

## The Influence of Third-Party Fund, Total Assets, and BI7DRR Mobile Banking Transaction Values in Indonesia Islamic Banks

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**Abstract:** The rapid digital transformation in Indonesia's banking sector has shifted financial transaction patterns toward mobile-based services. This study aims to analyze the effects of Third-Party Funds (DPK), Total Assets, and the BI 7-Day Reverse Repo Rate (BI7DRR) on the value of mobile banking transactions in Islamic banking in Indonesia. The study employs monthly secondary data covering the period from July 2020 to June 2025, consisting of 60 observations, and applies the Vector Error Correction Model (VECM) to examine both short-run and long-run relationships among variables. The Granger causality test results indicate the presence of unidirectional causality from DPK, total assets, and BI7DRR to the value of mobile banking transactions. The Johansen cointegration test confirms the existence of a long-run equilibrium relationship among the variables. The VECM estimation shows that, in the long run, total assets have a positive and significant effect on the value of mobile banking transactions, while DPK and BI7DRR do not have a significant effect. In the short run, the error correction coefficient ( $\text{CointEq1} = -0.620366$ ) indicates an adjustment speed toward equilibrium of 62%. The findings suggest that the expansion of Islamic banking assets plays a crucial role in driving digital transaction activity, while changes in monetary policy (BI7DRR) tend to influence transaction behavior primarily in the short run. These results provide implications for strengthening digital financial inclusion strategies through liquidity management and the enhancement of Islamic banking asset capacity.

**Keywords:** *Islamic banking, mobile banking transactions, third-party funds, total assets, BI7DRR, VECM*

### Introduction

The development of information technology-based products has had a significant impact on banking and financial institutions in the provision of services to customers. As a result, many banking businesses have adopted technology-based services to keep pace with these developments (Widyaputri & Gunanto, 2023). This revolution has not only reformed banking business models but has also shifted consumer behavior from physical transactions to application-based digital services. The World Bank (2025) reports that globally, 82% of adults with bank accounts make digital payments. Meanwhile, in Indonesia, the Governor of Bank Indonesia, Perry Warjiyo, stated that the digitalization trend will continue to grow rapidly, supported by the expansion of an increasingly inclusive digital economic and financial ecosystem (Hidranto, 2024). Mobile banking services represent one form of digital transformation undertaken by banks to support inclusivity and operational efficiency. Figure 1 shows the upward trend in the value of mobile banking transactions in Indonesia over more than five years. The transaction value, which was less than IDR 5,000 trillion in 2018, surged significantly to more than IDR 22,000 trillion in 2024. This sharp increase indicates rising public trust in digital banking services, which are perceived as more efficient, secure, and easily accessible.

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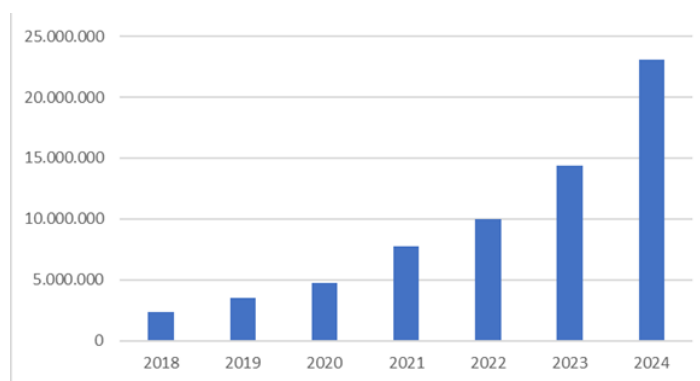


Figure 1. Value of Mobile Banking Transactions in Indonesia (IDR Billion)  
Source: SPIP Bank Indonesia

In an effort to ensure the security and operational stability of digital services, Bank Indonesia has established specific policies regarding risk management and governance of technology-based banking activities, including mobile banking services. These provisions are stipulated in Bank Indonesia Regulation Number 11/25/PBI/2009 of 2009, concerning Amendments to Bank Indonesia Regulation Number 5/8/PBI/2003 on the Implementation of Risk Management for Commercial Banks, which governs the application of risk management in providing banking services through electronic systems. As a payment system authority, Bank Indonesia has also formulated the Indonesian Payment System Blueprint (BSPI) 2030 to respond to the dynamic construction of the payment system.

Although digital transformation in the financial sector is developing rapidly, its effectiveness and growth direction still depend on internal banking dynamics and external macroeconomic factors. From the perspective of bank characteristics, the capacity for fund mobilization and the scale of banking assets in providing the capability to finance and absorb digital technology, expand users, and increase transaction intensity demonstrate substantial value. In 2024, the aggregate amount of third-party funds (DPK) in conventional banks and Islamic banks reached IDR 9,573,997 billion, increasing from IDR 9,127,178 billion in the previous year. This highlights its relevance as a fundamental variable in banking performance and digital strategy (OJK, 2024).

Research findings indicate that the adoption of banking technology or digital banking improves bank efficiency and performance, with bank assets strengthening this effect (OJK, 2018; Hermuningsih et al., 2023). This suggests that banks with larger asset sizes have greater potential to gain benefits; in this context, high asset values can serve as a competitive driver for banks to expand their digital services (Barquin et al., 2019). From a macroeconomic policy perspective, a high BI7DRR ratio as the benchmark interest rate in Indonesia affects customer deposit levels. The higher the interest rate, the lower the amount of money circulating in society (Makmur et al., 2023). According to Bank Indonesia (2021), BI7DRR shows strong transmission to deposit interest rates and the prime lending rate, thereby influencing the cost of funds, service pricing, and banking strategies, which may ultimately affect the intensity of transactions through digital channels.

Amid the growing body of literature on the development of financial digitalization in Indonesia, this study positions its contribution by examining the effects of Islamic banking third-party funds (DPK), Islamic banking assets, and the BI7DRR ratio on the value of mobile banking transactions in Indonesia.

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## Literature Review

### Third-Party Funds (TPF) of Islamic Banks and Mobile Banking Transaction Volume

Recent international studies indicate that digital banking, particularly mobile banking, has become increasingly associated with customers' deposit behavior and banks' capacity to mobilize funds. Wu, Yu, and Lv (2023), in *Finance Research Letters*, examined "Digital Banking and Deposit: Substitution Effect of Mobile Applications on Web Services" and found that the use of mobile banking applications significantly influences the scale and dynamics of bank deposits. As customers increasingly shift from web-based platforms to mobile applications, banks become more capable of attracting and retaining deposits, although a substitution effect between digital channels (web versus mobile) also emerges.

In Indonesia, Jikrillah and Fadah (2022) found that digital banking, with mobile banking as its primary component, has a positive effect on banks' financial performance, as reflected in Return on Assets (ROA), Net Interest Margin (NIM), and Operating Expenses to Operating Income (BOPO). Their findings also suggest that investment in digital banking channels contributes to greater operational efficiency and a stronger deposit base. Similar evidence has been reported by other studies. Wardana and Prasetyo (2023) demonstrated that internet banking and mobile banking significantly improve the profitability of Indonesian banks, while Yoewono and Ananto (2024) found that the utilization of mobile banking applications is positively associated with enhanced bank performance and customer retention.

From the Islamic banking perspective, studies on branchless banking in the Indonesian Islamic banking industry have shown that agency banking services and branchless delivery channels, as part of the digital transformation process, improve profitability through increases in Third-Party Funds (TPF) and fee-based income. These findings indicate that innovations in service delivery channels initially strengthen fund mobilization before their effects are reflected in profitability. Conceptually, the existing literature supports the view that the intensity of digital channel utilization, as reflected by mobile banking transaction volume, is closely related to banks' ability, including Islamic banks, to attract and retain Third-Party Funds, particularly low-cost funds derived from savings and demand deposits.

### Islamic Bank Assets

Islamic bank assets are an important indicator reflecting a bank's capacity to provide financing and develop innovative financial services (Nada & Mugiyati, 2024). Rapid asset growth, driven by effective asset management and the expansion of digital services such as mobile banking, positively influences transaction volume (Nada & Mugiyati, 2024). Several studies have shown that banks with larger asset bases tend to possess stronger technological capabilities and broader customer outreach, leading to a significant increase in mobile banking transactions. Furthermore, the integration of digital banking services accelerates financial inclusion, which plays a crucial role in enhancing customers' digital transaction activities within Islamic banks.

Previous studies have consistently identified total assets as a key indicator of the development and strength of the Islamic banking industry. Prasetyo and Susetyohadi (2022) examined asset growth in the Indonesian Islamic banking sector by incorporating internal factors, including the Capital Adequacy Ratio (CAR), Financing-to-Deposit Ratio (FDR), Non-Performing Financing (NPF), Return on Assets (ROA), and Third-Party Funds (TPF), while using the BI Rate as a moderating variable. Their findings indicate that banks' internal factors—namely funding, financing, asset quality, and capitalization—have a significant effect on asset growth, whereas the BI Rate strengthens these relationships. Similarly, Dermawan et al. (2021) highlighted that although the total assets of Islamic banks have continued to increase, the rate of asset growth has gradually slowed. Using a predictive assessment approach, they identified the dominant factors driving asset growth and emphasized that total assets serve as an important indicator of the contribution of Islamic banking to the national banking system as well as the economies of scale achieved by banks.

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Other studies investigating the determinants of asset growth in Islamic commercial banks have found that core capital, capital expenditure, branch network size, labor costs, and educational expenditures significantly influence asset growth. These findings suggest that network expansion, infrastructure investment, and human capital development are essential prerequisites for increasing the asset base of Islamic banks. From a regional perspective, Hawariyuni and Suprayitno (2023) demonstrated that, among Islamic banks in Indonesia, Malaysia, and Brunei, asset growth, bank size, and asset structure significantly affect capital structure, confirming that asset dynamics are closely linked to financing decisions and the capital resilience of Islamic banks.

### **BI-7 Day Reverse Repo Rate (BI-7DRR) and Its Effect on Mobile Banking Transaction Volume**

The BI-7 Day Reverse Repo Rate (BI-7DRR) is the primary monetary policy instrument used by Bank Indonesia to influence market interest rates and the behavior of savers and borrowers (Sukirman & Bachtiar, 2024). Changes in the BI-7DRR may alter customers' preferences for deposit and financing products, which can subsequently be reflected in the volume of digital banking transactions, particularly mobile banking (Sukirman & Bachtiar, 2024). Although several studies suggest that the BI-7DRR affects transaction volume only indirectly, Islamic banks generally respond to changes in the policy rate by adjusting their marketing strategies and enhancing digital banking services to maintain the attractiveness of their financial products. This perspective is supported by the view that the policy interest rate serves as an important indicator in predicting banking transaction behavior, including mobile banking transactions.

The international literature examining the interaction between monetary policy and the digitalization of financial services provides further insights into how the BI-7DRR may influence mobile banking transaction volume. Huang et al. (2024), in an IMF Working Paper, found that the development of electronic money (e-money) strengthens the transmission of monetary policy. As e-money adoption increases, money market rates, deposit rates, and lending rates become more responsive to changes in the policy interest rate, thereby improving financial intermediation efficiency. Similarly, Liang, Sampaio, and Sarkisyan (2024), using administrative data from Brazil's Pix instant payment system, demonstrated that the adoption of digital payments reduces banks' market power, making them more responsive to policy rate adjustments, particularly in setting deposit and lending rates.

Research conducted by the European Central Bank (ECB) and the European Systemic Risk Board (ESRB) on deposit flows during periods of monetary tightening further indicates that highly digitalized banks experience greater fluctuations in deposits. A higher degree of digitalization increases customers' sensitivity to changes in interest rates, resulting in more volatile fund flows. Likewise, Erel et al. (2023), in their NBER Working Paper entitled *Monetary Policy Transmission Through Online Banks*, found that a 100-basis-point increase in the U.S. policy interest rate led online banks to raise deposit rates more aggressively than traditional banks, thereby attracting greater deposit inflows during periods of monetary tightening. From the perspective of transaction behavior, studies by the Bank for International Settlements (BIS) and the International Monetary Fund (IMF) indicate that short-term interest rate shocks have a rapid and contractionary effect on credit card spending. Furthermore, research on e-money and cashless payments in Indonesia has shown that electronic money transactions, card payments, and interest rate variables significantly influence the velocity of money and the money supply.

### **Mobile Banking Usage**

Previous studies generally indicate that mobile banking usage is determined by a combination of technological, psychological, social, and religious factors, and is closely associated with customer satisfaction and loyalty. In the context of Islamic banking, Suhartanto et al. (2020), who examined Islamic bank customers in West Java, found that perceived usefulness, perceived ease of use, religiosity, and customer satisfaction significantly influence the adoption of mobile banking. Their findings suggest that

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although a mobile banking application must be useful and easy to use, these attributes alone are insufficient without considering customers' religious values.

Similarly, Nada and Setyono (2023) reinforced these findings among millennial customers of Islamic banks in Indonesia by demonstrating that religiosity and trust mediate the relationship between the constructs of the Technology Acceptance Model (TAM) and the intention to use Islamic mobile banking. Furthermore, Sudarsono et al. (2022), in a cross-country study, found that among Muslim customers, religiosity exerts the strongest influence on the intention to adopt mobile banking, exceeding the effects of compatibility, observability, and awareness. Consequently, Islamic banks should ensure that their mobile banking applications comply with Sharia principles in both design and functionality.

In Pakistan, several studies have similarly reported that perceived ease of use, perceived usefulness, social influence, Sharia compliance, and trust significantly affect customers' intention to adopt Islamic mobile banking. Collectively, these findings consistently suggest that the use of mobile banking, particularly in Islamic banking, depends not only on the technical quality of the application but also on users' values, beliefs, and confidence in the service (Shafiq et al., 2024)

## Methods

This study employs Vector Autoregression (VAR) and Vector Error Correction Model (VECM) analysis. The VAR model is a simple model with a minimal number of variables, designed for stationary variables that do not contain trends. Meanwhile, the VECM is a model used to analyze cointegrated and non-stationary time series data; therefore, it is often referred to as a restricted form of VAR (Sinay, 2014). Data processing and analysis were conducted using E-Views 12 software. The stages of data processing using the VAR/VECM model are illustrated in Figure 2:

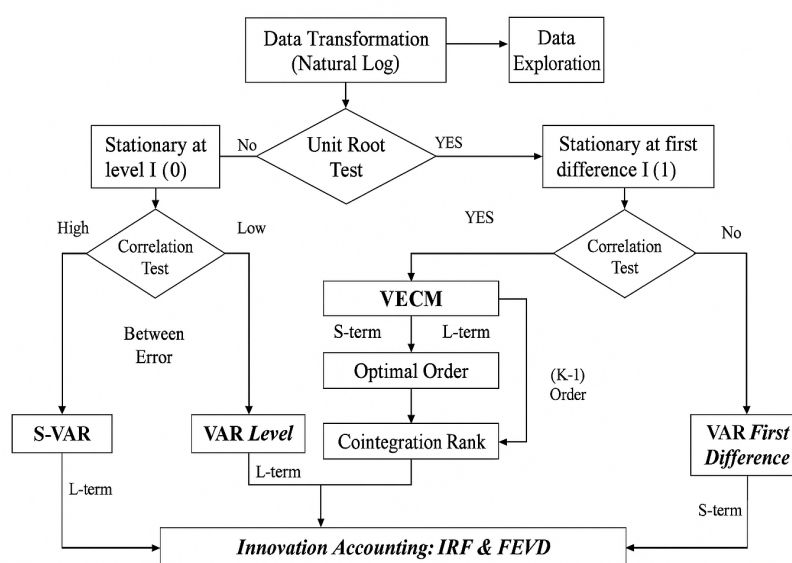


Figure 2. Stages of Data Analysis  
Source: Rohmana & Utami (2023)

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The stages of data analysis using the VAR/VECM model based on Rohmana & Utami (2023) are as follows: first, the time series data stationarity test. Second, the VAR model stability test. Third, the optimal lag length test. Fourth, the cointegration test. Fifth, the Granger causality test. Sixth, estimation of the Vector Error Correction Model (VECM). Seventh, the Impulse Response Function (IRF) test. Eighth, the Forecast Error Variance Decomposition (FEVD) test. The model used in this study can be expressed as follows:

$$\Delta LNMB = \alpha + \sum_{i=1}^p \beta_{1i} \Delta LNDPK_{t-i} + \sum_{i=1}^p \beta_{2i} \Delta LNASET_{t-i} + \sum_{i=1}^p \beta_{3i} \Delta BI7DRR_{t-i} + \varepsilon_t$$

### Hypothesis

Based on the theoretical basis and review of previous research, the hypotheses proposed in this study are as follows:

H1: Third-Party Funds (TPF) have a positive and significant effect on the mobile banking transaction volume of Islamic banks.

H2: Islamic bank assets have a positive and significant effect on the mobile banking transaction volume of Islamic banks.

H3: The BI-7 Day Reverse Repo Rate (BI-7DRR) has a significant effect on the mobile banking transaction volume of Islamic banks.

## Result and Discussion

### Stationary Test

The stationarity test in VAR uses the unit root test with the Augmented Dickey-Fuller Test (ADF Test) and the Phillip-Perron Test (PP).

Table : 1 Table Stationary Test

| Variables | ADF Test  |                  | PP Test   |                  |
|-----------|-----------|------------------|-----------|------------------|
|           | Level     | First Difference | Level     | First Difference |
| LNDPK     | -1.731675 | -7.794642***     | -2.224861 | -8.468112***     |
| LNASET    | -1.530638 | -8.551911***     | -1.959394 | -10.35785***     |
| BI7DRR    | -1.057191 | -3.863874***     | -0.938108 | -3.815615***     |
| LNMB      | -1.784858 | -7.424275***     | -2.555872 | -51.89877***     |

Notes: significant at: \*\*\*1, \*\* 5, \*10 percent levels

Based on the results of the root test, all variables used in this study consisting of LNDPK, LNASET, BI7DRR, and LNMB are stationary at the first difference and significant at the 1% level (\*\*\*), meaning that the model used in this study is the VECM (Vector Error Correction Model) model.

### VAR Stability Test

A stability test (VAR Stability Test) is performed to ensure that the estimated Vector Autoregression (VAR) model meets the basic assumptions of system dynamic stability. A stable VAR model is one where the most fundamental root value has a modulus <1 and all roots of the characteristic polynomial are within the unit circle.

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Table 2: Table VAR Stability Test

| Root                  | Modulus  |
|-----------------------|----------|
| -0.475804 - 0.766613i | 0.902266 |
| -0.475804 + 0.766613i | 0.902266 |
| 0.476693 - 0.645272i  | 0.802254 |
| 0.476693 + 0.645272i  | 0.802254 |
| -0.718226 - 0.312480i | 0.783258 |
| -0.718226 + 0.312480i | 0.783258 |
| -0.019846 - 0.768962i | 0.769218 |
| -0.019846 + 0.768962i | 0.769218 |
| 0.738689 - 0.151226i  | 0.754010 |
| 0.738689 + 0.151226i  | 0.754010 |
| -0.400852 - 0.570952i | 0.697616 |
| -0.400852 + 0.570952i | 0.697616 |
| 0.331767 - 0.603145i  | 0.688370 |
| 0.331767 + 0.603145i  | 0.688370 |
| -0.678179             | 0.678179 |
| -0.106326             | 0.106326 |

Sources: Processed by researchers

The VAR Stability Condition Check results show that all roots of the AR characteristic polynomial have a modulus less than 1. This means that no roots lie outside the unit circle. This condition indicates that the VAR model used is stable and can be used for further analysis. This stability is important because it ensures that model estimates do not produce explosive values and that the long-term analysis results are reliable. Therefore, the VAR model used in this study meets the stability requirements.

Inverse Roots of AR Characteristic Polynomial

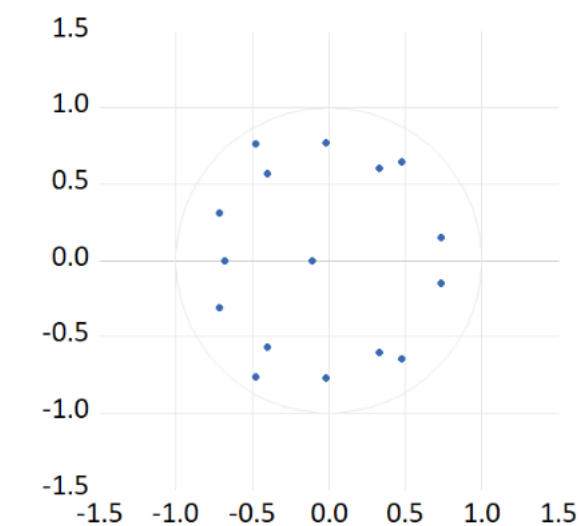


Figure 3: Inverse Roots of AR Characteristic Polynomial

Sources: Processed by researchers

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A modulus value less than one confirms that no roots lie outside the unit circle, as also shown by the graph of the inverse roots of the AR characteristic polynomial, where all points (roots) lie inside the unit circle.

### Optimal Lag Test

Determination of the optimal lag length is seen from the minimum Akaike Information Criteria (AIC) value.

Table: 3 Table Optimal Lag Test

| Lag | AIC        |
|-----|------------|
| 0   | -11.13910  |
| 1   | -11.63291  |
| 2   | -11.87313* |
| 3   | -11.83441  |
| 4   | -11.77667  |

Indicates: \*indicates optimal lag

Based on the AIC value, this model is stable at lag 2 with a minimum value of -11.87313.

### Cointegration Test

The cointegration test is used to determine whether there is long-term equilibrium between variables, that is, whether there is similar movement despite differences between the variables in the study. The cointegration test in this study was conducted using the Johansen's Cointegration Test. If the probability value is  $<0.05$ , it indicates a cointegration equation, indicating long-term equilibrium.

Table 4. Table Cointegration Test

| Hypothesized<br>No. of CE(s) | Eigenvalue | Trace<br>Statistic | 0,05<br>critical value | Prob.** |
|------------------------------|------------|--------------------|------------------------|---------|
| None*                        | 0.601660   | 100.1016           | 47.85613               | 0.0000  |
| At most 1*                   | 0.389789   | 48.55646           | 29.79707               | 0.0001  |
| At most 2*                   | 0.216153   | 20.89519           | 15.49471               | 0.0070  |
| At most 3*                   | 0.121542   | 7.256895           | 3.841465               | 0.0071  |

Notes: \*The cointegration test equations at the 0.05 level

Based on the results of the integration test, there are two hypotheses with probabilities  $<0.05$ . This means that although some variables have different data, there are cointegration equations that are in long-run equilibrium. Therefore, the model used in this study is the VECM model.

### Granger Causality Test

Table: 5 Table Granger Causality Test

| Null Hypothesis                    | F-<br>Statistic | Probability | Causality     |
|------------------------------------|-----------------|-------------|---------------|
| LNDPK does not Granger Cause LNMB  | 6.80890         | 0.0023      | Causality     |
| LNMB does not Granger Cause LNDPK  | 0.52953         | 0.5920      | Non Causality |
| LNASET does not Granger Cause LNMB | 7.19291         | 0.0017      | Causality     |
| LNMB does not Granger Cause LNASET | 0.82650         | 0.4431      | Non Causality |
| BI7DRR does not Granger Cause LNMB | 5.64576         | 0.0060      | Causality     |
| LNMB does not Granger Cause BI7DRR | 0.17943         | 0.8363      | Non Causality |

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|                                      |         |        |               |
|--------------------------------------|---------|--------|---------------|
| LNASET does not Granger Cause LNDPK  | 1.76069 | 0.1818 | Non Causality |
| LNDPK does not Granger Cause LNASET  | 0.47522 | 0.6244 | Non Causality |
| BI7DRR does not Granger Cause LNDPK  | 0.76112 | 0.4722 | Non Causality |
| LNDPK does not Granger Cause BI7DRR  | 1.57016 | 0.2175 | Non Causality |
| BI7DRR does not Granger Cause LNASET | 0.60901 | 0.5476 | Non Causality |
| LNASET does not Granger Cause BI7DRR | 1.85746 | 0.1661 | Non Causality |

Sources: Processed by researchers

The Granger causality test aims to determine whether a variable can be used to predict another variable.

- If prob  $< 0.05$ , then there is a causal relationship.
- If prob  $> 0.05$ , then there is no causal relationship.

LNDPK  $\leftrightarrow$  LNMB

- Prob LNDPK  $\rightarrow$  LNMB = 0.0023 ( $< 0.05$ )  $\rightarrow$  there is causality.
- Prob LNMB  $\rightarrow$  LNDPK = 0.5920 ( $> 0.05$ )  $\rightarrow$  there is no causality. Conclusion: There is a one-way causality from LNDPK to LNMB.

LNASET  $\leftrightarrow$  LNMB

- Prob LNASET  $\rightarrow$  LNMB = 0.0017 ( $< 0.05$ )  $\rightarrow$  there is causality.
- Prob LNMB  $\rightarrow$  LNASET = 0.4431 ( $> 0.05$ )  $\rightarrow$  no causality. Conclusion: There is a one-way causality from LNASET to LNMB.

BI7DRR  $\leftrightarrow$  LNMB

- Prob BI7DRR  $\rightarrow$  LNMB = 0.0060 ( $< 0.05$ )  $\rightarrow$  there is causality.
- Prob LNMB  $\rightarrow$  BI7DRR = 0.8363 ( $> 0.05$ )  $\rightarrow$  no causality. Conclusion: There is a one-way causality from BI7DRR to LNMB.

LNASET  $\leftrightarrow$  LNDPK

- Prob LNASET  $\rightarrow$  LNDPK = 0.1818 ( $> 0.05$ )  $\rightarrow$  no causality.
- LNDPK  $\rightarrow$  LNASET probability = 0.6244 ( $> 0.05$ )  $\rightarrow$  no causality. Conclusion: No causal relationship.

BI7DRR  $\leftrightarrow$  LNDPK

- BI7DRR  $\rightarrow$  LNDPK probability = 0.4722 ( $> 0.05$ )  $\rightarrow$  no causality.
- LNDPK  $\rightarrow$  BI7DRR probability = 0.2175 ( $> 0.05$ )  $\rightarrow$  no causality. Conclusion: No causal relationship.

BI7DRR  $\leftrightarrow$  LNASET

- BI7DRR  $\rightarrow$  LNASET probability = 0.5476 ( $> 0.05$ )  $\rightarrow$  no causality.
- Prob LNASET  $\rightarrow$  BI7DRR = 0.1661 ( $> 0.05$ )  $\rightarrow$  no causality. Conclusion: There is no causal relationship

## Vector Error Correction Model (VECM)

Table 6: Table VECM

| Long Term Test  |             |             |
|-----------------|-------------|-------------|
| Variable        | Coefficient | T-Statistic |
| BI7DRR (-1)     | -0.001504   | -0.02128    |
| LNASET (-1)     | -1.238626   | -0.26246    |
| LNDPK (-1)      | -1.841350   | -0.37787    |
| Short Term Test |             |             |
| Variable        | Coefficient | T-Statistic |
| CointEq1        | -0.620366   | -2.05703    |
| D(LNMB(-1))     | -0.244748   | -0.99510    |

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|               |           |          |
|---------------|-----------|----------|
| D(LNMB(-2))   | -0.071980 | -0.44309 |
| D(LNDPK(-1))  | -5.437894 | -1.07318 |
| D(LNDPK(-2))  | -4.639652 | -0.95659 |
| D(LNASET(-1)) | 0.704718  | 0.14700  |
| D(LNASET(-2)) | 3.516513  | 0.75593  |
| D(BI7DRR(-1)) | -0.531064 | -1.20344 |
| D(BI7DRR(-2)) | 0.491724  | 1.12725  |

Sources: Processed by researchers

### Long Term Test

Based on 60 observations with a significance level of  $\alpha = 0.05$ , the t-table value was 2.003241. When the calculated t-value is greater than the t-table value, the long-term relationship is significant, and vice versa.

- BI7DRR (-1):  $-1.02128 < 2.003241$ , meaning that in the long run, BI7DRR has no significant effect on LNMB.
- LNASET (-1):  $-0.26246 < 2.003241$ , meaning that in the long run, LNASET has a significant effect on LNMB.
- LNDPK (-1):  $-0.37787 < 2.003241$ , meaning that in the long run, LNDPK has no significant effect on LNMB

### Short Term Test

In the short term, Cointeq1  $-0.620366$  with a calculated t value  $> t$  table ( $-2.05703 > 2.003241$ ). This means that although the characteristics of the data in this study vary, their strength tends to converge in the long term/equilibrium by 62%.

### Impulse Response Function Test

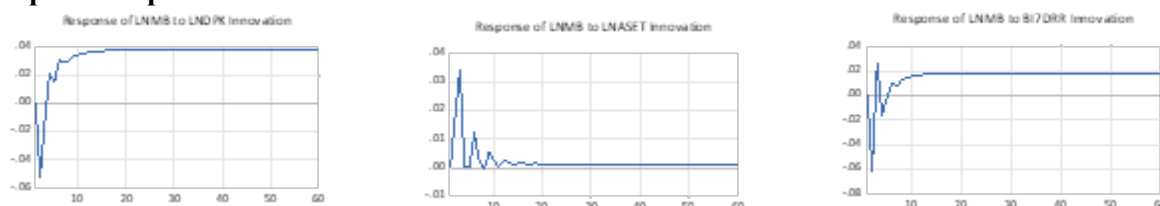


Figure 4: Impulse-Response Function Test

Sources: Processed by researchers

In conclusion, in this study, with a horizon length of 60, the impulse response of LNDPK to LNMB was stable in the 17th month, LNASET to LNMB was stable in the 19th month, and BI7DRR to LNMB was stable in the 12th month.

### Forecast Error Variance Decomposition (FEVD) Results

In conclusion, in this study, with a horizon length of 60, the impulse response of LNDPK to LNMB was stable in the 17th month, LNASET to LNMB was stable in the 19th month, and BI7DRR to LNMB was stable in the 12th month.

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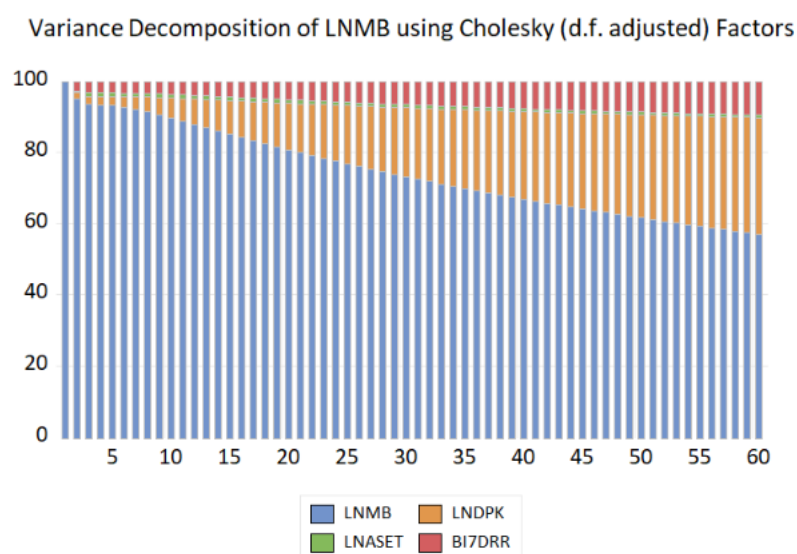


Figure 5: FEVD Test

Sources: Processed by Researchers

Based on the FEVD results, in the initial period, the LNMB variation was entirely explained by its own shocks. However, over time, the contribution of external factors also increased. Gradually, the proportion of variance explained by the LNDBK increased significantly, reaching over 30% in the 60th period. In contrast, the contribution of the LNASET was relatively small and stable at below 1% throughout the period. Meanwhile, the BI7DRR showed a significant increase, from around 3% at the beginning of the period to nearly 10% by the end.

## Conclusion

This study examines the short-run and long-run dynamics between Third-Party Funds (DPK), total assets, and the BI 7-Day Reverse Repo Rate (BI7DRR) on the value of mobile banking transactions in Islamic banking in Indonesia during the period from July 2020 to June 2025. Using the Vector Error Correction Model (VECM) approach, the results indicate the existence of significant cointegration and unidirectional causality from DPK, total assets, and BI7DRR to the value of mobile banking transactions. These findings suggest that both internal financial institution factors and monetary policy play important roles in shaping digital transaction behavior in the Islamic banking sector.

The Johansen cointegration test confirms the presence of a long-run equilibrium among the three variables, while the Granger causality test shows that changes in DPK, total assets, and BI7DRR can influence mobile banking transaction activity. Long-run estimation results indicate that total assets have a positive and significant effect on the value of digital transactions, implying that asset growth enhances the technological capacity and operational efficiency of Islamic banks in providing digital services. In contrast, DPK and BI7DRR do not exhibit significant long-run effects, indicating that the impacts of liquidity and monetary policy are temporary and more oriented toward short-term behavior. The significant error correction coefficient ( $CointEq1 = -0.620366$ ) indicates an adjustment speed of 62% toward long-run equilibrium, reflecting the stability of the Islamic banking system over time.

These findings provide an empirical contribution to the Islamic finance literature by emphasizing that asset capacity is a key structural driver of digital transaction growth, while monetary policy acts as a short-term stabilizing factor. From a policy perspective, the results highlight the importance of strategies aimed at strengthening productive assets, investing in digital infrastructure, and optimizing liquidity management to enhance the competitiveness of Islamic banking in the era of digital transformation. Furthermore, synergy among monetary authorities, regulators, and Islamic financial institutions is required to create a resilient, inclusive, and sustainable digital financial ecosystem that supports national digital economic development and financial inclusion objectives.

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