

Financial Technology: An Analysis of the Financial Performance and Growth of Banking Companies

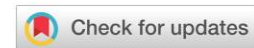
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DOI: <https://doi.org/10.30651/blc.v21i2.22960>



ABSTRACT

Keywords:

Fintech;
Banking;
Financial
Performance;
Company
Growth; Manova
Test

Article Info:

Submitted:
26/05/2024
Revised:
24/06/2024
Published:
08/07/2024

The presence of financial technology provides opportunities for banking sector companies to develop innovative products and services. The rapid development of technology means that fintech services are considered an extension of banks. On the other hand, fintech banking, such as mobile banking and Internet banking, provides many conveniences, including serving Indonesian people who the traditional financial industry cannot serve. This research aims to test and analyze whether financial technology (independent variable) can influence company performance regarding ROA, ROE, NIM, BOPO, and company growth (dependent variable) in the banking industry. All banking companies listed on the IDX except Sharia banking are the data samples used. The testing method used is through the Between-Subjects Effect MANOVA test. This test shows that fintech positively affects ROA, ROE, and NIIM. However, the BOPO and company growth variables cannot be influenced by fintech.

INTRODUCTION

Banking sector companies are one of the financial institutions that can help the country's economic growth. Banks have the function of collecting funds from the public in the form of deposits and channeling them back in the form of credit or other means to improve people's lives (Kasmir, 2018). Funds collected from various parties can help the bank carry out its activities. The more funds raised, the more the bank will contribute to carrying out its activities (Thian, 2021:6).

Fintech is a digital financial service or the use of technology in the financial system that produces new products, services, technology, and business models and can affect monetary stability, financial systems, efficiency, smoothness, security, and reliability of the payment system (Bank Indonesia, 2017). Fintech provides opportunities for banking sector companies to develop innovative products and services.

The presence of fintech, which is a result of advances in technology and information, has a considerable impact on the banking sector in Indonesia, with limited payment and financial system service activities carried out not through physical offices but by using technological means, with target services for people who do not have and have limited access to financial services (Sepriani L, et.,al, 2022). Some of the fintech banking services include automated teller machines (ATMs), SMS banking, internet banking, and mobile banking (Bank Indonesia, 2016).

The transaction activities of the community, which were originally traditional, are now modern transactions using technology called digital transformation. The era of digital transformation requires business people to make breakthrough changes, especially in financial services that are often used and needed by the community. The digital transformation of the banking industry certainly has an impact on the existence of bank branch offices that still prioritize conventional transaction activities. This is evidenced by the increasing number of internet users in 2021, which totaled 210 million. This number has increased by 77%, where there are 210 million people out of a total of 272 million Indonesians who are connected to the internet in 2021 (Asosiasi Penyelenggara Jasa Internet Indonesia, 2022).

The increasing use of the internet makes mobile banking and internet banking able to develop in this modern era, with various innovations that make it easier for people to make transactions without having to leave home. On the other hand, with the digital transformation applied by the banking industry, there has been a lack of effectiveness in banking operations, as can be seen from the closure of banking branch offices (Danuri, 2019). In 2017–2021, there was a decrease in branch offices to 2,327. The decrease in the number of banking branch offices is due to an increase in mobile banking transactions of more than 300 percent from 2017 to August 2021, including internet banking transactions, which rose by almost 50 percent (Otoritas Jasa Keuangan, 2021). One of the triggers for the increase in mobile banking and internet banking transactions by the public is the effects of the COVID-19 pandemic and the massive development of digital banking product services (Otoritas Jasa Keuangan, 2021). The impact of fintech banking services on the use of digital transactions by higher-income customers is predicted to support the bank's net profit.

The net profit that has been obtained provides an overview of the company's performance and ability to provide a return on the investment made by investors and the amount of funds that have been used. The success of a company is reflected in the profits earned each year. When a company can generate large profits, it can indirectly attract investors to invest. Because, basically, the main goal of investors in investing is

to receive significant profits for the amount of investment they make. Furthermore, the success of a company in making a profit can be seen from the company's financial performance.

Stakeholders such as investors and debtors need the results of measuring the company's financial performance to see the condition of the company and the company's success rate in carrying out its operational activities. One of the indicators used by investors and creditors to measure financial performance is profitability ratios (Fahmi, 2018). A profitability ratio is a ratio that shows the ability of a company to generate profits (Fajri et al., 2023). In the banking industry, there are two ways to make a profit, namely spread-based income and fee-based income. Spread-based income is the profit that banks get through fund collection and distribution activities (usually bank profits are obtained through interest), while fee-based income is bank income outside of credit interest income, namely income sourced outside of the main activities of banking services (Mughtar, 2022).

Based on this, it can be concluded that profitability is one of the most important aspects for the sustainability of this industry. Therefore, this study uses financial performance with profitability ratio indicators proxied by return on assets (ROA), return on equity (ROE), net interest margin (NIM), and operating costs and operating income (BOPO) (Cupian & Akbar, 2020). Below, we show the average banking financial performance in 2017–2021, with profitability as an indicator.

Table 1: Average Value of ROA, ROE, NIM and BOPO in the Banking Industry

	2017	2018	2019	2020	2021
ROA	2,35	2,33	2,48	2,14	2,31
ROE	13,04	12,53	12,58	11,01	12,62
NIM	5,15	4,79	4,82	4,41	4,45
BOPO	76,05	75,83	76,78	79,73	81,01

Source: Data Processed by Researchers From IDX, 2023

Based on the data in the table above, it can be seen that the average ROA value fluctuates. The increase in ROA in several banking sector companies shows that the total assets owned by the company are able to be maximized into net profit. The application of fintech services that provide ease of transactions to customers can reach and attract the interest of the wider community. On the other hand, the ease of transactions provided to customers can indirectly increase the number of customers, so that the increase in customers can affect profitability. Affect banking profitability, which can increase funds raised in overall banking assets, which affect ROA. This is in line with the results of research conducted by Fuadi & Munawar, (2022), showing that the use of fintech, in this case mobile banking, has a positive and significant effect on ROA. However, this argument is inversely proportional to the results conducted by

conducted by Indira, et al., (2024), Kristianti, et., al, (2021), Putro, et al., (2022), Putro, et al., (2024) and Sudaryanti et al., (2018), which show that there is no difference between ROA before and after the fintech phenomenon or that fintech has no effect on ROA.

Return on equity (ROE) is the ratio between profit after tax and total equity derived from the owner's capital deposits, undivided profits, and other reserves collected by the company. Based on the data in the table above, it can be seen that the ROE value fluctuates. The increase in ROE value is due to the company being able to manage capital from investors. On the other hand, the existence of fintech facilities (mobile and internet banking) used by banks indirectly makes it easier for investors to be able to buy investment products at banks in real time without the need to go to the bank's office, and if they want to get details about the product, they can ask questions via online chat connected to customer service directly (Fajri, et.,al., 2020). The ease of fintech services is able to attract interest and increase the number of customers and investors, which can affect bank profits because the increase in these parties will increase third-party funds raised to become additional capital for banks, which will affect the percentage of ROE (Morgan & Trinh, 2019).

The net interest margin (NIM) is the ratio of net interest income to the company's productive assets. NIM shows the bank's ability to generate interest income by looking at the bank's performance in lending (Monica, 2019). This study uses NIM as a measure of bank performance because the more this ratio increases, the smaller the interest income on productive assets managed by banks in problematic conditions. The increase in NIM in several banking sector companies shows that the company is able to generate greater interest income from its productive assets. Through fintech banking services, it is easier for customers to be able to borrow funds and pay bills at the bank in real time without having to go to the bank's office. The existence of fintech services can make it easier for banks to channel financing and increase interest income, which will affect the percentage of NIM. The effect of financial technology on net interest margin (NIM) is reinforced by previous research conducted by Morgan & Trinh, (2019), which states that there is a significant positive effect on financial technology (mobile banking and online banking) with NIM as the dependent variable representing bank performance.

Operating Expenses and Operating Income (BOPO) is a comparison between operating expenses and operating income in measuring the level of efficiency and ability of banks to carry out their operations. This ratio was chosen due to the application of financial technology by banks, which is predicted to reduce bank

operating costs because customers can more easily get bank services without the need to come directly to the bank branch office. The increase in BOPO seen in the table above indicates that the banks lack efficiency in controlling their operating expenses. Regarding the application of fintech, it can indirectly minimize the administrative costs incurred by banks because it uses technology to carry out all transactions so that it can affect the operating expenses of banking operating income (BOPO). But the application of fintech services requires a large investment in technology, causing bank profits to be eroded, and some banks must also ensure the security of use and long-term maintenance of the system. These costs are not small, so BOPO tends to increase. This is in line with the results of (Cupian & Akbar, 2020), namely that there is a significant difference in the BOPO ratio in the span of eight quarters before and after working with fintech companies. However, according to Chaarani & Abiad, (2018), there is a positive impact of Lebanese banks on internet adoption and improved financial performance.

In addition, researchers also use other dependent variables, such as company growth. Company growth is an important factor because the growth of the company is what will attract potential investors to invest in the company. Company growth shows the increasing size and activity of the company in the long term. There are many ways to measure company growth, including increased sales, increased net income, increased earnings per share, and increased dividends per share (Kalesaran et al., 2020). This study uses the increase in net income to measure company growth because the main focus in assessing a company can be seen in the company's ability to generate profits in the future, which is seen as a key factor in the decision of funders to invest in the company.

Some information that investors need to know is about the condition of the company's profit. Basically, company growth is a reflection of a company's profit conditions. The higher the company's profit, the better its performance, and this will affect how the company's growth conditions increase. The company must be in a good financial position to attract outside capital. With the growth of the company, the company can increase the trust of owners and investors who are interested in buying new shares and can increase company value.

Financial technology has a positive relationship between financial performance and company growth. In terms of technological advances, banking sector companies are innovating to create new methods that can make it easier for people to use financial services such as internet banking and mobile banking, thereby generating opportunities and profits that can improve financial performance and influence company growth. This is in line with the concept of signaling theory. On the other hand, the existence of

fintech services can indirectly change customer behavior when using technology, which is determined by behavioral intention and influenced by their perceived ease of use and perceived usefulness of the technology (Davis, F, 1989).

This research examines the impact of financial technology on financial performance and company growth because it is seen in the increasingly rapid development of technology and is influenced by modern life, such as today, which is very dynamic with high mobility, requiring people to effectively and efficiently utilize the time they have with the increasing use of technology. advanced. Technological developments have also led to improvements in business methods in several industrial sectors in Indonesia, one of which is the banking industry.

This research uses banking sector companies as research objects because banking is considered to be the driving force of a country's economy and has a role in the economy, namely as an intermediary institution in collecting and channeling public funds to finance economic activities, so banking has a very important position in supporting people's lives and the economic development of a country. The aim of this research is to test and analyze whether financial technology can influence ROA, ROE, NIM, BOPO, and company growth in the banking industry.

LITERATURE REVIEW

The research uses two types of grand theory to strengthen the results of this research, namely the Technology Acceptance Model (TAM) Theory and Signaling Theory. The technology acceptance model theory is a theory developed by (Davis, F, 1989). This theory, explains that an individual's behavioral intention to use a system is determined by two beliefs: firstly, perceived usefulness, namely the extent to which a person believes that using the system will improve his performance. Second, perceived ease of use, namely the extent to which a person believes that using the system will be free from effort, Therefore, in accordance with TAM theory as the basis for the hypothesis that the perceived usefulness by the public in using fintech banking, namely mobile banking and internet banking, is believed to improve financial performance and provide perceived ease of use in the financial transaction process, customers.

Signaling Theory is a theory put forward by Spence, (1973). This theory focuses on references, signals, or signs from financial reports. The relationship between signal theory and this research is regarding the application of fintech services, financial performance conditions, and the growth of banking sector companies. Signal theory plays an important role in conveying information regarding the application of fintech services, which can make it easier for customers or investors to save funds or purchase investment products so that transactions become more practical, effective, and efficient

The Effect of Financial Technology on Return On Assets (ROA)

Financial technology (fintech) is an innovation by banking sector companies in adapting technological developments that can make it easier for people to use financial services and for banks to be more efficient in managing their business. Cupian & Akbar, (2020) state that fintech is a banking innovation that aims to provide financial services by utilizing modern technology, which provides financial solutions and provides benefits to customers in terms of time and energy efficiency because transactions via fintech services can be carried out anywhere and anytime, and service fees charged to customers can be a source of income for banks.

The convenience of transactions using banking fintech is in accordance with the technology acceptance model (TAM) theory that the benefits felt by the public in using banking fintech services are believed to influence public interest so that they decide to continue using them in transactions. So that it will affect the improvement of financial performance, which can increase the funds raised in overall banking assets as reflected in the ROA value. The greater the ROA value of a company, the more efficient the use of assets in generating profits, and vice versa. If ROA shows a higher number, it will be a good signal for investors because a high value indicates that the company is in good condition, so it can attract investors to invest their funds.

The influence of fintech on ROA is supported by research conducted by Mayasari, et., al, (2021), Cantika, (2022), Fuadi & Munawar, (2022), and Medyawati, et al., (2021), which states that fintech has an effect on ROA due to performance developments. Bank finances show good development where the average bank ROA value tends to increase. The increase in ROA value was caused by the increased profitability and assets of banking companies. The increase in profitability tends to be higher than the increase in the total assets of banking companies. Based on the explanation above, the following hypothesis can be concluded:

H1: Financial Technology has a Positive Effect on Return on Assets (ROA)

The Effect of Financial Technology on Return On Equity (ROE)

Actually, fintech services in banking transactions indirectly make it easier for customers to make transactions. This is in accordance with the technology acceptance model (TAM) theory, which states that the use of banking fintech services is believed to affect public interest when people use fintech and decide to continue using it. On the basis of this view, banks implementing fintech services are thought to be able to attract customer interest, which will automatically increase the number of customers and can

affect bank profits because the increase in customers is thought to increase third-party funds collected into additional capital for banks, so that it will affect the percentage of ROE. The higher the ROE value, the greater the possibility of investors investing in the company.

The research is supported by research conducted by Oira, K & Kibati, (2016), which proves that the application of fintech has a positive effect on the financial performance of banks in Kenya by providing better returns to shareholders. On the other hand, the same research was also conducted by Cupian & Akbar, (2020) and Cantika, (2022), stating that fintech affects ROE. This statement is also in line with Schumpeter's innovation theory, which states that technological advances and innovations in the financial sector will generate profits for banks. If banks experience profits, the rate of return on investment in banking will also increase. This is because in generating net income on its capital, it is getting better after the application of fintech services and the existence of a credit flexibility policy carried out by management as an effort to return the company's capital. The time required for the process can affect the size of the working capital required by the company. Based on the explanation above, the following hypothesis can be concluded:

H2: Financial Technology has a Positive Effect on Return on Equity (ROE)

The effect of financial technology on net interest margins (NIM)

Given the technological convenience provided by the use of fintech by banks, it can indirectly affect the increase in interest income in banks, so that the NIM value will also increase because fintech services are one of the uses of productive assets. The higher the NIM value, the greater the possibility for investors to invest in the company. This argument is in line with the TAM model, in which the use of fintech will be able to provide convenience to customers in terms of borrowing funds and paying credit bills to banks, so that customers can easily carry out these transactions whenever and wherever they are.

The effect of fintech on NIM is strengthened by previous research conducted by Cantika, (2022), and Indrianti et al., (2022) with the results of their research showing that fintech has a positive effect on NIM. This is because the existence of fintech services during the COVID-19 pandemic can lead to an increase in banking income, which can be seen based on the increase in NIM. The existence of fintech services in financing can provide convenience, which acts as an increase in profitability. Based on the explanation above, the following hypothesis can be concluded:

H3: Financial Technology has a Positive Effect on The Net Interest Margin (NIM).

The Effect of Financial Technology on Operating Expenses and Operating Income (BOPO)

The effect of fintech and BOPO is in line with the TAM theory, where the existence of fintech can minimize the administrative burden incurred by banks because it uses technology to carry out all transactions so that it can affect the operating expenses of banking operating income (BOPO), but large technological investments cause bank profits to be eroded, and some banks must also ensure the safety of use and long-term maintenance of the system, and these costs are not small. Based on signal theory, the higher the percentage of BOPO, the more inefficient the bank is in controlling its operating expenses, and vice versa.

The effect of fintech on BOPO is supported by previous research conducted by Cupian & Akbar, (2020), with the results of their research showing that there is a significant difference in the BOPO ratio in the span of eight quarters before and after working with fintech companies. This indicates that the tendency of Islamic banking efficiency in managing its resources is getting higher because a low BOPO ratio indicates that the level of costs used is lower than the level of income of a bank. However, it is contrary to research conducted by Kristianti, I., Michella, V, (2021) and Thio & Yusniar, (2021), who examined the impact of fintech on banking financial performance and found that there was no difference in the BOPO ratio because in Indonesia, the use of fintech from 2016 to 2019 was still not maximized. Banks were able to generate greater operating income, but the income was not able to cover the costs incurred for fintech technology operations. Based on the explanation above, the following hypothesis can be concluded:

H4: Financial Technology has a Negative Effect on Operating Costs and Operating Income (BOPO)

The Effect of Financial Technology on Company Growth

Companies that can manage the company well and have high profitability are considered to have high growth Kalesaran et al., (2020). Companies that have this high level of company growth will get the main attention of investors and creditors. Based on signal theory, if the profit growth of a company increases, it will be a good signal for investors because the high value indicates that the company is in good condition, so it can attract investors to invest their funds.

This study used an increase in net income in measuring company growth because the main focus in assessing a company can be seen in the company's ability to generate profits in the future, because this is seen as a key factor in the decision of

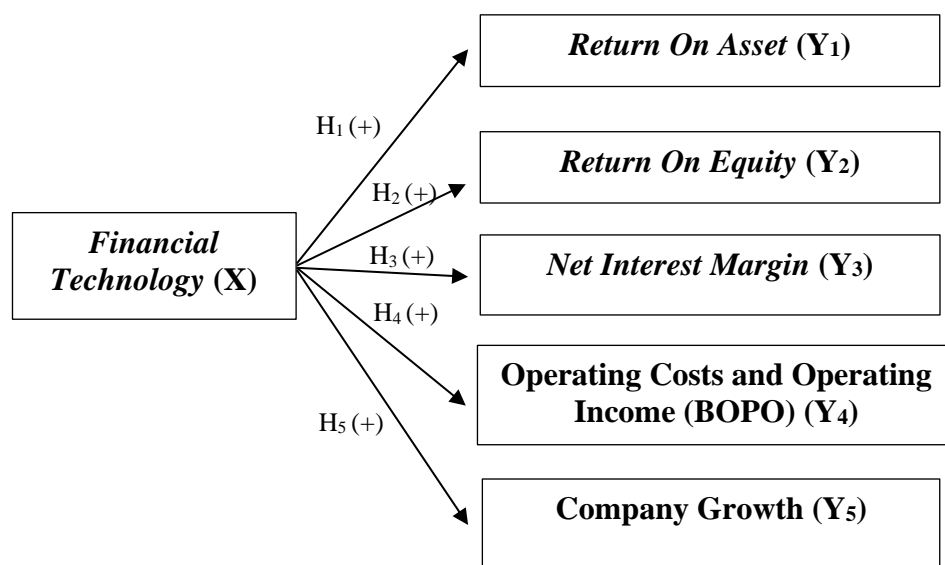
fundes to invest in the company. One of the important pieces of information that investors must know is information about company profits. The higher the profit reported by the company on the income statement, the better the company's performance, and investors can consider this when investing. The company must be in a good financial position to attract outside capital. With the growth of the company, the company can increase the trust of owners and investors who are interested in buying new shares, which can increase the value of the company. Based on the explanation above, the following hypothesis can be concluded:

H5: Financial Technology has a Positive Effect on Company Growth

Conceptual Framework

The accelerating development of technology has led to an increase in business methods in several industrial sectors in Indonesia, one of which is the banking industry. Several banking sector companies have implemented financial technology services, which are banking innovations in adapting technological developments that can make it easier for people to use financial services and make banks more efficient in managing their businesses, so that it is thought that it can improve financial performance in terms of profitability ratios and company growth in terms of profit growth.

From the explanation above, the researcher can describe the theoretical framework of this research as follows:



Source: Data processed, 2023

Figure 1: Conceptual Framework

METHOD

The kind of research used is quantitative research. The population in this study were banking sector companies listed on the IDX. The sampling technique used is the purposive sampling method, where in sampling, researchers have certain criteria that have been adjusted to their needs. The criteria determined by the researcher are that the companies used are listed on the Indonesian stock exchange; companies regularly publish financial reports during the study period (2017–2021); and the subject used is only conventional banking. Based on these criteria, the sample used amounted to 180 pieces of data.

The variables used in the study consist of one independent variable, namely financial technology, and five dependent variables, including ROA, ROE, NIM, BOPO, and company growth. These variables can be calculated using several proxies, such as:

Financial technology is a business that aims to provide financial services by utilizing software, modern technology, or a technology that provides financial solutions (Ansori, 2019). The indicators used are mobile banking and internet banking. Measurement of the independent variable Fintech in this study uses dummy variables, where banks that have mobile banking and internet banking services are given a value of 1, and banks that do not have mobile banking or internet banking services are given a value of 0.

Return on Asset (ROA), a ratio that assesses how much return on assets is owned, This ratio is used to measure management's ability to obtain an overall profit (Putro, et al., 2020). The formula:

$$ROA = \frac{\text{Laba Bersih Sebelum Pajak}}{\text{Total Aset}} \times 100\%$$

Return on equity is the ratio between net income and equity. This ratio is used to measure the level of income available to the owners of the company or the capital they invest in the company (Putro, et al., 2021). The formula:

$$ROE = \frac{\text{Laba Bersih Sesudah Pajak}}{\text{Total Ekuitas}} \times 100\%$$

Net interest margin (NIM), is the ratio of net interest income to average-earning assets. This ratio is used to determine the ability of bank management in terms of managing productive assets so that it can generate net income (Kasmir, 2019). The formula:

$$NIM = \frac{\text{Pendapatan Bunga Bersih}}{\text{Rata – Rata Aktiva Produktif}} \times 100\%$$

Operating Expenses and Operating Income (BOPO), is a comparison between operating expenses and operating income in measuring the level of efficiency and ability of banks to carry out their operations (Kasmir, 2019). The formula:

$$BOPO = \frac{\text{Biaya Operasional}}{\text{Pendapatan Operasional}} \times 100\%$$

Company Growth, is an important factor because the growth of the company is what will attract potential investors to invest in the company (Kalesaran *et al.*, 2020). In this study, the proxy used is the earnings growth proxy. Earnings growth is the increase in profit earned by the company compared to the previous period. To find out the changes in profits that occur in the company, the following formula is used (Putro, et al., 2023):

$$\text{Company Growth } (\Delta Y_t) = \frac{Y_{t-(t-1)}}{Y_{(T-1)}} \times 100\%$$

The data analysis method used is the Manova test (multivariate analysis of variance), which is processed using SPSS. The stages carried out include a descriptive analysis test, an assumption test, a model feasibility test, and a Manova test to determine the relationship between independent and dependent variables. In using the Manova test, there are several basic assumptions that must be met in order to produce an estimator that is more accurate and close to or equal to reality. These basic assumptions are that the data of each group are normally distributed (multivariate normality test) and the variance between groups must be homogeneous (homogeneity test) (Field, 2005).

Multivariate Normality Test, correlation coefficient significance test, with the use of the following hypothesis:

$$r_q = \frac{\sum_{j=1}^n (d_j^2 - \bar{d}_j^2) (q_j - \bar{q})}{\sqrt{\sum_{j=1}^n (d_j^2 - \bar{d}_j^2)} \sqrt{\sum_{j=1}^n (q_j - \bar{q})}} \quad (1)$$

Where:

d_j^2 : Distance between the observation vector and the mean vector

\bar{d}_j^2 : Mean Vector (Center of The Contour)

q_j : Quantile of j Observation

\bar{q} : Avenge Quantile of Observation 1 to j

J : 1,2,3,.....,n

And

$$d_{(j)}^2 = (\mathbf{x}_i - \bar{\mathbf{x}}) \mathbf{s}^{-1} (\mathbf{x}_i - \bar{\mathbf{x}}) \quad (2)$$

$$q_{c,p} = \left(\frac{j-1/2}{n} \right) \quad (3)$$

Where:

s^{-1} : Covariance matrix inverse $S_{p \times p}$

X_i : Objects of Observation

P : Many variables

C : Chi-Square

Source: (Ghozali, 2018)

Critical region: reject the hypothesis if $rQ < (\alpha)$. If the results of the test statistics have results that are less than the normal table of correlation coefficient probability ($r(\alpha, n)$), it can be concluded that the data is not normally distributed, and vice versa.

The homogeneity test, is used to determine the homogeneity of the variance-covariance matrix for the variables. The homogeneity test of the variance-covariance matrix can be done with Box's M test. If the p-value $> \alpha$, then it fails to reject H_0 , so it can be concluded that the variance-covariance matrix of the 1-population is the same or homogeneous (Field, 2005).

Model Feasibility Test, This test is conducted to test the feasibility of the model used in this study and whether it can be used to test the research hypothesis (Field, 2005: 601). This test consists of various models used to make decisions about differences between groups. The models used in the multivariate test are Pillai's Trace, Wilks' Lambda, Hotelling's Trace, and Roy's Largest Root (Field, 2005: 602). The research model is said to be good if the four models have a significance level of < 0.05 (Field, 2005).

The Manova test (Multivariate Analysis of Variance) is used to explore the relationship between several independent variables of categorical type that can be nominal or ordinal data and several dependent variables of metric type that can be interval or ratio data (Hair et al., 2010: 341). The equation formula is:

$$Y_1, Y_2, Y_3, Y_4, Y_5 = \alpha + \beta_1 X_1 + e$$

Description:

- Y_1 = Dependent Variable ROA
- Y_2 = Dependent Variable ROE
- Y_3 = Dependent Variable NIM
- Y_4 = Dependent Variable BOPO
- Y_5 = Dependent Variable Company Growth
- X_1 = Independent Variable *Financial Technology*
- α = Constanta
- β_1 = Coefisien
- e = Error

The Manova test used, namely the between-subjects effect test, is used to see the effect between the independent variable and the dependent variable, using a sig level of $\alpha = 5\%$. If the results obtained are less than the significance set ($\alpha = 5\%$), then the independent variable has a significant effect on the dependent variable (Hair, *et., al*, 2017).

RESULT AND DISCUSSION

Result

Descriptive statistics describe and provide information about the data for the research variables. The descriptive statistics of the data in this study are as follows:

Table 2: Descriptive Statistical Test Results

	<i>Fintech</i>	<i>Mean</i>	<i>Std. Deviation</i>	<i>N</i>
ROA	Banks that do not have fintech mobile and internet banking services	-0.0462	2.06074	60
	Banks that have fintech mobile banking and internet banking services	0.9063	2.69527	120
	Total	0.5888	2.53612	180
ROE	Banks that do not have fintech mobile and internet banking services	-2.2180	16.41670	60
	Banks that have fintech mobile banking and internet banking services	3.5570	17.74157	120
	Total	1.6320	17.47973	180
NIM	Banks that do not have fintech mobile and internet banking services	3.5188	2.05159	60
	Banks that have fintech mobile banking and internet banking services	4.3434	1.89641	120
	Total	4.0686	1.98246	180
BOPO	Banks that do not have fintech mobile and internet banking services	93.8143	36.72302	60
	Banks that have fintech mobile banking and internet banking services	91.5861	31.53359	120
	Total	92.3288	33.26670	180
Pertumbuhan Perusahaan	Banks that do not have fintech mobile and internet banking services	-1.6448	9.88881	60
	Banks that have fintech mobile banking and internet banking services	-1.8883	13.25442	120
	Total	-1.8071	12.20810	180

Source: Data processed by SPSS, 2023

Based on the data above, it can be seen that this study consists of one independent variable proxied by the use of dummy variables between banks that have services and do not have fintech services in the form of cars and internet banking. Meanwhile, the use of the dependent variable consists of five variables, namely ROA, ROE, NIM, BOPO, and company growth. The number of samples in this study was 180, of which 60 were banks that did not have fintech car banking and internet banking services and 120 were banks that had fintech car banking and internet banking services.

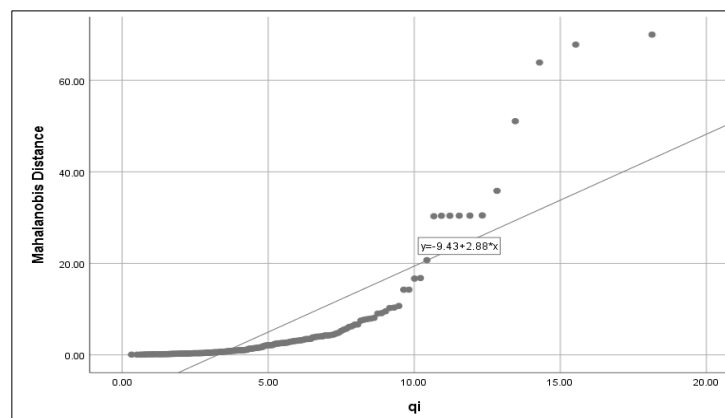
The average value of ROA in banks that have fintech car banking and internet banking services is greater (0.906) compared to banks that do not have fintech car

banking and internet banking services (-0.046), and the standard deviation value of this variable shows greater results than the mean value, so it can be concluded that there is a large data distribution between the maximum and minimum values on this variable. Similar to the ROE value, it can be seen that the average value between fintech user banks (3.55) is greater than that of non-fintech users (-2.21), with a standard deviation value that is greater than the mean value.

Meanwhile, the NIM and BOPO variables show that these two variables have results where the standard deviation values are both smaller than the mean value. This shows that both variables have a small data distribution between the maximum and minimum values. Whereas in the company growth variable, between banks that have fintech mobile banking and internet banking services and those that do not have fintech, it produces a negative mean value. This shows that on average, banks both those with fintech services (-1.888) and those without fintech services (-1.644) cannot generate profits but losses of the resulting average value.

Assumption Test

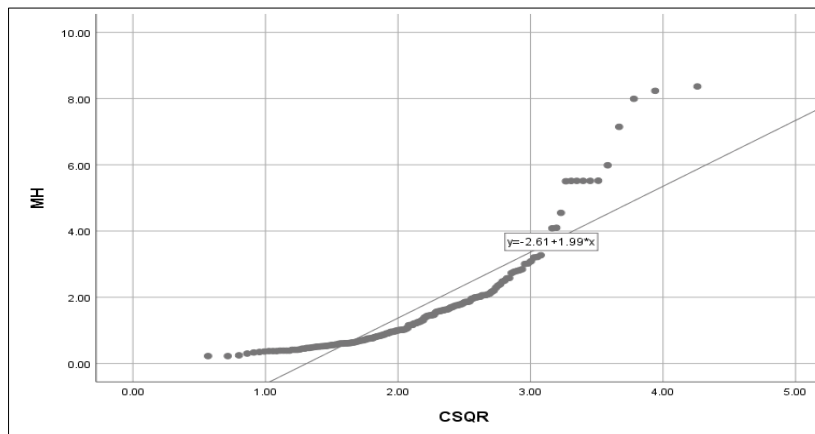
First, The normality test, is a test used to see whether the data is normally distributed or not. Data distribution in the form of nominal data, scales, and so on must be characterized by normality (Field, 2005). This study uses a multivariate test, so in multivariate testing to test normality in this study, we used the Mahalanobis distance test. The results of the multivariate normality test can be seen in the following figure:



Source: SPSS processed data, 2023

Figure 2: Scatter-Plot Multivariate Normality Test

Based on the scatterplot in Figure 2 above, it can be seen that there are some plots that tend not to approach a straight line. Testing the assumption of multivariate normality visually says that the assumption of multivariate normality is not met; therefore, the square root transformation is then carried out so that the normality assumption is accepted and the normality test is carried out again (Dahlan, *et.,al*, 2017)



Source: SPSS processed data, 2023

Figure 3: Scatter-Plot After Transformation

Based on Figure 3 scatterplot after transformation, it can be seen that there are some plots that tend to approach a straight line. Testing the assumption of multivariate normality visually says that their assumption of multivariate normality has been met. Another multivariate normality test is by looking at the correlation value between Mahalanobis distance and chi-square. Their test results can be seen in the table below:

Table 3: Correlation of Mahalanobis Distance and Chi-Square

		Mahalanobis Distance	Qi
Mahalanobis Distance	Pearson Correlation	1	0.894**
	Sig. (2-tailed)		0.000
	N	180	180
qi	Pearson Correlation	0.894**	1
	Sig. (2-tailed)	0.000	
	N	180	180

Source: SPSS processed data, 2023

Based on table 3, the Mahalanobis distance correlation test results and chi-square above show 0.894, which means the correlation value is > 0.05 . This proves that the distribution of data on the research variables is multivariately normally distributed.

Second, The homogeneity test is used to determine the homogeneity of the covariance variance matrix for the variables (Field, 2005: 604). The dependent variable must have the same variance in each category of independent variables. The homogeneity assumption test can be seen in the Levene test and Box's test (Hair et al., 2010: 337).

Table 4: Levene's Test of Equality of Error Variances

	Levene Statistic	df1	df2	Sig.
ROA	0.046	1	178	0.831
ROE	0.693	1	178	0.406
NIM	1.544	1	178	0.216
BOPO	1.714	1	178	0.192
Pertumbuhan Perusahaan	0.424	1	178	0.516

Source: SPSS processed data, 2023

Based on table 4, it can be seen that the significance value of the levene test of ROA, ROE, NIM, BOPO, and profit growth is 0.831; 0.406; 1.216; 0.192; and 0.516, respectively. The significance value is > 0.05 , which means that ROA, ROE, NIM, BOPO, and company growth do not have significant differences.

Table 5: Box's Test of Equality of Covariance Matrices

Box's M	207.441
F	13.341
df1	15
df2	58217.920
Sig.	0.000

Source: SPSS processed data, 2023

Based on table above, the test results show that the results of the MANOVA assumption test using the box's test obtained a result of 207,441 and an F test value of 13,341 with a significance level of 0.000, which is smaller than 0.05. It is concluded that the covariance variance matrix of the variables is not equal. Even though it does not meet the MANOVA assumptions, the analysis can still continue (Ghozali, 2018).

Third, The model feasibility test in this research used a multivariate test with various models, namely Pillai's Trace, Wilks' Lambda, Hotelling's Trace, and Roy's Largest Root. The research model is said to be good if it has a significance level of < 0.05 . The following are the results of the model feasibility test:

Table 6: Multivariate Test

Effect	Model	Value	F	Error df	Sig.	Note
Fintech on ROA, ROE, NIM, BOPO, and Company Growth	Pillai's Trace	0.101	3.905 ^b	174.000	0.002	Influential
	Wilks' Lambda	0.899	3.905 ^b	174.000	0.002	
	Hotelling's Trace	0.112	3.905 ^b	174.000	0.002	
	Roy's Largest Root	0.112	3.905 ^b	174.000	0.002	

Source: SPSS processed data, 2023

Based on table above, the results of the multivariate test show that all models, namely Pillai's Trace, Wilks' Lambda, Hotelling's Trace, and Roy's Largest Root, have a significance value of < 0.05 . In this research, due to the homogeneity assumption in the

variance covariance box's test not being fulfilled, the model used is Pillai's trace, where the significance value is $0.002 < 0.05$, so the independent variable financial technology shows an influence on the dependent variable return on assets (ROA), return on equity (ROE), net interest margin (NIM), operating costs, and operating income, as well as overall company growth.

Hypothesis Test

Hypothesis testing in this study used the Manova Between-Subjects Effect test. A variable is said to be influential if the between-subject effect test results show a significant value of <0.05 . The following are the results of the between-subject effect test:

Table 7: Tests of Between-Subjects Effects

Model	Mean Square	F	Sig.	R Squared	Keterangan
X-Y1	36.284	5.792	0.017	0.032	Influential
X-Y2	1334.025	4.450	0.036	0.024	Influential
X-Y3	27.198	7.158	0.008	0.039	Influential
X-Y4	198.604	0.179	0.673	0.001	No effect
X-Y5	2.370	0.016	0.900	0.000	No effect

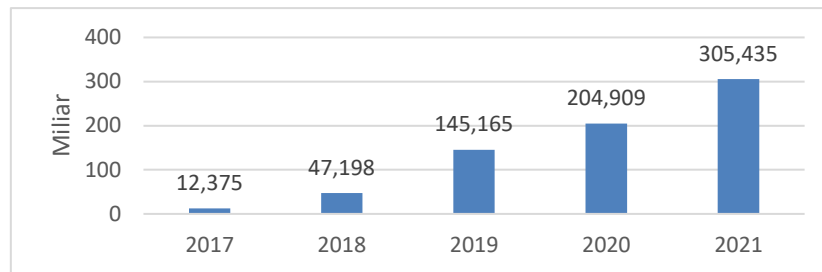
Source: SPSS processed data, 2023

Based on the results of the between-subject effect test above, it can be seen that fintech has a positive influence on ROA, ROE, and NIM. This can be seen from the significance value, which is less than 5%. So it can be concluded that the first to third hypotheses, which state that the fintech variables have an influence on ROA, ROE, and NIM, are acceptable. Meanwhile, the BOPO and company growth variables cannot be influenced by the presence of fintech services. It can be seen from the significance value, which is greater than 5%. So it can be concluded that the fourth and fifth hypotheses cannot be accepted.

Discussion

The Effect of Financial Technology on Return On Assets (ROA)

Based on the first hypothesis, which states that financial technology has a positive effect on return on assets (ROA), it can be accepted because, based on the results of the between-subject effect test above, it can be seen that the significance value is smaller than the 5% significance level. One aspect that influences the relationship between the use of fintech and ROA is the increase in the value of digital payments made by the public from 2017 to 2021. These results can be proven in the graph below:



Source: Data processed, 2023

Figure 4: Value of Digital Payments 2017-2021

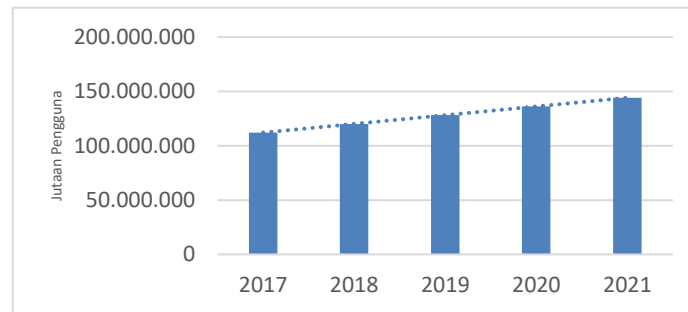
Based on the image above, it shows that the total value of payments made via digital tools (fintech services) in 2017–2021 continues to increase from IDR 12.3 billion in 2017 to IDR 305.4 billion in 2021. This supports the results of the analysis that fintech has an effect on ROA because the increasing number of transactions through fintech services in 2017–2021 means that banks that have fintech services can generate profits by utilizing the assets they own, in this case fintech mobile banking and internet banking.

The results of this research are in accordance with the hypothesis and technology acceptance model (TAM) theory that the benefits felt by the public in using fintech banking services are believed to influence people's interest in using these services. So, when people increase the intensity of using fintech services in banking, it can indirectly influence the increase in financial performance, which can increase the funds collected in overall banking assets, which influences ROA. The greater the ROA value of a company, the more efficient the use of its assets, so it can also be said that the same amount of assets can produce greater profits, and vice versa. If the ROA shows a higher figure, it will be a good signal for investors because a high value shows that the condition of the company is in good condition, so that it can attract investors to invest their funds.

The results of this research are also in accordance with research conducted by Mayasari, *et.al*, (2021) and Cantika, (2022), which states that fintech has an effect on ROA because the development of bank financial performance shows good development where the average bank ROA value tends to increase.

The Effect of Financial Technology on Return On Equity (ROE)

The next hypothesis states that financial technology has a positive effect on ROE. From the test results, it can be seen that the significance value is smaller than 5%, so it can be concluded that the hypothesis can be accepted. This is because from 2017 to 2021, the number of fintech users in Indonesia has increased significantly. Below, we attach a graph of the total increase in fintech users in Indonesia.



Source: Data processed, 2023

Figure 5: Total Indonesian Fintech Users

Based on graph 5, it shows that the total number of fintech users in Indonesia from 2017 to 2021 has increased to 144.2 million users. This increase in fintech users supports research results and is in accordance with the technology acceptance model (TAM) theory that the benefits felt (perceived usefulness) by the public in using fintech banking services are believed to influence people's interest where interest is included in behavior, namely when people use it. fintech services and decided to continue using them for transactions because their use can be accessed at any time. Based on this view, banks implementing fintech services are able to attract the interest of customers and investors to be able to buy products without having to come to the bank because the increase in customers will increase the third-party funds collected into additional capital for the bank so that it will affect the ROE percentage, the higher the value. ROE means the greater the possibility for investors to invest their capital in the company.

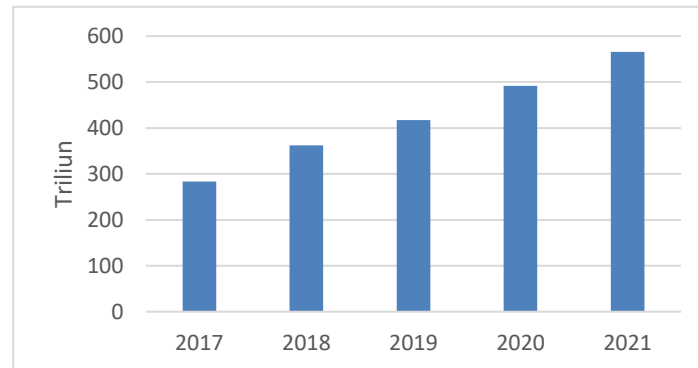
This research supports research conducted by Cupian & Akbar, (2020) and Cantika, (2022), which states that fintech has an effect on ROE because it produces better net profits on capital owned after the implementation of fintech services and the credit allowance policy implemented by management. as an effort to return the company's capital.

The Effect of Financial Technology on Net Interest Margin (NIM)

The third hypothesis states that financial technology has a positive effect on NIM. From the results of the between-subject effect test above, it can be seen that the significance value is smaller than the 5% significance level. So it can be concluded that this hypothesis can be accepted.

Based on the results above, it shows that there is a compatibility between the logic of thinking explained in the previous discussion and the test results above. This statement is that the ease of technology through the implementation of fintech used by banks can indirectly influence the increase in interest income in banking, so that the NIM value will also increase because fintech services are one of the uses of productive

assets. The higher the NIM value, the greater the possibility for investors to invest their capital in the company. This can be seen from the graph related to fintech financing in Indonesia below:



Source: Data processed, 2023

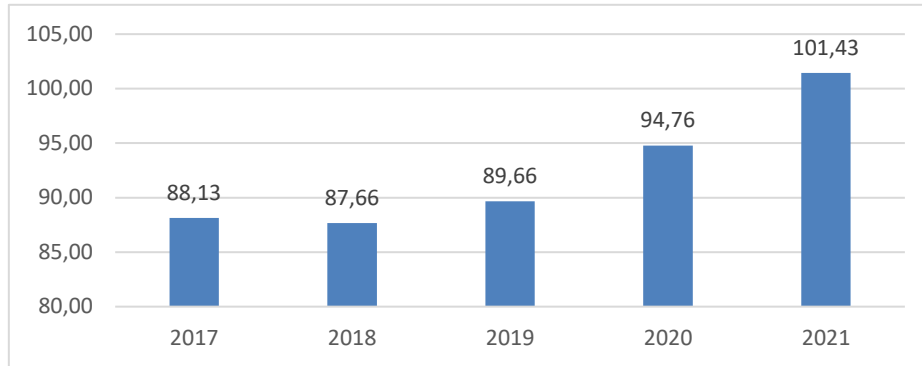
Figure 6: Indonesian Fintech Financing

Based on figure above, it shows that financing through fintech services in 2017–2021 continues to increase from 2017 amounting to IDR 283.64 trillion to 2021 reaching IDR 565.84 trillion. This supports the results of the analysis that fintech has an influence on NIM because the increasing number of financing transactions through fintech services in 2017–2021 means that banks that have fintech services are able to generate greater interest income from their productive assets, namely fintech services.

The results of this research are in accordance with the hypothesis and theory of the technology acceptance model (TAM) that the benefits felt (perceived usefulness) by the public in using fintech banking services are believed to influence people's interest where interest is included in behavior, namely when people use fintech services and decide to continue using them for transactions such as borrowing funds and paying bills because they can be accessed at any time. The ease of fintech services for the public will influence the increase in interest income in banking, so that the NIM value will also increase because fintech services are one use of productive assets. The higher the NIM value, the greater the possibility for investors to invest their capital in the company. This research supports previous research conducted by Cantika, (2022) with the results of their research, namely that fintech has a positive effect on NIM.

The Effect of Financial Technology on Operating Expenses and Operating Income (BOPO)

The next hypothesis states that financial technology has a negative effect on BOPO and cannot be accepted. Because the resulting significance value is greater than 5%, namely 0.673, This insignificant research result can be proven through the graph below:



Source: Data processed, 2023

Figure 7: Average Banking BOPO 2017-2021

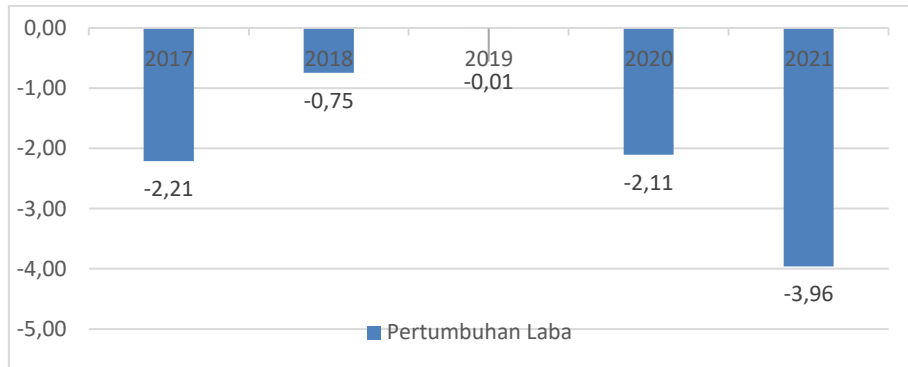
Based on Figure 7, it can be seen that the average banking BOPO ratio tends to increase in 2017–2021, because the operational expenses incurred by banks are greater than their operational income, so the increase in BOPO shows that banks are increasingly inefficient in controlling their operational expenses. This supports the analysis results that fintech has no effect on BOPO.

The results of this research are not in accordance with the hypothesis and theory of the technology acceptance model (TAM) that the benefits felt (perceived usefulness) by the public in using fintech banking services are believed to influence people's interest where interest is included in behavior, namely when people use the service. fintech and decided to continue using it for transactions because its use can be accessed at any time. Based on this view, banks implementing fintech services are able to attract people's interest in switching to using fintech services and making transactions without having to come to the bank, which can affect banking profitability. The existence of fintech can minimize the administrative burden incurred by banks because they use technology to carry out all their transactions, which can affect operational expenses on banking operating income (BOPO). Large technological investments cause bank profits to be eroded, and some banks also have to ensure safe use and long-term maintenance of the system. These costs are not small, so fintech operational costs are greater than the operational income received from fintech services. This could cause fintech services to have no effect on BOPO.

This research supports research conducted by Kristianti, I., Michella, V, (2021) and Thio & Yusniar, (2021), who examined the impact of fintech on banking financial performance with research results that there was no difference in the BOPO ratio because in Indonesia, the use of fintech in 2016–2019 turned out to be still not optimal. Banks are able to generate greater operational income, but this income is not yet able to cover the costs incurred for fintech technology operations.

The Effect of Financial Technology on Company Growth

The final hypothesis states that financial technology has a positive effect on company growth. From the results of the between-subject effect test above, it can be seen that the resulting significance value is greater than the 5% significance level, namely 0.9. So it can be concluded that this hypothesis cannot be accepted. This insignificant research result can be proven through the graph below:



Source: Data processed, 2023

Figure 8: Average Banking Profit Growth 2017-2021

Based on Figure above, it can be seen that the average banking profit growth ratio fluctuates in 2017–2021. The profit growth ratio above is minus; this shows that, on average, banks in Indonesia during 2017–2021 always experience losses. This supports the results of the analysis, which found that fintech has no effect on company growth in terms of profit growth. The results of this research are not in accordance with the hypothesis and theory of Malhotra & Singh, (2009) which states that the existence of fintech internet banking services is more profitable and operationally efficient, and the use of its services can reduce operational and equipment costs so that it can increase company profits.

According to the theory of company growth signals, in terms of profit growth, this reflects that the company is not operating well. The result that fintech has no effect on profit growth could be due to the operational and maintenance costs of using fintech services not being in line with the profits obtained. The use of fintech mobile banking and internet banking services in Indonesia is widely used by the public, but its use is not yet comprehensive, which can be caused by a lack of socialization and promotion carried out by banks to customers and to people who are still unfamiliar with fintech services such as mobile banking and internet banking. find it difficult to access and prefer to come directly to the bank and be served by bank employees

CONCLUSSION

Based on the research results above, showing that the influence of financial technology on financial performance and company growth in the banking industry for

the 2017–2021 period has been analyzed using the multivariate analysis of variance (MANOVA) test, it can be concluded that:

1. Financial technology has a positive effect on the return on assets (ROA) of banking companies in Indonesia in the 2017–2021 period. The increase in banking transactions through financial technology influences banking profitability, which can increase the funds collected in overall banking assets, which affects the percentage of return on assets (ROA).
2. Financial technology has a positive effect on the return on equity (ROE) of banking companies in Indonesia in the 2017–2021 period. The existence of banking financial technology services is able to attract customer interest, which will automatically increase the number of customers and can increase third-party funds collected into additional capital for the bank so that it will affect the return on equity (ROE) percentage.
3. Financial technology has had a positive effect on the net interest margin (NIM) of banking companies in Indonesia in the 2017–2021 period. The existence of financial technology services can channel and increase financing transactions that can generate interest income, which will affect the NIM percentage.
4. Financial technology has no effect on operational costs and operating income (BOPO) in banking companies in Indonesia in the 2017–2021 period. Financial technology services cause bank profits to be eroded because operational costs are greater than income. This is why financial technology has no effect on operational costs or operating income (BOPO).
5. Financial technology has had no effect on company growth in terms of profit growth in banking companies in Indonesia in the 2017–2021 period. The results of the lack of influence of financial technology on company growth could be due to the burden of operations and maintenance using financial technology services not being in line with the profits obtained.

Implications

The results obtained from this research indicate several implications, as follows:

1. This research shows that banks must be able to increase transactions and financing through financial technology services so that the income or profits obtained can reduce operational costs incurred by banks on financial technology services if banks have financial technology services as information technology innovations and financial resource capabilities. adequate, then the chances for banks to survive and compete in their industry will be better. For banks, it would be better if they improved the implementation and features of financial technology services that could make it easier for customers to make transactions. Adequate financial resources will also increase investors' confidence that the bank is in a stable position so that it leads to goals and performance as expected.

2. For customers, when choosing products from companies providing services related to finances, they must be wiser.

Limitations

This research has benefits if the research results are used to improve future research. There are several limitations to this research, namely:

1. This research is limited to data collection because there are many banking companies that do not publish complete annual financial report data on the Indonesia Stock Exchange (BEI) in a row in the research period, namely 2017–2021, so the sample for this research is small.
2. The dependent variables used in this research are financial performance, which is only measured using profitability ratios, and company growth, which is measured using company profit growth. Future researchers can use other measures of bank financial performance, such as liquidity ratios and solvency ratios.
3. There is a lack of supporting literature that the author can obtain regarding the influence of financial technology on company growth in terms of profit growth.
4. There are limitations to this research, which refers to previous research conducted abroad, because there are differences in the development of fintech in these countries and the research year period, so there are different conclusions.

Suggestion

Based on the research results and conclusions obtained, the researcher provides several suggestions, as follows:

1. Based on the results of this research, it shows that financial technology has no influence on operational costs and operational income as well as company profit growth, so banks are expected to be able to increase transactions and financing through financial technology services so that the income or profits obtained can reduce operational costs. issued by banks for financial technology services.
2. Investors are expected to be more careful in making investment decisions by paying attention to factors such as financial technology or others that can influence banking financial performance, so as to prevent and minimize losses in investing.

For future researchers, it is hoped that they can add indicators to the independent variable financial technology to show other factors that can influence financial performance and banking profitability ratios. Future researchers can also add dependent variables to their research, such as liquidity and solvency ratios

The conclusions section contains a summary of research results or research findings, which correlate with the research objectives written in the introduction. Then state the main points of the discussion. A conclusion generally ends with a statement about how research works contribute to the field of study as a whole (implications of research results). A common mistake in this section is to repeat the results of an experiment, abstract, or be presented with a very list. The concluding section must

provide clear scientific truths. In addition, the conclusions can also provide the limitation of the study and suggestions for future experiments.

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