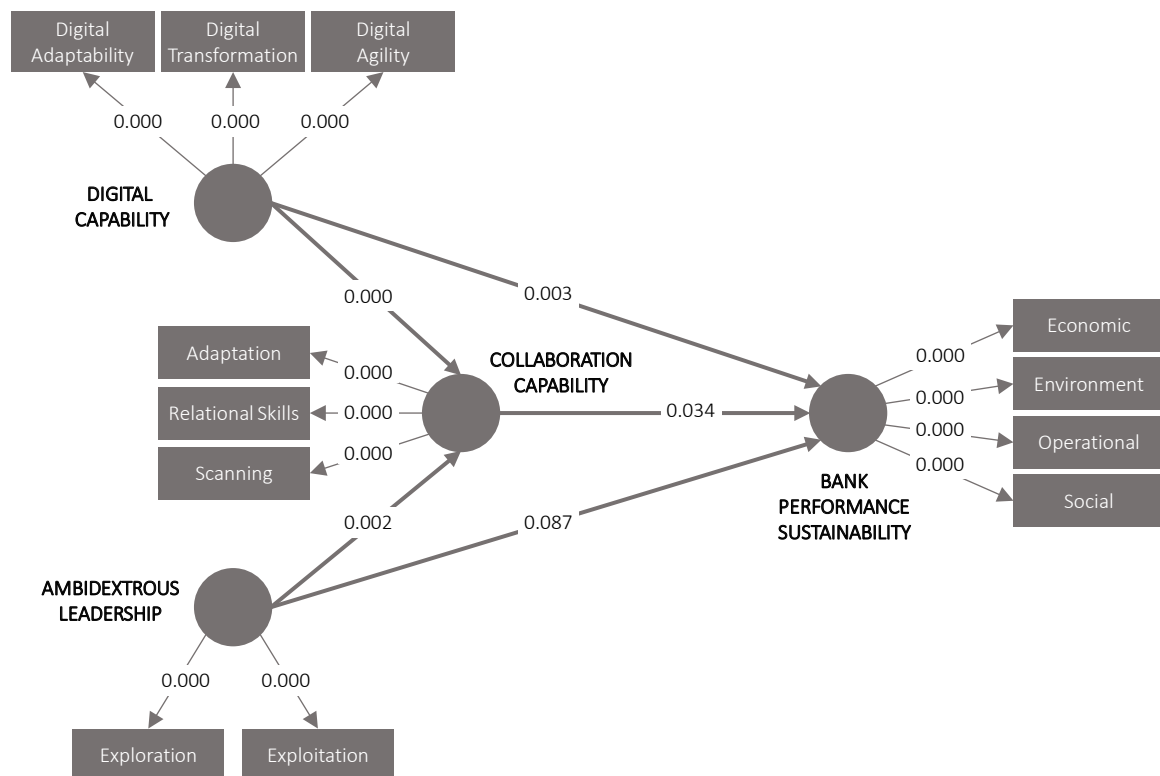
exceeds the correlation between the construct and other constructs (Table 6) (Haryono, 2016).

Cronbach's alpha and composite reliability values of all variables are  $> 0.70$ ; therefore, it can be inferred that all dimensions are reliable, as the test shows that each dimension can consistently assess the variables (Table 7) (Hair et al., 2019).

### 3.3. Structural model evaluation (Inner model)

From Table 8, the path coefficient value of Collaboration Capability  $\rightarrow$  Bank Performance Sustainability is 0.343, t-statistic value of 1.831 with P-value of  $0.034 < 0.05$ , therefore  $H_1$  is accepted; Collaboration Capability has a positive effect on Bank Performance Sustainability. Without continuous innovation, it is impossible to achieve a sustainable competitive advantage

in knowledge-based competition. In essence, innovation is the result of social interactions in which a variety of actors share complementary knowledge. A bank's collaboration capability, through scanning processes (following business trends, searching for potential partners), relational skills (successful negotiation, resolving problems constructively, knowing how to handle power differences), and adaptation (re-negotiation to adjust resource commitments, handling situations flexibly, clear processes for terminating relationships) helps the bank to find the right partners and build long-term, mutually beneficial relationships. By collaborating with many partners, banks share complementary knowledge so that they can provide total solutions and meet the various needs of their customers, build networks and ecosystems so that this will improve bank performance sustainability.

**Figure 4.** P-values

**Table 8.** Hypothesis testing results

Hypothesis test	Original sample (O)	T statistics	P values	Result
H1: Collaboration Capability has a positive effect on Bank Performance Sustainability Collaboration Capability → Bank Performance Sustainability	0.343	1.831	0.034	accepted
H2: Digital Capability has a positive effect on Bank Performance Sustainability Digital Capability → Bank Performance Sustainability	0.438	2.793	0.003	accepted
H3: Digital Capability has a positive effect on Collaboration Capability. Digital Capability → Collaboration Capability	0.598	5.997	0.000	accepted
H4: Ambidextrous Leadership has a positive effect on collaboration capability Ambidextrous Leadership → Collaboration Capability	0.388	2.908	0.002	accepted
H5: Ambidextrous Leadership has a positive effect on bank performance sustainability Ambidextrous Leadership → Bank Performance Sustainability	0.165	1.360	0.087	rejected

Path coefficient value of Digital Capability → Bank Performance Sustainability is 0.438, t statistic value is 2.793 with a P value of  $0.003 < 0.05$ , indicating that  $H_2$  is accepted; Digital Capability has a positive effect on Bank Performance Sustainability. Digital Capability drives the improvement of digital banking that will facilitate business growth by simplifying operations, improving consumer experience, or building new business models, this has been proven to increase added value for customers and accelerate bank growth.

Path coefficient value of Digital Capability → Collaboration Capability is positive 0.598, t statistic value is 5.997 with a P value of  $0.000 < 0.05$ , which supports  $H_3$ ; Digital Capability has a positive effect on Collaboration Capability. To collaborate widely with partners, banks need to expand the scope of business partners in the ecosystem and encourage faster innovation. Banks need to have digital adaptability (digital business models according to regulations, acquisition of significant digital technology, identification of innovative digital prospects), digital transformation (mastering new digital technologies, developing new innovative processes/products/services based on digital technologies, managing digital technologies, making full use of the functions brought by digital technologies), and digital agility (big data analysis to respond to customer needs, quick response to disruptions, quick response to changes in customer needs). Here digital capability is needed from the beginning of finding partners to operationalization in collaboration. Digital capability

is needed and helps banks stay focused and engaged with partners.

Path coefficient value of Ambidextrous Leadership → Collaboration Capability is positive 0.388, t statistic value is 2.908 with a P value of  $0.002 < 0.05$ , which supports  $H_4$ ; Ambidextrous Leadership has a positive effect on Collaboration Capability. Initially, the leadership should raise awareness among its subordinates and partners about the advantages of effective coordination and collaboration; this should provide them with individual guidance. In the subsequent phase, by providing appealing incentives and fostering effective collaboration, leaders with this attribute can encourage their partners to engage in collaborative activities. Ambidextrous leaders can balance exploration: innovation, fostering personal ideas, encouraging learning; with exploitation: completing tasks, taking corrective action, controlling compliance with rules, and gaining resource efficiency.

Path coefficient value of Ambidextrous Leadership → Bank Performance Sustainability is positive 0.165, t statistic value is 1.360 with a P value of  $0.087 > 0.05$ , therefore  $H_5$  is rejected; Ambidextrous Leadership does not positively impact Bank Performance Sustainability. Ambidextrous leaders do not directly impact the sustainability of bank performance, as such sustainability can only be attained if the firm consistently preserves its competitive edge over the long term, so here mediation is needed in the form of knowledge acquisition, learning

processes, and implementation to produce continuous innovation in the organization.

**Table 9.** R-square test results

Variable	R-Square	R-Square Adjusted
Bank Performance Sustainability	0.706	0.695
Collaboration Capability	0.713	0.706

The R-squared value of the Bank Performance Sustainability variable is 0.706, which indicates that the Ambidextrous Leadership, Digital Capability, and Collaboration Capability variables can explain the Bank Performance Sustainability variable by 70.6%, hence, the model is considered strong. The R-squared value of the Collaboration Capability variable is 0.713. Such value indicates that the Ambidextrous Leadership and Digital Capability variables can explain the Collaboration Capability variable by 71.3%, so the model is considered strong (Haryono, 2016).

**Table 10.** f-square test results

Variable	Bank Performance Sustainability	Collaboration Capability
Ambidextrous Leadership	0.053	0.422
Collaboration Capability	0.115	-
Digital Capability	0.263	1.003

Table 10 reveals that the f-square value of Ambidextrous Leadership on Collaboration Capability is 0.422, signifying a strong influence, whereas the f square value of Ambidextrous Leadership on Bank Performance Sustainability is 0.053, indicating a weak influence. The f-square value of collaboration capability on bank performance sustainability is 0.115, signifying that the impact of the collaboration capability variable on bank performance sustainability is classified as moderate. The f-square value of Digital Capability on Collaboration Capability is 1.003, signifying a strong influence, whereas the f-square value of Digital Capability on Bank Performance Sustainability is 0.263, indicating a moderate influence. (Cohen, 1988).

**Table 11.** Model fit results

Indicator	Saturated Model	Estimated Model
SRMR	0.083	0.083
NFI	0.733	0.733

The calculated Goodness of Fit score is  $\sqrt{(\text{average AVE} \times \text{average R-squared})} = 0.762$ , signifying that the overall performance of outer and inner models in this study falls within the large Goodness of Fit category (Haryono, 2016). Table 11 indicates that the NFI value is 0.733, approaching 1, while the Standardized Root Mean Square Residual (SRMR) value is 0.083, which is less than 0.10 (Hu & Bentler, 1999), the model represents a good fit.

## 4. DISCUSSION

Results confirm that collaboration capability has a positive effect on bank performance sustainability. This is consistent with previous empirical studies that collaboration capability is a factor that produces performance benefits (Hornuf et al., 2021; Jin et al., 2019; Kareem & Kummitha, 2020; Um & Kim, 2019). Collaboration capability mitigates conflict and produces synergistic effects into combined benefits that improve performance. The study results also found that it is important for banks to have relational skills as an important part of building collaboration capability, including the ability to establish good personal relationships, forge successful negotiations, solve problems constructively, and possess the knowledge on dealing with power differences. Collaboration capability becomes crucial as it entails the ability to establish and harmonize relationships with external partners to achieve common goals (Blomqvist & Levy, 2006) and resolve conflicts to improve working relationships that enable increased value creation for all parties, resulting in improved company performance (Allred et al., 2011; Nguyen & Le, 2020).

In today's digital era, the utilization of both internal and external organizational collaboration requires the capacity to leverage digitalization for the integration of products and services with relevant partners. This study proves that digital capability positively influences bank performance sustainability; hence, banks must enhance their digital capability to effectuate significant implementable changes. This competence enables banks to establish new resource concentrations, engage with external stakeholders, identify opportunities for shared value creation, and enhance value creation (Wang et al., 2022). The study's findings indicate that banks must undergo digital trans-

formation by mastering new digital technologies, creating innovative goods, services, and processes by applying these technologies, and fully using the capabilities provided by digital advancements. The study identified the significance of digital adaptability and digital agility in establishing organizational digital competence for banks, aligning with findings from digital adaptability research that enhances resilience (Dubey et al., 2023).

Digital capability positively influences collaboration capability, collaboration between banks and partners requires digital capability to integrate products and services with partners. Banks utilize digital capability resources to develop and implement digital business strategies. In this context, to collaborate widely with partners, banks need to expand the scope of business partners in the ecosystem and encourage faster innovation. Banks need to coordinate information with partners through digital channels and business processes (Chi et al., 2016; Limniou et al., 2021; Nasiri et al., 2020).

The study findings indicate that ambidextrous leadership shows a direct positive influence on collaboration capability. Leaders are crucial in developing strategy, plans, and directly influence the organization's capabilities (Chatterjee & Chaudhuri, 2022). Ambidextrous leadership inte-

grates exploration leadership behaviors, such as fostering creativity, with exploitation leadership behaviors, such as goal attainment and adherence to norms. This reciprocity influences organizational culture and enhances leader behavior, fostering innovation through exploration (Martínez-Climent et al., 2019). Nonetheless, the study revealed that ambidextrous leadership did not have a direct influence on bank performance sustainability. Sustainable performance is obtained from the acquisition of new knowledge and continuous innovation developed by the company, where the function of leadership is required, but it does not directly influence organizational performance. This finding strengthens previous research that ambidextrous leadership does not directly affect company performance, but ambidextrous leadership will build stronger organizations in terms of agility (Alamsjah, 2022).

The study results provide sufficient understanding of the constructs of collaboration capability, digital capability, and ambidextrous leadership within the banking in relation to bank performance sustainability. Due to the limitation of sampling methods, for which this study exclusively sampled private commercial banks, future studies can obtain samples from various types of banks, as a way to further research the influence of collaboration capability in the banking context.

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## CONCLUSION

This study examines the impact of collaboration capability on bank performance sustainability, as well as how ambidextrous leadership and digital capability influence it. The results show that collaboration capability has a direct positive effect on the bank performance sustainability, digital capability has a direct positive effect on collaboration capability and bank performance sustainability, while ambidextrous leadership has a direct positive effect on collaboration capability but not on bank performance sustainability.

As businesses cannot succeed alone, organizations must find ways to collaborate with other actors in the ecosystem to create value. A bank can collaborate with many partners as a strategic choice to survive and grow sustainably. Collaboration empowers banks to innovate faster, create better customer experiences, and explore new markets, all while maintaining cost efficiency. Banks with strong collaboration capability are better positioned to adapt, innovate and thrive in a competitive and dynamic environment, thereby ensuring long-term success and sustainable performance.

The study results also found that it is important for banks to have relational skills as an important part of building collaboration capability, including the ability to establish good personal relationships, forge successful negotiations, solve problems constructively, and possess the knowledge on dealing with power differences.



Important internal factors that build collaboration capability are digital capability and leadership. Digital capability is an important foundation for collaboration capability in today's digital era, enabling banks to work with fintech partners, and other partners. By having good digital capability, banks can increase efficiency, transparency, and security in collaboration, and remain competitive and relevant. The study identified the significance of digital adaptability and digital agility as dimensions of digital capability, both are needed to stay relevant in the rapid changes of digital technology.

Ambidextrous leadership is a form of leadership that is suitable for collaboration in banks, which will balance exploration with the focus on current efficiency (exploitation) so that the benefits of collaboration are obtained. Ambidextrous leaders do not directly impact the sustainability of bank performance, as such sustainability can only be attained if the firm consistently preserves its competitive edge over the long term, so here mediation is needed in the form of knowledge acquisition, learning processes, and implementation to produce continuous innovation in the organization.

The research results show that banks need to build all these capabilities to achieve bank performance sustainability, but further studies are still needed.

## AUTHOR CONTRIBUTIONS

Conceptualization: Suhardjo Moeliadi, Mts. Arief, Willy Gunadi, Rano Kartono Rahim.

Data curation: Suhardjo Moeliadi.

Formal analysis: Suhardjo Moeliadi.

Funding acquisition: Suhardjo Moeliadi.

Investigation: Suhardjo Moeliadi

Methodology: Suhardjo Moeliadi, Mts. Arief, Willy Gunadi, Rano Kartono Rahim.

Project administration: Suhardjo Moeliadi.

Resources: Suhardjo Moeliadi.

Software: Suhardjo Moeliadi.

Supervision: Mts. Arief, Willy Gunadi, Rano Kartono Rahim.

Validation: Suhardjo Moeliadi, Mts. Arief, Willy Gunadi, Rano Kartono Rahim.

Visualization: Suhardjo Moeliadi.

Writing – original draft: Suhardjo Moeliadi.

Writing – reviewing & editing: Suhardjo Moeliadi, Mts. Arief, Willy Gunadi, Rano Kartono Rahim.

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## APPENDIX A

### 1. QUESTIONNAIRE

#### A. Respondent's Profile

1. Gender

- ☐ Male
- ☐ Female

2. Position

- ☐ Regional Head
- ☐ Branch Head
- ☐ High Level Manager

3. Age

- ☐ 21-30 years old
- ☐ 31-40 years old
- ☐ 41-50 years old
- ☐ 51-60 years old

4. Education Level

- ☐ Bachelor / S1
- ☐ Master / S2
- ☐ PhD / S3

5. Working Experience

- ☐ 1-5 years
- ☐ 6-10 years
- ☐ 11-15 years
- ☐ > 15 years

## APPENDIX B

**Table B1.** Research variables

No.	Questions	1	2	3	4	5
1	Our bank is open to providing all the information needed by all stakeholders.					
2	Our bank is open in the decision-making process and provides relevant information about the organization to all stakeholders					
3	Our bank is open in conveying company policies which are proportionally communicated to stakeholders					
4	Our bank clarifies the functions of organizational organs so that management runs effectively					
5	Our bank makes clear the implementation of accountability of organizational organs so that management runs effectively					
6	Our bank operates in accordance with applicable regulatory provisions					
7	Our bank ensures that the interests of management and shareholders are balanced with the interests of other stakeholders					
8	Our bank carries out organizational management compliance with applicable laws and regulations					
9	Our bank conforms organizational management to ethical values (code of conduct) that are in accordance with banking governance					
10	Our bank ensures compliance with applicable regulations as a reflection of compliance with the OJK					
11	Our bank ensures professional decision making without influence or pressure from any party					
12	Our bank is always objective in decision making					
13	Our bank is free from conflicts of interest with shareholders, customers and other business partners					
14	Our bank guarantees justice and equality in fulfilling stakeholder rights arising from legislation					
15	Our bank ensures the protection of the rights of stakeholders (stake holders)					
16	Our bank ensures that minority shareholders have equal rights					
17	Leadership at our Bank encourages innovation to innovate in all aspects					
18	Leadership at our Bank encourages subordinates to dare to take risks					
19	Leadership at our Bank provides space for ideas that come from subordinates					
20	Leadership at our Bank encourages learning from mistakes					
21	Leadership at our Bank takes corrective action towards all employees					
22	Leadership at our Bank controls compliance with regulations					
23	Leadership at our Bank is concerned with completing tasks without variation					
24	Leadership at our Bank is efficient in using available resources					
25	Our bank implements a digital business model that is in accordance with government policy					
26	Our bank can get important digital technology					
27	Our bank can identify opportunities using the latest digital solutions					
28	Our Bank continuously monitors the latest technological trends in the Banking Industry					
29	Our bank masters the latest digital banking technology					
30	Our bank develops innovative products by utilizing digital technology					
31	Our bank utilizes digital technology thoroughly in every organizational unit					
32	Our bank uses big data analytics capabilities to predict any changes in customer needs					
33	Our bank is working with Information Technology vendors to identify potential threats that could disrupt the implementation of digital technology in our bank					
34	Our Bank is responsive to changes in digital technology in the Banking Industry					
35	Our bank can quickly respond to changes in digital technology demands from our customers					
36	Our bank is actively looking for potential partners who have the potential to build cooperation					
37	Our bank has the ability to evaluate potential partners in building cooperation					
39	Our bank always follows banking business trends in accordance with the latest developments					
40	Our bank has the ability to build good personal relationships with business partners					
41	Our bank has the ability to negotiate with our partners in order to achieve the intended goals					
42	Our bank is able to resolve problems that arise with our partners					
43	Our bank understands the collaborative cooperation process with partners					
44	Our bank is open to changing cooperation contracts if necessary					
45	Our bank is open to renegotiating contracts to realize mutual commitments					
46	Our bank can flexibly handle situations when our partners fail to keep their promises					
47	Our bank has a clear process for terminating relationships with unwanted partners					