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## THE IMPACT OF FINANCIAL TECHNOLOGY ON BANKING PROFITABILITY IN INDONESIA

**Muhammad Irham Ghiffary\*, Mahameru Rosy Rochmatullah**

Faculty of Economics and Business, Universitas Muhammadiyah Surakarta, Surakarta, Indonesia

\*Corresponding author: b200220387@student.ums.ac.id

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### ABSTRACT

This study investigates how Financial Technology (FinTech) influences banking profitability in Indonesia by comparing conventional and Islamic banks amid the country's ongoing digital transformation. While FinTech adoption has grown rapidly in recent years, prior studies have mostly examined only one type of banking system, leaving limited evidence on whether digital financial services affect conventional and Islamic banks differently. To address this gap, this research uses a quantitative approach based on panel data from 180 observations of selected banks during the 2020–2024 period. FinTech adoption is represented by QRIS and mobile banking transactions, while profitability is measured using ROA, ROE, and NIM for conventional banks and NOM for Islamic banks. Multiple linear regression and classical assumption tests were used to analyze the data. The findings show that the impact of FinTech on profitability is not uniform across banking models. In conventional banks, QRIS significantly improves ROA and ROE, indicating that digital payment adoption helps improve transaction efficiency and financial performance. In Islamic banks, QRIS shows a broader impact and contributes more consistently to profitability, particularly in improving asset performance. Meanwhile, mobile banking tends to show weaker effects, suggesting that its financial benefits may take longer to materialize. These results highlight that the effectiveness of digital financial adoption depends on the operational characteristics of each banking system. This study adds comparative evidence from an emerging economy and suggests that regulators and banks should develop digital strategies that align with the specific needs of both conventional and Islamic financial institutions.

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## 1. INTRODUCTION

The rapid development of digital technology has significantly changed the financial sector, especially in emerging economies where financial institutions continue to adapt to structural changes. One of the most visible changes is the growth of Financial Technology (FinTech), which has transformed how financial services are delivered by improving efficiency, expanding access, and creating more practical transaction systems.

In Indonesia, the increasing use of QRIS and mobile banking reflects the growing shift toward a more modern and inclusive financial ecosystem (Rochmatullah, 2018). Beyond improving operational activities, this development also creates opportunities to strengthen financial inclusion and support broader economic growth (Heizer et al., 2020).

From a theoretical perspective, this relationship can be explained through several complementary approaches. Financial intermediation theory explains that banks can improve their role in allocating financial resources more efficiently through technological innovation. Signaling theory suggests that adopting digital services may signal innovation and competitiveness to customers and investors (Cahyono et al., 2023). In addition, technology adoption frameworks such as the Technology Acceptance Model (TAM) and Unified Theory of Acceptance and Use of Technology (UTAUT) explain how perceived usefulness and ease of use influence customer adoption of digital services (Mukhibad et al., 2020; Tias & Rochmatullah, 2023). The concept of digital financial inclusion also supports the argument that wider access to digital services can strengthen institutional performance.

Although these theories suggest positive outcomes, previous empirical findings remain mixed. Several studies show that digital financial services improve efficiency and profitability, while others report limited effects due to regulatory issues, technological costs, and differences in organizational readiness (Ramadhani & Rochmatullah, 2024). In addition, most previous studies focus only on either conventional or Islamic banks, with limited attention to direct comparisons between both systems. This remains an important gap because conventional and Islamic banks operate under different financial principles, which may influence how technological adoption affects financial performance (Jannah, 2024).

This study addresses that gap by comparing the effect of FinTech adoption on profitability in conventional and Islamic banks in Indonesia. Indonesia provides a relevant setting because it operates a dual banking system and continues to experience rapid growth in digital financial services (Fauzi, 2024). This comparison helps explain whether the impact of technological adoption is similar across banking models or whether each system responds differently.

This study argues that the adoption of QRIS and mobile banking can improve profitability by increasing transaction efficiency, reducing operational barriers, and strengthening customer engagement (Rochmatullah et al., 2024). However, the extent of these benefits may differ across banking institutions. Therefore, this study examines the effect of FinTech on ROA, ROE, and NIM in conventional banks, as well as ROA, ROE, and NOM in Islamic banks.

By adopting a comparative perspective, this study contributes to the growing discussion on digital finance in emerging economies and offers practical insights for banks and policymakers in developing more adaptive digital strategies that align with the characteristics of both conventional and Islamic financial institutions.

## 2. RESEARCH METHODS

This study uses a quantitative approach with an associative research design to examine the effect of Financial Technology (FinTech) adoption on banking profitability through a comparative analysis of conventional and Islamic banks in Indonesia. A quantitative approach was chosen because it allows the relationship between variables to be measured objectively and tested statistically (Setyawati, 2025).

The study relies on secondary data collected from credible sources, including annual reports published by banks, the Indonesia Stock Exchange, the Financial Services Authority, and other relevant FinTech publications (Christina, 2025). The sample includes conventional and Islamic banks that meet two criteria: (1) consistently publishing complete annual financial reports during the 2020–2024 period, and (2) actively implementing digital financial services, particularly QRIS and mobile banking. Based on these criteria, the study obtained 180 observations, which provide sufficient data for comparative analysis.

The dataset has a panel structure because it combines data across banks and time periods. However, this study applies Ordinary Least Squares (OLS) regression to examine the overall relationship between FinTech adoption and profitability (Wahyudi, 2019). Although panel regression techniques such as fixed effects or random effects may offer more advanced analysis, OLS was considered suitable for identifying general patterns within the scope of this research.

Profitability is treated as the dependent variable. In conventional banks, it is measured using Return on Assets (ROA), Return on Equity (ROE), and Net Interest Margin (NIM), while in Islamic banks it is measured using Return on Assets (ROA), Return on Equity (ROE), and Net Operating Margin (NOM). The independent variable is FinTech adoption, which is represented by QRIS transaction volume and mobile banking transaction volume as indicators of digital service utilization.

The regression model used in this study is formulated as follows:

Conventional Banks:

$$ROA / ROE / NIM = \alpha + \beta_1 QRIS + \beta_2 MB + \varepsilon \dots\dots\dots (1)$$

Islamic Banks:

$$ROA / ROE / NOM = \alpha + \beta_1 QRIS + \beta_2 MB + \varepsilon \dots\dots\dots (2)$$

Description:

- ROA : Return on Assets
- ROE : Return on Equity
- NIM : Net Interest Margin
- NOM : Net Operating Margin
- $\alpha$  : Constant
- $\beta_1 - \beta_2$  : Regression coefficients
- QRIS : QRIS transaction volume
- MB : Mobile banking transaction volume
- $\varepsilon$  : Error term

Data analysis was conducted using statistical software to ensure accurate results. Descriptive statistics were first used to provide an overview of the research variables. Before testing the hypotheses, several classical assumption tests, including normality, multicollinearity, and heteroskedasticity tests, were performed to ensure that the regression model met the required assumptions. The t-test was used to examine the individual effect of each independent variable, while the F-test evaluated their joint effect at a 5% significance level. In addition, the coefficient of determination ( $R^2$ ) was used to assess how well the independent variables explained variations in profitability.

This study also recognizes several limitations. First, FinTech is measured only through transaction-based indicators, which may not fully represent the broader dimensions of digital financial innovation. Second, the study does not include additional control variables that may also influence profitability, such as bank-specific characteristics or macroeconomic conditions. Third, potential endogeneity issues, including reverse causality between FinTech adoption and profitability, were not specifically addressed. Future studies are therefore encouraged to include broader FinTech measures and apply more advanced econometric methods, such as panel data models or instrumental variable approaches, to produce more robust findings.

Throughout the research process, ethical standards were maintained by relying on publicly available and verifiable data, avoiding data manipulation, and properly acknowledging all sources to ensure academic integrity.

### 3. RESULTS AND DISCUSSION

#### 3.1. RESULTS

This study uses secondary data obtained from the annual financial statements of conventional and Islamic banks in Indonesia during the 2020–2024 period. Financial Technology (FinTech) adoption is measured through transaction-based indicators, namely QRIS transactions (X1) and mobile banking transactions (X2), which represent the intensity of digital financial service usage across both banking systems.

Profitability serves as the main dependent variable in this research. For conventional banks, financial performance is measured using Return on Assets (ROA), Return on Equity (ROE), and Net Interest Margin (NIM), while Islamic bank performance is evaluated using Net Operating Margin (NOM). To examine the extent to which FinTech adoption influences these profitability indicators, the data were analyzed using multiple linear regression with SPSS.

The use of annual financial report data allows this research to capture recent developments in digital financial adoption and its relationship with banking performance in Indonesia.

Table 1. Descriptive Statistics of Research Variables

Bank Type	Variable	Indicator	Descriptive Statistical Test			
			Min	Max	Mean	
CONVENTIONAL	ROA	X1	QRIS	0.00	9.24	4.4390
		X2	MOBILE BANKING	0.00	10.50	7.4354
		Y	ROA	0.50	4.03	2.0752
	ROE	X1	QRIS	0.00	9.24	4.4390
		X2	MOBILE BANKING	0.00	10.50	7.4354
		Y	ROE	1.63	27.31	13.9804
	NIM	X1	QRIS	0.00	9.24	4.4390
		X2	MOBILE BANKING	0.00	10.50	7.4354
		Y	NIM	2.86	7.70	5.2954
ISLAMIC	ROA	X1	QRIS	0.00	4.29	2.2756
		X2	MOBILE BANKING	0.00	8.74	5.3800
		Y	ROA	-10.85	2.49	-0.7541
	ROE	X1	QRIS	0.00	4.29	2.1869
		X2	MOBILE BANKING	0.00	8.74	4.9233
		Y	ROE	-10.10	17.77	4.4225
	NOM	X1	QRIS	0.00	4.29	2.2167
		X2	MOBILE BANKING	0.00	8.74	4.0247
		Y	NOM	1.19	6.31	3.9227

Source: Processed Data (2026)

Table 1 shows the descriptive statistic of research variables. The results indicate that conventional banks generally demonstrate stronger and more stable financial performance than Islamic banks. QRIS transactions in conventional banks range from 0.00 to 9.24, with an average of 4.4390, while mobile banking transactions range from 0.00 to 10.50, with a mean of 7.4354, reflecting relatively high utilization of digital financial services. In terms of profitability, ROA ranges from 0.50 to 4.03 with an average of 2.0752, ROE ranges from 1.63 to 27.31 with a mean of 13.9804, and NIM ranges from 2.86 to 7.70 with an average of 5.2954. Overall, these figures suggest that conventional banks maintain relatively solid profitability and operational stability.

By comparison, Islamic banks show lower and more fluctuating profitability levels. QRIS transactions range from 0.00 to 4.29, with mean values between 2.18 and 2.27, while mobile banking transactions range from 0.00 to 8.74, with averages between 4.02 and 5.38. ROA ranges from -10.85 to 2.49, with a mean of -0.7541, indicating relatively weak asset profitability. Meanwhile, ROE ranges from -10.10 to 17.77 with an average of 4.4225, and NOM ranges from 1.19 to 6.31 with a mean of 3.9227. Although Islamic banks continue to generate profits, their performance appears less stable than that of conventional banks.

Taken together, the descriptive statistics reveal clear differences in both profitability and digital financial adoption across the two banking systems. This suggests that the relationship between FinTech and profitability may vary depending on institutional characteristics, operational structures, and the level of digital maturity within each banking model.

Before conducting regression analysis, diagnostic tests were performed to ensure that the models met the required assumptions. The One-Sample Kolmogorov–Smirnov test produced significance values above 0.05 for all variables in both conventional and Islamic banking models, indicating normally distributed residuals (Ghozali, 2018; Rahmadani & Rochmatullah, 2025). The multicollinearity test also showed acceptable results, with tolerance values above 0.10 and VIF values below 10, confirming that no serious correlation issues existed among the independent variables (Ghozali, 2018).

The heteroskedasticity test, based on scatterplot analysis, showed that residual points were distributed randomly without forming a clear pattern across all estimated models, including ROA, ROE, and NIM for conventional banks and ROA, ROE, and NOM for Islamic banks. This indicates that the variance of errors remains relatively constant across observations. As a result, the regression models satisfy the homoscedasticity assumption and are suitable for further analysis.

This analysis further examines the effect of Financial Technology (FinTech), proxied by QRIS and mobile banking transactions, on the profitability of conventional banks.

Table 2. Conventional Bank ROA Model

Variable	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std.Error	Beta		
(Constant)	1.571	.324		4.853	.000
QRIS	.140	.045	.501	3.085	.003
Mobile Banking	-.016	.051	-.051	-.315	.754

Source: Processed Data (2026)

From Table 2, it is shown that the regression equation obtained is:

$$ROA = 1,571 + 0,140(QRIS) + -0,016(Mobile Banking) \dots\dots\dots (3)$$

The results suggest that QRIS contributes positively to asset profitability in conventional banks by facilitating faster transactions, improving operational efficiency, and increasing transaction volume, which in turn helps optimize asset utilization. This finding is consistent with financial intermediation theory, which emphasizes that improvements in transaction efficiency can strengthen a bank’s ability to generate returns from its assets. In contrast, mobile banking does not show a significant effect on ROA, indicating that it may function more as a supporting service platform than as a direct driver of short-term profitability. The substantial costs associated with platform development, maintenance, and cybersecurity may also limit its immediate financial contribution, which helps explain its insignificant effect on asset-based performance.

Table 3. Conventional Bank ROE Model

Variable	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std.Error	Beta		
(Constant)	9.379	2.105		4.456	.000
QRIS	.794	.296	.434	2.684	.010
Mobile Banking	.145	.329	.071	.440	.662

Source: Processed Data (2026)

From Table 3, it is shown that the regression equation obtained is:

$$ROE = 9,379 + 0,794(QRIS) + 0,145(Mobile Banking) \dots\dots\dots (4)$$

The positive effect of QRIS on ROE indicates that the adoption of digital payment systems contributes not only to operational efficiency but also to higher returns for shareholders. Greater transaction activity and wider service accessibility can create additional revenue opportunities, which may ultimately strengthen equity performance. This result is consistent with signaling theory, as the adoption of digital financial innovation may reflect a bank's efficiency and competitiveness, thereby increasing investor confidence.

In contrast, mobile banking does not show a significant effect on ROE, suggesting that its contribution to profitability tends to be more indirect and may require a longer period to materialize. While mobile banking improves customer convenience and engagement, its financial benefits may not be immediately reflected in equity returns during the observed period.

Table 4. Conventional Bank NIM Model

Variable	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std.Error	Beta		
(Constant)	6.113	.405		15.093	.000
QRIS	-.071	.057	-.214	-1.241	.221
Mobile Banking	-.068	.063	-.184	-1.071	.290

Source: Processed Data (2026)

From Table 4, it is shown that the regression equation obtained is:

$$NIM = 6,133 + -0,071(QRIS) + -0,068(Mobile Banking)..... (5)$$

The results suggest that digital financial adoption does not directly improve net interest margins in conventional banks. From an economic perspective, NIM is largely influenced by core intermediation activities such as lending rates, funding costs, and asset allocation decisions, rather than transaction-based digital services.

The negative coefficients may indicate that greater digital adoption gradually shifts bank revenue from traditional interest income toward fee-based and transaction-related income sources. In addition, the early costs associated with digital infrastructure development may place short-term pressure on margins. As a result, the insignificant relationship between FinTech and NIM is economically reasonable and suggests that digital transformation is more likely to influence profitability through operational efficiency and higher transaction volume rather than through interest spread.

Table 5. Islamic Bank ROA Model

Variable	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std.Error	Beta		
(Constant)	-5.722	.861		-6.643	.000
QRIS	1.306	.348	.518	3.751	.001
Mobile Banking	.371	.142	.362	2.620	.014

Source: Processed Data (2026)

From Table 5, it is shown that the regression equation obtained is:

$$ROA = -5,722 + 1,306(QRIS) + 0,371(Mobile Banking)..... (6)$$

Table 5 presents the regression results for the ROA model in Islamic banks. The results show that QRIS has a positive and statistically significant effect on ROA ( $\beta = 1.306$ ;  $p < 0.01$ ), while mobile banking also has a positive and significant effect ( $\beta = 0.371$ ;  $p < 0.05$ ). This indicates that higher digital transaction activity contributes to better asset utilization in Islamic banks.

The strong effect of QRIS highlights the growing importance of digital payment systems in increasing transaction activity, improving service accessibility, and encouraging wider participation in cashless transactions. These factors help improve transaction efficiency and support more effective use of bank assets, which can ultimately enhance profitability. Meanwhile, mobile banking also contributes positively, although its smaller coefficient suggests a more gradual impact. This may be because the financial benefits of mobile banking depend on factors such as the maturity of the bank’s digital infrastructure, customer adoption levels, and how actively customers use mobile banking services. As a result, its contribution to profitability tends to develop more gradually compared to QRIS.

Table 6. ROE Model for Islamic Banks

Variable	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std.Error	Beta		
(Constant)	-.812	2.182		-.372	.712
QRIS	2.545	.977	.481	2.606	.014
Mobile Banking	-.067	.373	-.033	-.180	.858

Source: Processed Data (2026)

From Table 6, it is shown that the regression equation obtained is:

$$ROE = -0,812 + 2,545(QRIS) + -0,067(Mobile Banking)..... (7)$$

Table 6 presents the regression results for the ROE model. The findings indicate that QRIS has a positive and statistically significant effect on ROE ( $\beta = 2.545$ ;  $p < 0.05$ ), while mobile banking does not show a significant effect ( $p > 0.05$ ).

These results suggest that the adoption of digital payment systems contributes to higher returns for shareholders by increasing transaction-based revenue and improving operational efficiency. The stronger use of QRIS may help banks process transactions more efficiently and expand digital payment activity, which can ultimately support profitability from an equity perspective. In contrast, mobile banking does not appear to directly improve shareholder returns in the short term. One possible explanation is that substantial costs related to platform development, maintenance, and digital security may reduce its immediate financial benefits. In addition, mobile banking often functions primarily as a service improvement tool rather than a direct source of revenue generation.

Table 7. Islamic Bank NOM Model

Variable	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std.Error	Beta		
(Constant)	2.607	.481		5.420	.000
QRIS	.731	.275	.643	2.654	.013
Mobile Banking	-.076	.106	-.173	-.715	.480

Source: Processed Data (2026)

Table 7 presents the regression results for the Net Operating Margin (NOM) model in Islamic banks. The regression output shows a constant value of 2.607, indicating that when QRIS transactions and mobile banking usage remain unchanged, the average NOM of Islamic banks is estimated at 2.607. Based on these results, the regression equation for the model is as follows:

$$NOM = 2,607 + 0,731(QRIS) + -0,076(Mobile Banking)..... (8)$$

The results indicate that QRIS has a positive and statistically significant effect on NOM, with a regression coefficient of 0.731 and a significance value of 0.013 ( $p < 0.05$ ). This suggests that higher QRIS transaction activity is associated with improved operating margins in Islamic banks. The wider adoption of QRIS may enhance transaction efficiency, broaden access to digital payments, and lower transaction costs, all of which can contribute to stronger operational profitability. Its growing utilization also reflects how Islamic banks are increasingly integrating digital payment systems to reach wider customer segments and provide more convenient services.

On the other hand, mobile banking has a negative coefficient of -0.076 but does not significantly affect NOM, as reflected by a significance value of 0.480 ( $p > 0.05$ ). This indicates that changes in mobile banking transactions do not directly influence operating margin performance. A possible explanation is that mobile banking mainly functions as a service platform that improves customer convenience rather than directly generating revenue. In addition, NOM in Islamic banks is often influenced more by financing structures, profit-sharing mechanisms, cost efficiency, and asset allocation decisions than by transaction-based digital services.

Overall, the results suggest that different forms of financial technology contribute differently to Islamic bank profitability. QRIS shows a more direct role in improving operational margins, while mobile banking appears to offer indirect benefits related to customer engagement and service accessibility rather than immediate financial returns. This implies that Islamic banks need to prioritize digital innovations that provide clearer operational and financial benefits.

Table 8. Hypothesis Testing Results (t-test)

Bank Type	Variable	Statistical Test		Information	
		t	Sig.		
CONVENTIONAL	ROA	QRIS	3,085	0,003	H1a accepted
		Mobile Banking	-0,315	0,754	H1a rejected
	ROE	QRIS	2,684	0,010	H1b accepted
		Mobile Banking	0,440	0,662	H1b rejected
	NIM	QRIS	-1,241	0,221	H1c rejected
		Mobile Banking	-1,071	0,290	H1c rejected
ISLAMIC	ROA	QRIS	3,751	0,001	H2a accepted
		Mobile Banking	2,620	0,014	H2a accepted
	ROE	QRIS	2,606	0,014	H2b accepted
		Mobile Banking	-0,180	0,858	H2b rejected
	NOM	QRIS	2,654	0,013	H2c accepted
		Mobile Banking	-0,715	0,480	H2c rejected

Source: Processed Data (2026)

The results show that the impact of FinTech on profitability is not uniform across banking systems or profitability indicators. In conventional banks, QRIS has a positive and significant effect on ROA ( $p < 0.01$ ) and ROE ( $p < 0.05$ ), supporting H1a and H1b. However, mobile banking does not significantly affect either ROA or ROE, and neither QRIS nor mobile banking shows a significant relationship with NIM. This suggests that digital payment adoption contributes more to improving operational efficiency and overall returns than to strengthening intermediation margins. In conventional banks, FinTech appears to improve performance

mainly through higher transaction activity and cost efficiency rather than interest-based income generation.

A different pattern is found in Islamic banks. QRIS has a positive and significant effect on ROA, ROE, and NOM, supporting H2a, H2b, and H2c. Meanwhile, mobile banking only shows a significant effect on ROA and does not significantly influence ROE or NOM. These results indicate that different types of financial technology contribute to Islamic bank performance in different ways, with QRIS showing a broader and more consistent impact than mobile banking services.

The stronger role of QRIS suggests that digital transaction systems help Islamic banks improve asset utilization, operational efficiency, and overall profitability. Greater use of QRIS may expand customer access, increase transaction volume, and improve service delivery, while also strengthening the position of Islamic banks in Indonesia’s growing cashless payment ecosystem. By contrast, the limited effect of mobile banking on ROE and NOM indicates that its financial benefits may be more gradual. Although it improves customer convenience and accessibility, factors such as adoption rates and operational costs may reduce its short-term impact.

Overall, the findings confirm that FinTech does not affect all dimensions of profitability in the same way. Its impact depends on the type of digital service, the profitability measure being used, and the structural characteristics of each banking system. This reinforces the idea that digital transformation in banking creates different outcomes across institutional settings.

The F-test is conducted to examine whether the independent variables jointly influence the dependent variable. According to Sugiyono, (2017), a regression model is considered feasible if the significance value is less than 0.05.

Table 9. F-Test Results

Bank Type	Variable	F	Sig.	Decision
CONVENTIONAL	ROA	6,732	0,003	Model fit
	ROE	7,067	0,002	Model fit
	NIM	3,444	0,040	Model fit
ISLAMIC	ROA	21,153	0,000	Model fit
	ROE	4,509	0,019	Model fit
	NOM	5,216	0,012	Model fit

Source: Processed Data (2026)

The F-test results on Table 9 show that all regression models are statistically significant at the 5% level, indicating that QRIS and mobile banking jointly influence profitability in both conventional and Islamic banks. In conventional banks, the ROA, ROE, and NIM models each report significance values below 0.05, suggesting that the FinTech variables collectively contribute to explaining variations in profitability. A similar pattern is found in Islamic banks, where all models are also statistically significant, confirming that the regression models are appropriate for examining the relationship between FinTech adoption and financial performance. Although the effect of each individual variable varies across profitability indicators, the overall results suggest that digital financial adoption plays a meaningful role in banking performance. This reflects the increasing importance of digital transformation in supporting profitability growth, particularly in emerging economies such as Indonesia.

In addition, the coefficient of determination ( $R^2$ ) is used to assess how well the model explains variations in the dependent variable.

Table 10. Coefficient of Determination ( $R^2$ ) Results

Bank Type	Variable	R Square	Adjusted R Square
CONVENTIONAL	ROA	0,223	0,190
	ROE	0,231	0,198
	NIM	0,128	0,091
ISLAMIC	ROA	0,593	0,565
	ROE	0,215	0,167
	NOM	0,279	0,225

Source: Processed Data (2026)

Table 10 indicates that the explanatory power of the regression models varies across banking systems and profitability indicators. In conventional banks, the independent variables explain 22.3% of the variation in ROA, 23.1% in ROE, and 12.8% in NIM. These moderate values suggest that while FinTech adoption contributes to profitability, much of the variation remains influenced by other factors, including financial structure, risk management practices, and broader macroeconomic conditions.

In Islamic banks, the ROA model shows considerably stronger explanatory power, with an  $R^2$  value of 59.3%, while ROE and NOM account for 21.5% and 27.9% of the variation, respectively. The relatively high  $R^2$  in the ROA model indicates that transaction-based FinTech indicators are more closely linked to asset utilization in Islamic banks than in conventional banks.

This difference may be related to the structural characteristics of Islamic banking. Since Islamic banks operate under profit-sharing principles and often maintain more focused asset structures, improvements in transaction efficiency and customer access through digital services may have a more direct impact on asset productivity. By comparison, conventional banks tend to operate within more complex financial systems, where profitability is shaped by a broader set of factors beyond digital transactions.

Overall, the results suggest that the contribution of FinTech to profitability is highly dependent on institutional context. Although FinTech plays an important role, particularly in Islamic banks, the moderate  $R^2$  values in several models also indicate that banking performance is influenced by other factors not examined in this research.

### 3.2. DISCUSSION

The findings show that the impact of Financial Technology (FinTech) on bank profitability is not uniform, but differs across banking systems and profitability indicators. This suggests that digital financial transformation affects performance through various channels and is closely shaped by institutional characteristics, particularly in emerging economies.

The significant effect of QRIS on ROA and ROE in conventional banks indicates that digital payment systems improve profitability mainly through greater operational efficiency and higher transaction activity. By lowering transaction costs and improving payment integration, QRIS allows banks to increase transaction volume while maintaining relatively lower marginal costs (Sartika, 2022).

This finding is consistent with financial intermediation theory, which highlights efficiency in resource allocation, and signaling theory, where digital adoption reflects innovation and competitiveness (Arner et al., 2015). However, the insignificant effect on NIM suggests that digitalization does not directly strengthen interest-based income, but instead contributes more to operational performance and non-interest revenue.

The limited impact of mobile banking across most models highlights another important aspect of digital transformation. Mobile banking primarily serves as a service platform that improves accessibility, customer convenience, and retention rather than generating immediate profits. The substantial costs associated with system development, cybersecurity, and maintenance may reduce short-term financial gains. As a result, while mobile banking remains important for long-term competitiveness, its immediate contribution to profitability appears limited. This finding is in line with technology adoption perspectives such as the Technology Acceptance Model and Unified Theory of Acceptance and Use of Technology, which emphasize that digital benefits depend on user adoption and system maturity over time (Fitriani et al., 2023).

In Islamic banks, QRIS shows a stronger and more consistent impact across ROA, ROE, and NOM. This indicates that digital transaction systems may play a more important role in improving financial performance within Sharia-compliant institutions. One possible explanation is that Islamic banks tend to operate with more focused asset structures and profit-sharing mechanisms, allowing improvements in transaction efficiency and customer access to translate more directly into operational performance (Adji et al., 2023). In addition, many Islamic banks in emerging markets are still in the early stages of digital transformation, making the benefits of incremental digital adoption more visible than in conventional banks with more established digital ecosystems.

The findings related to NIM and NOM also highlight the limitations of FinTech in influencing intermediation margins. Digital adoption does not consistently improve NIM in conventional banks and only partially affects NOM in Islamic banks. This is understandable because margin-based profitability is largely influenced by financing structures, cost of funds, risk management, and asset allocation decisions. Transaction-based services such as QRIS and mobile banking are more closely linked to operational efficiency than to pricing decisions in lending or financing activities. Therefore, the limited effect on NIM and NOM reflects structural constraints rather than the failure of digital financial innovation.

Fifth, the stronger explanatory power found in the ROA model for Islamic banks highlights the importance of institutional context in determining how effective FinTech adoption can be. This suggests that transaction-based digital services are more directly associated with asset utilization in Islamic banks, which may be influenced by their relatively simpler financial structures and lower initial levels of digital maturity (Aulia & Shofiyah, 2023). By comparison, conventional banks tend to operate within more complex financial environments where profitability is shaped by a broader set of factors, making the contribution of FinTech variables relatively smaller.

Overall, the findings show that the economic effects of FinTech are not universal but depend heavily on context. In emerging economies such as Indonesia, digital financial transformation should not be treated as a one-size-fits-all strategy across different banking systems. Its effectiveness is closely linked to institutional readiness, operational characteristics, and the level of digital development within each institution (He et al., 2024).

From a policy perspective, these results suggest that regulators and financial institutions need more tailored digital strategies. Conventional banks may benefit from strengthening their digital ecosystems to improve efficiency and expand scale, while Islamic banks may require more focused support to accelerate digital adoption within Sharia-compliant frameworks. Such an approach is important to ensure that digital transformation supports not only profitability but also broader objectives such as financial inclusion and sustainable economic growth.

#### 4. CONCLUSION

This study examines how Financial Technology (FinTech), represented by QRIS and mobile banking transactions, influences the profitability of conventional and Islamic banks in Indonesia. The results show that the impact of FinTech is not uniform and varies across banking systems as well as profitability indicators. In conventional banks, QRIS significantly improves ROA and ROE, indicating that digital payment services help enhance transaction efficiency and overall financial performance, although no significant effect is found on NIM. In Islamic banks, the impact appears to be more consistent, particularly through QRIS, which significantly affects ROA, ROE, and NOM. This suggests that digital adoption plays a stronger role in supporting operational performance within Sharia banking institutions. In contrast, mobile banking shows more limited effects, indicating that its contribution to profitability may be indirect and likely develops over a longer period.

A key contribution of this research is its comparative perspective between conventional and Islamic banks within the broader context of digital financial transformation in an emerging economy. Previous studies have generally focused on only one banking model, while this research highlights how the effects of digital adoption can differ across institutional structures. The findings also show that transaction-based innovations such as QRIS tend to generate more immediate financial benefits than service-based platforms like mobile banking. These results offer practical insights for banks in designing digital strategies that create measurable financial value and provide direction for future research to incorporate broader FinTech indicators and more advanced econometric methods.

#### 5. REFERENCES

- Adji, Y. B., Muhammad, W. A., Akrobi, A. N. L., & Noerlina, N. (2023). Perkembangan Inovasi Fintech di Indonesia. *Business Economic, Communication, and Social Sciences Journal (BECOSS)*, 5(1), 47–58. <https://doi.org/10.21512/becossjournal.v5i1.8675>
- Arner, D. W., Barberis, J. N., & Buckley, R. P. (2015). The Evolution of Fintech: A New Post-Crisis Paradigm? *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.2676553>
- Aulia, H., & Shofiyah, I. (2023). Analisis Faktor-Faktor Yang Mempengaruhi Keputusan Nasabah Memilih Produk Pembiayaan (Studi Kasus Pada Kb Bukopin Syariah Kc Yogyakarta). *SEIKO: Journal of Management & Business*, 6(2), 432–443.
- Cahyono, Y., Tjahjono, B., Rochmatullah, M. R., & Wijayanto, K. (2023). The Influence of Company Growth, Profitability, Leverage, Financial Condition, and Previous Years' Audit Opinions on Going Concern Audit Opinion (Empirical Study of the Real Estate and Property Industry Listed on the Indonesian Stock Exchange for the 2019). *Riset Akuntansi Dan Keuangan Indonesia*, 8(2). <https://journals2.ums.ac.id/index.php/reaksi/article/view/3045>
- Christina, & Rochmatullah, M. R. (2025). Determinants Of Accounting Precaution: An Empirical Study of Consumer Non-Cyclical Sector Companies in Indonesia. *Edunomika*, 44(1), 312–322.
- Fauzi, M. Z., & Rochmatullah, M. R. (2024). Analysis of Stock Performance in Technology Sector Companies Listed on Idx 2021-2022: Indonesia Point of View. *Transekonomika: Akuntansi, Bisnis Dan Keuangan*, 4(5), 621–635. <https://doi.org/10.55047/transekonomika.v4i5.737>
- Fitriani, Nasrina, N., & Sunandar, H. (2023). Perkembangan, Pengawasan Dan Pengendalian Bank Syariah Di Indonesia. *J-EBI: Jurnal Ekonomi Dan Bisnis Islam*, 2(1), 81–95.
- He, Z., Ge, F., Ban, S., Du, A. M., & Sheehan, M. (2024). Fintech's influence on green credit provision: Empirical evidence from China's listed banking sector. *Research in International Business and Finance*, 70. <https://doi.org/10.1016/j.ribaf.2024.102394>
- Heizer, J., Render, B., & Munson, C. (2020). *Operations Management : Sustainability and Supply Chain Management*. Pearson.

- Jannah, M., & Rochmatullah, M. R. (2024). Literature Review Study: Factors That Influence Customer Satisfaction-Muphimin et.al Literature Review Study: Factors That Influence Customer Satisfaction. *Jurnal Ekonomi*, 13(03), 2024. <https://doi.org/10.54209/ekonomi.v13i03>
- Mukhibad, H., Rochmatullah, M. R., Warsina, W., Rahmawati, R., & Setiawan, D. (2020). Islamic corporate governance and performance based on maqasid sharia index– study in Indonesia. *Jurnal Siasat Bisnis*, 24(2), 114–126. <https://doi.org/10.20885/jsb.vol24.iss2.art2>
- Pratama, M. S. (2021). Pengaruh Bopo, Ldr, Car, Dan Npl Terhadapprofitabilitas Sektor Perbankan Indonesia. *I-FINANCE: A Research Journal on Islamic Finance*, 7(1), 43–55.
- Ramadhani, F., & Rochmatullah, M. R. (2024). Pengaruh Solvabilitas, Profitabilitas, dan Financial Distress terhadap Audit Delay. *Management Studies and Entrepreneurship Journal*, 5 (2), 5441–5454. *Management Studies and Entrepreneurship Journal*, 5(2), 5441=5454.
- Rochmatullah, M. R. (2018). Determinan Profitabilitas Bank Umum Syariah Di Indonesia : Perspektiv Rasio. *Bisnis & Manajemen*, 18(2), 87–102.
- Rochmatullah, M. R., Rafli Rahmad Rifani, & Kurnia Riyadi. (2024). The Improvements Of Accounting Proficiency Among Female Farmers In Wironanggan Village, Gatak District, Sukoharjo Region. *Jurnal BUDIMAS*, 07(01), 1–8.
- Sartika, P. S. (2022). *Implementasi Aplikasi Quick Response Code Indonesian Standard (Qris) Pada Nasabah Bank Syariah Indonesia Di Aceh (Studi Pada Bank Syariah Indonesia Kantor Cabang Daud Beureueh 1)*. Universitas Islam Negeri Ar-Raniry Banda Aceh.
- Setyawati, A. A., & Rochmatullah, M. R. (2025). Impact of Green Accounting and Environmental Performance on Financial Performance in the F&B Sector. *Indonesian Interdisciplinary Journal of Sharia Economics (IJSE)*, 8(2), 4866–4881. <https://www.e-journal.uac.ac.id/index.php/ijse/article/view/6859/2634>
- Sugiyono. (2017). *Metode penelitian bisnis: pendekatan kuantitatif, kualitatif, kombinasi, dan R&D*. CV. Alfabeta.
- Tias, V. A. H., & Rochmatullah, M. R. (2023). Determinants of Regional Own Revenue Gain in Regencies/Cities in Central Java 2018-2020. *International Journal of Business Management and Technology*, 7(2), 568–576.
- Wahyudi, S. (2019). Teori Inovasi: Sebuah Tinjauan Pustaka. *Jurnal Valuta*, 5(2), 93–101.