

The influence of some fintech service on the performance of Islamic bank in Jordan

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CHRONICLE

ABSTRACT

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Islamic banking across the developing countries may undoubtedly become more prevalent thanks to financial technology, making it more competitive in the financial sector. The current study's goal is to extensively address fintech on Islamic banks and to examine the effect of fintech Services upon Islamic banking financial performance around Jordan. The investigation utilized a quantitative-descriptive survey approach. The study utilized annual data (panel data) which were acquired via financial institutions figures of the annual statements from the Jordan's Islamic Bank (JIB) registered with Amman Stock Exchange from 2017 to 2021. This investigation found Fintech services, such as internet banking, mobile banking, crowdfunding, and automated teller machines had a substantial effect on JIB's financial performance. The positive beta value suggests that there were favorable relationships among JIB's financial success from 2017 to 2021 on Fintech services. Finally, the study recommends that JIB increase its efforts to inform the public concerning Islamic banking services.

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1. Introduction

During the past few years, financial technology (fintech) has remained the sector of finance and technology with the quickest rate of growth (Alam et al., 2019; Baber, 2020). Fintech describes the financial answer to financial problems supported by revolutionary information technology. Fintech, as used by the National Digital Research Center (NDRC), is a word for advancements within the field of financial service. Through optimizing utilization of technology within different financial facilities, the main goal is to help the government promote financial inclusion. Using more openness, lower costs, the elimination of middlemen, and simpler ways of getting financial data, fintech has the potential to enhance the standard of human existence (Zavolokina et al., 2016). According to Salambasis and Mention (2018), fintech was created to reach communities which financial services do not currently serve. Fintech originally started as a peer-to-peer borrowing platform called Zopa in the UK. Now, Zopa recognized a chance to offer financial services within the form of accessible products with affordable rates of interest. The financing circle came next, providing over 40,000 loans for small enterprises. Several nations, including America along with China, started utilizing fintech once it was successful in Europe. Presently, peer-to-peer lending within China is the largest worldwide (Vives., 2017), with China experiencing exceptional digital financial advancement (Zhou et al., 2018). Majority of Chinese banks invest in a variety of industries, including blockchain, big data, and artificial intelligence, with an emphasis upon digital and fintech services.

After the widespread adoption of digitization, fintech significantly increased. With the expansion of digital creativity, there have been more advancements made within the financial industry, including advancements in financial literacy and related schooling, banking, and investment. The fintech sector has grown significantly since 2011 up until this moment (Hidajat, 2020).

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Fintech is posing a serious threat to the established banking and finance industry because of its comparable yet disrupting financial services (Daryanto et al., 2020; Vives, 2017). The Islamic banking and financial sectors are also under a great deal of pressure, partly because Islamic institutions charge more fees than ordinary banks do. The world of finance has unavoidably been encircled by fintech.

The success of financial services, particularly banks, will be impacted by the expansion of fintech over the long run. The performance of banks was significantly impacted by the expansion of fintech companies, according to research by Phan et al. (2019) upon developing fintech markets within Indonesia. As a result, financial institutions, especially Islamic financial industry, would be affected. Fintech throughout Indonesia is embracing the concept of monetary inclusion through supporting small and microbusinesses as well as developed industries.

Islamic social funds like INFAQ, WAQF, and SADAQAH are also collected and distributed with the aid of fintech (Ali, 2020). Fintech offers the biggest potential enabling Islamic banks along with other financial organizations that adhere to shariah law to expand their reach and scale using cutting-edge technology, boost their earnings, and offer convenience and simplicity of doing business with the people they serve. Fintech would greatly enhance the market's share enjoyed by Islamic Finance Institutions (IFIs) and help them compete on a global scale. Even if certain consumers continue to prefer making purchases in physical and mortar locations, this market is small. Islamic finance must therefore consider all the potential benefits of conducting business electronically. Hasnan (2019) claims that while nations with Islamic financing have high levels of financial access, nations having conventional financing possess a higher proportion of fintech subscribers. Since they are supported by innovative technology, fintech may be employed for Shariah-compliant remedies which remain important for the coming generation, easily reachable, quicker, and also comparatively not expensive over the other substitutes (Todorof, 2018). Fintech encompasses four areas, including (i) credit, deposits, and capital raising services; (ii) payments, clearing, and settlement services, including digital currencies; (iii) investment management services, including trading; and (iv) insurance, according to Navaretti et al. (2018).

In this day of globalization, technical improvements are a part of every communal activity. The same condition applies to financial companies, Islamic banking in particular. Islamic banking needs to learn how to use technology if it wants to succeed in the modern technological age (Siska, 2022). According to Apriyanti (2018), there is currently fierce competition regarding the market in Islamic banking, among Islamic banks and traditional financial institutions as well as within Islamic banks. Islamic banking therefore must be capable of keeping ahead of current trends as a supplier of monetary services by addressing issues and creating a competitive age through the creation of novel fiscal services and products via Fintech.

Numerous studies concerning financial services, including fintech, have already been done. According to Puspa and Hendratno, (2020), fintech had a positive effect upon government's banks including. After the enactment of Fintech legislation in 2016, Mar'atushsholihah & Karyani (2021) found disparities in different financial ratios at conservative commercial financial institutions. Lestari et al.'s study found that in 2021, banking innovation through Fintech services might improve Islamic banks' performance. Kristianti and Tulenan (2021) then reached identical decisions, namely which Fintech services and items can aid traditional banking in enhancing their financial success. In view of financial ratios among Fintech services employed, this investigation is different from prior studies. Most past investigations used samples from commercial banks. According to prior research (Anindyastri et al., 2022; Siska, 2022; Liu et al., 2020), the current study's goal is to address extensively fintech on Islamic banks and to observe the effect of "fintech" Facilities upon Islamic banks' performance within Jordan via two financial indicators determined by Bank Jordan regulations: return on assets (ROA) and return on equities (ROE), as well as four fintech services (Crowdfunding, Internet Banking, Mobile Payment and Automated teller machine).

2. Literature Review

Today, Islamic banking has been affected by fintech improvement, that is presently within traditional banks as well. Innovative fintech in Islamic banking constitutes technical advancement with sharia-compliant clauses that can shield clients from usury deals. Islamic banking across the developing countries may undoubtedly become more prevalent thanks to financial technology, making it more competitive in the financial sector. Attempts for making it simpler for clients to conduct financial dealings and investments according to the rules of sharia as well as attempts to render it more convenient for clients to conduct banking-related operations despite having to meet face-to-face to render it easier to adapt and maintain flexibility are among the advantages derived from fintech within Islamic banking. According to the tenets of sharia (Santoso, Anzelina, Safari, Iskandar, & Erwanda, 2021). Financial technology for Islamic banking encompasses additional benefits, including the ability to serve customers that the traditional Islamic finance sector was unable to because of stringent banking rules along with the conventional Islamic finance sector's constrained ability to provide people in some areas. The fact that it is an alternate source of funding to the conventional Islamic finance sector, which is more open and adheres to sharia rules for the general population, is another benefit (Ansori, 2019; Haqqi, 2020).

There are currently chances concerning Islamic banking toward thriving within Jordan banks to different benefits of the advancement of financial technology. The government makes it simple for financial institutions to comply with regulations to improve services in the technology sector, such as the simplicity of licensing. With these chances, Islamic banks will gain popularity and become the customers' preferred option. Islamic banking may utilize such convenience to expand its presence

and compete with traditional banks. 2020; Rosyadah, Arifin, Muhtadi, & Safik. Several Islamic banks are collaborating with fintech-focused businesses. The Islamic bank collaborates with fintech companies with the goal of enhancing its financial performance. Financial performance refers to economic outcomes that a corporation can achieve by making a profit through the execution of operations related to the organization's finances throughout a specific time (Darmawan, 2020). According to Ramadana and Triyonowati (2016), financial performance assessment is one means for an entity to meet its duties to its funders as well as to reach its financial objectives and potential. Financial reports can be used to demonstrate these things. Analyzing financial performance, particularly that of Islamic banks, can show people in general how Islamic finance has a solid reputation. The monetary ratio approach is the gauge used to assess financial performance. The liquidity proportion, activity, profitability, and solvency are used to gauge financial performance.

2.1 Islamic Banking Fintech Services and Current Islamic FinTech Practice

FinTech remains widely used in numerous nations all over the globe. More quickly than previously, financial technology is transforming the banking industry and the global economy. Along with the industrialized nations, evolving countries are advancing fintech applications as well (Bulatova et al., 2019). Islamic Fintech since 2010 has become a thriving industry, representing the expansion of the world Fintech ecosystem to a focus on customer and commercial finance that complies with Shariah (Billah, 2021). Having around 1,400 Islamic banks currently operating in eighty nations, the future of Islamic Fintech is bright. From 116 within 2017 and 136 by 2019, there have been a growing number of Islamic fintech companies. The primary centers for Islamic Fintech can be found in the country of Malaysia, the country of Turkey, the nation of Indonesia, the United Arab Emirates, United Kingdom, and the United States. These centers are located across a variety of fields, including blockchain, lending via peer-to-peer, crowdfunding, online banking, and compensation and transaction processing. In the peer-to-peer lending, crowdfunding, and investment consulting sectors of the Islamic finance industry, there are also several well-known Islamic Fintech businesses, like EthisCrowd.com and KapitalBoost.com located in Singapore, Wahed Invest LLC based in the US, and yielders located within the UK (Lauria, 2020).

The flow of capital into the growing Islamic Fintech industry has been sluggish. Over the past five-year period, shariah investment startups raised several million pounds in the continent of Europe, and Insha also aims to close this quarter beginning at about ten million euros. Since they previously invested in the Muslim Muzmatch Matchmaking app (Islami fintech), the UK venture capital firm Hambro Perks has special ambitions to make significant investments within the Islamic economy across Middle East or North Africa (Panel & Gateway, 2019). In Malaysia, where there are over 200 Islamic Fintech businesses, the online economy is widely supported by the general people. As more Islamic banking firms begin their digital transformations and aggressively seek collaborations with Fintech, this amount will likely continue to rise. Islamic Fintech represents the next phase in the development of Islamic finance. In its early phases, the majority of Islamic Fintech is dealing with issues including financial inequality and poor client service while trying to grow their market to include 1.8 billion individuals (Panel & Gateway, 2019).

Fintech helped Islamic banks by accelerating and refining processing of commercial activities. Islamic banking advantages fintech since it facilitates financial transactions. Clients can additionally utilize banking services through such financial services, including loans, payments, monetary transfers, plus the buying and selling of shares and other securities (Subbarao, 2017). Customers may utilize banking services via laptop or mobile devices. The subsequent Islamic banking Fintech services were the focus of this study:

Crowdfunding: In the digital economy known as crowdfunding, numerous people pool their money and then distribute it to organizations and individuals via the internet (Langley, 2016). It may also be described as a debt finance tool that allows borrowers to obtain money directly from creditors without using any middlemen. By raising the cost associated with the borrower, intermediaries in finance dissuade budget-conscious borrowers (Todorof, 2018). Three key elements are present in any description of crowdfunding: modern technology, the power of mass, and "capital funding." These components of the crowdfunding program allowed the little contributions to add up and develop into an important means of funding (Beaulieu et al., 2015). This podium remains among an answer toward the source of financing issues, particularly with respect to fresh ventures (Juliette, 2013). The ideal tool is crowdsourcing or crowdlending because there aren't many financial resources. According to Estellés-Arolas and de Guevara (2012), it describes online activities where a person, business organization, non-profit company, or company offers various types of individuals a deliberate service that might involve sharing resources, information, or previous experiences. Despite being relatively young, this platform has a big impact on the industry and poses a risk to venture capitalists and angel financiers (Vulkan et al., 2016). There are numerous crowdfunding approaches, including peer-to-peer loans, rewards, equity, donations, including pre-purchase, as described by Harrison (2013). Massolution (2012) divided crowdfunding into loaning-based, reward-based, equity-based, and donation-based categories. Creditors within loan-based crowd offering request fixed monthly deposits and the principal payback. Lenders participate within reward-based crowd borrowing with expectation of receiving non-financial compensation. On the opposite side, based on equity crowdlending, the output is dependent on the revenue sharing as well as equity-sharing by the borrower. For the previous contribution-based crowdlending, an investor makes donations without anticipating anything in return. This tool might be used to finance equity in accordance with shariah on murabaha, mudaraba, musharakah basis, or musharakah declining. Mudaraba is a system in which one individual supplies capital while other individuals utilize the abilities of him or her to make earnings upon such capital. In musharakah, all parties invest and split every earnings. One person's part of the money invested keeps dropping as

others pay the total amount, which is known as declining musharakah (Hidayat, 2011). Given that crowdlending is dangerous and shariah-compliant, sharing the risk is required for profits to be referred to as being halal, within the shariah framework. The sharia borrowing concept is built on a profit-loss collaboration, as opposed to traditional loans (Pişkin & Kuş, 2019). Sharing the profit or the application of mudaraba agreements is an acceptable and just crowdfunding approach for small companies (Hidajat et al., 2016). An agreement for pilgrimage known as mudaraba is one that is for gain while adhering to sharia rules. Compared to customary contracts, when investors make money while the borrowing party loses money, this agreement is fair. If you make a profit by mudaraba, the entrepreneurs (mudarib) and shareholders (sahib al-mal) will divide it in accordance with the contract.

H₁: *Crowdfunding has a significant positive effect on Islamic Bank's financial performance.*

Internet Banking: Clients of banks can use internet banking, sometimes called "i-Banking," for making transactions through their computers (Tim Zipmex, 2021). Online banking features include paying bills and transfer options, account information, plus the most recent exchange rate data. Clients do not need to own certain gadgets to make use of this service since it may be completed using any device that is online. Internet banking was an additional fintech service offered by banks. Clients can use any device which is connected via the internet to finish numerous transactions offered by Islamic banking with the use of internet banking services. The adoption of digital banking services will rise which will help banks perform financially better. If this occurs, internet banking will have a favorable and considerable impact on how well Islamic banking performs financially. This is consistent with research showing how internet banking significantly affects financial success (Damayanti, 2022; Setiawan, Darmala, & Amri, 2020).

H₂: *Internet banking has a significant positive effect on Islamic Bank's financial performance.*

Mobile Payment: clients prefer mobile banking because it enables bank clients to make financial transactions and obtain account information with only their smartphones (Anindyastri, Lestari, and Sholahussin, 2022; Tiyan et al., 2020). A service offered by banks called mobile banking, and m-Banking, lets consumers perform transactions using apps located on their cellphones that are linked to the internet. (2021, Tim Zipmex). Customers choose mobile banking because it provides more features including a more robust security mechanism.

H₃: *Mobile Payment has a significant positive effect on Islamic Bank's financial performance.*

2.2 Automated Teller Machine (ATM)

In another study, Ogutu and Fatokio (2019) explored the effect of electronic banking on the financial performance of Kenyan listed commercial banks and discovered a strong positive association between ATM banking and the financial performance of Kenyan listed commercial banks. From 2005 to 2013, Akhisar et al. (2015) evaluated the effects of electronic-based financial services on the profitability of 23 commercial banks in both developed and developing nations. The panel data analysis methodology was used in the investigation. The explanatory variable was the number of branches to ATM ratio, whereas the dependent variables were return on equity (ROE) and return on assets (ROA). The findings demonstrated that the branch-to-ATM ratio has a positive and significant effect on bank profitability in both developed and developing countries. Furthermore, Obiekwe and Anyanwaokoro (2017) investigated the impact of Electronic Payment Methods (EPM) on the profitability of Nigerian commercial banks from 2009 to 2015. According to the findings, automated teller machines (ATMs) have a major impact on the profitability of commercial banks in Nigeria. Similarly, Shehu, Aliyu, and Musa (2013) investigated the impact of electronic banking products on the performance of six Nigerian-listed deposit money banks (DMBs). According to the findings, ATM has a negative and significant link with the profitability of Nigerian DMBs. Omoruyi and Benedita (2022) Electronic Banking and the Financial Performance of Nigerian Deposit Money Banks. Studies on the impact of electronic banking on bank financial performance have yielded conflicting results. In other words, the impact of electronic banking on bank financial performance has yielded conflicting results. As a result, the influence of electronic banking on the financial performance of Nigerian deposit money banks was evaluated in this study, which ran from 2009 to 2018. In the data analysis, multivariate panel estimation and dynamic panel data regression were used. The GMM estimate results show that the overall value of Automated Teller Machine transactions has a positive and significant impact on financial performance. Bashayreh and Wadi (2021) investigated the influence of financial technologies on banking performance in Jordan, using a set of panel data collected from 13 banks from 2012 to 2018. The study's findings demonstrated a positive relationship between the use of financial technology and automated ATMs and the performance of Jordanian banks. Medyawati et al. (2021) explored the factors that influence bank profitability, namely financial technology. The study included a final sample of six banks listed on the Indonesia Stock Exchange, and a panel dataset was created for the period 2014-2020. The authors utilized return on assets (ROA) as a proxy for profitability, with three independent variables evaluating the use of financial technology, including ATMs. The panel regression findings revealed that ATMs have a beneficial impact on bank profitability.

H₄: *Automated Teller Machine has a significant positive effect on Islamic Bank's financial performance.*

Fig. 1 shows the structure of the proposed study of this paper.

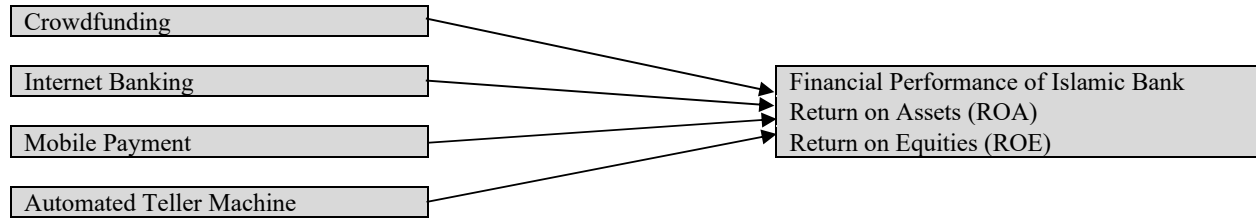


Fig. 1. Research Conceptual Framework

3. Research Material and Method

This study utilized yearly data which was acquired from financial institutions statistics of the annual statements from the Jordan's Islamic Bank (JIB) registered with the Amman Stock Exchange from 2017 to 2021. The investigation utilized a quantitative-descriptive survey approach. The Jordanian Securities Agency and the Jordanian Central Bank contributed to the investigation's sample data. Panel data regression analysis is a form of data analysis technique utilized in this investigation. Using panel data, the above approach is engaged to recognize and assess the influence of independent variables on dependent variables (DV). For the DV, this study uses financial measures like ROA and ROE to evaluate financial performance of Islamic banking (Siska, 2022; Ilhami & Thamrin, 2021; Anindyastri, Lestari & Sholahussin, 2022).

3.1 Return on Assets (ROA)

As an indicator of how profitable a business is in relation to their entire assets, ROA is calculated by dividing the net profit minus taxation and interest / its total assets (Al-Eitan et al., 2021). The capacity of a company to turn profit in the form of revenue, all assets, and its own capital are known as profitability (Siska et al., 2021). Profitability, as defined by (Setiawan & Hermanto, 2017), denotes a company's capacity to generate revenue from each of its resources that are available. According to Rizal and Rofiqo (2020), ROA is a crucial indicator for assessing the profitability within the banking sector. The formula that follows may be applied to determine ROA:

$$ROA = \text{Profit Before Tax} / \text{Total Assets} \times 100\% \quad (1)$$

3.2 Return on Equities (ROE)

According to Oktavia and Genjar (2019) ROE is an additional financial metric to assess the revenue that a company earned in relation to its total amount of shareholder capital. A business that has a high return on equity is more probable to be profitable. The company entity becomes more lucrative the greater return on equity (Gwatiringa, 2020). The formula that follows may be applied to determine ROE:

$$ROE = \text{Net Income after Tax} / \text{Total Equity} \times 100\% \quad (2)$$

3.3 Independent Variables

Crowdfunding, Internet Banking, Mobile Payment, and Automated Teller Machine are among other Fintech Services provided by Islamic Banks, are the variables that are independent in this current study. If a bank utilizes only a single kind of fintech service during a year, it receives a value of 1, while when it employs two types, like crowdfunding with internet banking, then is assigned a rating of 2. The three values included are modified according to the Fintech services being used.

3.4 Data Analysis Techniques

The conventional assumption test must be run as a prerequisite to ensure if the data used is unaffected by econometric difficulties before employing regression to assess the data. The multicollinearity assessment, autocorrelation assessment, heteroscedasticity examination, and normalcy test are all components of the traditional assumption test.

3.5 Multicollinearity test

A regression strategy multicollinearity examination can be utilized to determine whether there is a connection among the independent variables. There should be no association between the independent variables within a decent regression design. A tolerance threshold of 0.1 or a VIF score of 10 are the values that are frequently used to represent the degree of multicollinearity.

Autocorrelation test

Ghozali (2018), for a linear regression approach, claims that the test for autocorrelation is used to determine whether there is a connection among the error of confounding for period t with the puzzling mistake in epoch $t-1$. If correlation exists, autocorrelation issues arise. This study employed the test known as Durbin-Watson to find autocorrelation. (Wijaya, 2009) the

categorization table regarding d values is used to demonstrate autocorrelation in the manner described below: a d-value of “1,10” indicating “autocorrelation 1,10-1,54” There exists no autocorrelation, 2,46-2,90, and here exists no correlation, 1,55-2,46. Unresolved and above 2,91 Autocorrelations exist.

Heteroscedasticity test

For the regressions model, the assessment for heteroscedasticity helps to control if there is an inequality on variance amongst residuals for mutual observations. Homoscedasticity occurs when variance amongst the residuals on a particular observation with residuals on another observation is constant; heteroscedasticity is when a variance diverges. An attired regression model possesses homoscedasticity or not heteroscedasticity. The present research utilized a plot chart in finding heteroscedasticity. If there is absenteeism, clear pattern & points ensure equal spaces amongst zero & 0 alongside Y-axis, and then there occurs no heteroscedasticity.

Normality test

Ghozali (2018) asserts that tests aimed at normality remain employed via a regression model toward determining if DV and IV have usual distribution. Now this investigation, the Normal P-P Graph for Regression Widespread Residual was employed to check for normality. When a normal chart design portrays the points distributed along diagonal link but upholds a direction of diagonal path, a model utilized for regression meets the condition of normality.

Simple Linear Regression

The connection between one independent(X) and one dependent (Y) Variable is described by a straightforward linear regression formula. In this study, X stands for a fintech service with Y for JIB's financial performance.

Hypothesis Test (Partial t-Test)

The study's main hypothesis posits that fintech affects Islamic banking's financial performance. The hypothesis has been evaluated using partial t-test. The DV significantly affects the DV when the t statistic, t table, or sig value is less than 0.05. A result of t statistic > t table or sig > 0.05, on the other hand, indicates that independent variable has little to no impact upon the dependent variable.

Coefficient of Determination Test

The degree of connection between the independent and the dependent variable as an entire is determined by the R². A score of zero to 1 is assigned given the coefficient for determination. A low R² score means that the amount of variance in the DV which can be explained by independent variables varies quite little. The SPSS 22 data collection package was used in this study for data analysis.

4. Results and discussion

4.1 Classical assumption test

The findings of the multicollinearity analysis demonstrate a Fintech VIF score is 1,000, that is smaller than 10, while all the traditional assumption tests, including the test for autocorrelation, heteroscedasticity assessment, and normality examination, were carried out to verify the data used is without econometric issues. Therefore, it might be said that it does not exhibit multicollinearity. The Durbin-Watson (DW) score is 1,816, which falls between 1,55 and 2,46, according to the autocorrelation test's results. It may be said that a model has no autocorrelation. The pattern is explained by the test's heteroscedasticity outcome, and the lines are equally spaced from 1 to 0 on the Y-axis. To ensure that the evidence isn't heteroscedastic, the test for normality provides the Regular P-P Plot of Regression Standard Residual sequence, which depicts the distribution of points along the diagonal line that moves in the same direction with the line on the diagonal. As a result, the model of regression adheres to the assumption of normality.

4.2 Simple Linear Regression

Tabel 1

Results of Simple Linear Regression

Model	Unstandardized Coefficients		Standardized Coefficients		
	β	Std. Error	β	t-value	Sig.
Constant	48.160	53.872		3.870	0.008
Fintech	0.700	17.676	0.009	3.636	0.005

a. Dependent Variable: Financial_Performance

R = 0.57 R-Square = 0.37 Adjusted R-Square = 0.540

According to Table 1, there is a positive relationship between the independent variable and dependent variable when the level of significance is one percent. In addition, the regression analysis has described about 57% of the changes on the dependent variable. The results have confirmed that any increase in Fintech components could yield to a better performance of the banking industry. The results are consistent with Lestari et al. (2021), Bashayreh and Wadi (2021), Ntwiga (2020), Almashhadani and Almashhadani (2022), Zuhroh (2021) and Anindyastri et al. (2022).

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