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THE EFFECT OF ELECTRONIC BANKING ON THE PERFORMANCE OF COMPANIES IN THE BANKING SECTOR LISTED ON INDONESIA STOCK EXCHANGE

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ABSTRACT

The purpose of this study is to examine the effect of electronic banking (ATM and Mobile banking) on the performance of banking sector companies listed on the Indonesia Stock Exchange (IDX) in 2018 to 2020. The rapid development of information technology currently has an impact on various aspects of life, including banking. One of the issues in the national banking industry is protecting customers in the midst of increasingly complex and dynamic demands, both in terms of services offered and in terms of products. Therefore, modern and sophisticated information technology is needed to support services. The researcher raised this topic as a research in line with the increasing number of transactions made by the Indonesian people through electronic banking, which is seen from the increasing trend every year. This research is associative, while the research population is banking companies listed on the IDX for the 2018-2020 period. The sampling method is carried out using the purposive sampling method. The sample used in this study amounted to 38 banks with three years of observation. Data analysis was performed using multiple linear regression method using statistical application, namely SPSS. After testing, it was found that ATM has a positive effect on banking performance, because currently the distribution of ATM facilities has been spread in various places and is easy to use. which led to the formation of a public perception that ATMs could be found anywhere to transact with an unlimited time, this resulted in the growth of customers so that it affected financial performance. Then M banking does not affect the financial performance of banks, which is caused by the amount of investment that causes some banks to have not adopted the use of m-banking, besides that in general the use of m banking has not been thoroughly used by customers, and every customer does not necessarily take advantage of mobile banking facilities

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INTRODUCTION

Every person, organization, and company must be able to adapt to the situation and conditions that occur in the current era of globalization because technological developments that are developing very rapidly can have an impact on various sectors and businesses, including the banking sector. The rapid development of technology also has an impact on humans, such as the demands for the use of technology that have developed at this time, and humans must adapt and move quickly and precisely in this dynamic and modern life. The financial sector in this case is one of the most important determinants of the level of growth and development of an economy.

The dynamic effect of banking activities on the national economy makes it important to continually study how efficiently their resources are used (Yua & Akwam, 2021). Financial institutions, especially banks around the world, are present in a more creative, fast, and efficient way in order to improve financial services and products. That's because the current and future challenges for companies are the demands of increasingly sophisticated information technology, especially banking in providing the best service for its customers. This happens in line with technological advances in Indonesia, and nowadays people's preferences are also changing and of course many banks have taken advantage of the development of information technology that provides convenience to their customers in the form of using transaction services called electronic banking. According to (OJK, 2016) This electronic banking started from an ATM machine facility whose main service is cash withdrawal only. Then along with the development of the internet network, banks innovate in expanding their services using internet banking, and then along with the development of network technology, data communication is accompanied by more and more people using smartphones which finally banking expands its innovation again by providing mobile banking services.

This mobile banking service certainly pampers the public in transactions because it is very easy to access using a smartphone or laptop which is not limited by space and time, anytime and from anywhere it can be used as long as there is a network, so that it provides convenience and flexibility for users because users do not need to come directly to the branch office to transact. With the various facilities provided, it will be an attraction for customers who use it (Wulandari, 2021)

One of the issues in the national banking industry is protecting customers in the midst of increasingly complex and dynamic demands, both in terms of services offered and in terms of products. The various kinds of efforts that are given both from services and products can be used as benchmarks for customers in determining the extent to which the company provides the best for its customers, because the rapid development of technology also increases business competition in the midst of customer preferences that are very fast changing or dynamic. Therefore, modern and sophisticated information technology is needed to support services. The researcher raised this topic as a research in line with the increasing number of transactions carried out by the Indonesian people through electronic banking as seen from the increasing trend every year.

In Southeast Asia, the country with the largest digital economy transactions is Indonesia, which reached USD 44 billion, and this number is believed to continue to grow to reach USD 124 billion in 2025. This is in line with the increasing number of mobile banking application users, namely 33% in 2020 until reached 39.2% in 2021. As for ATMs, BRI bank is the bank that has the largest number of ATM machines, and as of September 2019, BRI was recorded to have 3,209 CRM ATMs and 20,846 ATM machines, then BNI ATM machines with 18,571 ATM machines while owned by Bank Mandiri as many as 18,290 machines. This is believed because ATMs can be a mainstay in realizing the best service for transactions, and every year the addition of ATM machines is considered very aggressive compared to the addition of branch offices (CNBC, 2019)

Along with the increase in electronic banking users in Indonesia, the bank continues to strive through investment for the long term. This is evidenced by the existence of banks that previously did not use electronic banking services, are now starting to effectively use them. Likewise with banks that already have e-banking service, they must continue to innovate by upgrading updates in line with financial innovations in the digital field that continues to increase. Therefore, it is expected that this will affect banking performance (ROA). Return on assets (ROA) is a ratio of return on assets to see how effective the company's operations are as a whole, which shows that if the ratio is higher, it means the company is getting better, which means the company can utilize its assets in obtaining effective profits, and vice versa if the ratio is low, it shows the company cannot make a profit from its assets (Wijayati & Gustyana, 2021).

Previous studies have shown inconsistent and mixed results because some researchers have observed that the impact is negative, and others have observed a positive impact and some even show that the results have no effect. A research by Sudaryanti et al (2018) shows that there is a negative influence between electronic banking on banking financial performance, while

Kustina et al (2020) and Rebecca (2020) shows that there is a positive influence between the implementation of electronic banking on the performance of Indonesian banking. These results contradict the study by Thio (2021) and El Chaarani & El Abiad, (2018) which shows that e-banking has no significant effect on the financial performance of the banking sector. Because there are still inconsistencies in the results of previous studies, the researchers want to re-examine the effect of electronic banking on the financial performance of banking sector companies listed on the Indonesian stock exchange in 2018 to 2020.

THEORETICAL FRAMEWORK AND HYPOTHESES

Agency Theory

proposed agency theory as a contract between the agent and the principal, the agent as management and the principal as the owner (Jensen & Meckling, 1976). The owner gives orders to management to do something and authorizes management in making decisions that are best for the owner. Each has a position, role and position. The owner has access to the company's internal information, but the agent gets more information than the principal because the agent is the company's operational actor so that they can access all information from operations to the company's performance. In this case, the agent and the principal have their own interests and goals, which are a source of conflict between the two.

Research on electronic banking gives the view that management here not only acts as an agent who seeks to improve banking performance. But customers can also become banking agents who will omprove performance.

ATM (Automatic Teller Machine)

ATM is a device controlled by a computer with a variety of services offered to customers that can be identified by a personal identity number (PIN), one of which is withdrawing money from an account. According to Kustina, K. T., Sugiarto (2020) ATM is a technique to save costs in achieving higher output (productive) in terms of time efficiency than tellers. So in general with this, visits to the bank to take money can be reduced, this is one of the advantages of users who have ATM cards. According to Ugbede (2021) ATM is the most popular electronic banking solution in Indonesia, with various conveniences and effectiveness offered, where customers do not need to queue at branch offices for a very long time to make banking transactions.

ATM according to Sutarti et al (2019) is defined as a means to transact electronically with a variety of menu options provided. This facility is very efficient in time for making transactions and errors in the service are also very low which will ultimately result in an increase in banking performance in providing the best service for its customers. Automatic Teller Machine (ATM) is a banking facility that operates 24 hours without limited space and time for those who use it, it can be easily found anywhere and of course the bank will charge a maintenance fee for the facility (Alfatihah et al, 2019).

Mobile Banking

Mobile banking is a product or service offered by banks and non-banks to users in conducting various transactions using mobile phones or smartphones or tablets (Shankar & Jebarajakirthy, 2020). Technology on mobile which is increasing at this time also encourages mobile banking users to be able to use this service anytime and anywhere. In fact, now banking has presented a new paradigm by presenting services and products as well as new points with updated updates that are in accordance with the current needs, situation and conditions.

Customers can get banking services anywhere regardless of time and geographic location Wijayati & Gustyana (2021) which means m-banking is considered as the most flexible and useful channel for banking services. According to Alfatihah et al (2019) m-banking is an innovative form of banking service for transacting through banks using only mobile devices. This is a new step for banking in creating the best service for customers by taking advantage of opportunities from technology. Financial institutions currently use m-banking as a strategic tool to meet customer expectations and to gain a competitive advantage in the banking sector. Thus, m-banking is considered as one of the most valuable and promising mobile commerce applications in recent years.

Financial Performance

Performance means the achievement of a given job to be completed. According to Imamah et al (2021), financial performance is the main part of the bank's overall performance and is also called a representation of the results achieved by banks in their operations related to various aspects including technology and human resources, marketing, collection and distribution of funds. Meanwhile, according to Hamdani (2018) financial performance in this case is work ability and performance description supported by management in the company's operational activities. According to Safira (2019) is defined as a description of the results of all company activities at a certain time in an effort to obtain large profits by using profitability (ROA) as a measure.

Profitability is used to measure the ability of a company to get maximum profit Kasmir (2016). The higher the ratio, the better the performance, which means that the assets owned by the company can effectively generate maximum profits. Conversely, the lower the ratio, the worse it is, so the ratio can describe the level of effectiveness of a company's management. The banking sector has received considerable attention from various parties such as the government, bank management, regulatory authorities, and academics because it is one of the main components of the financial system El Chaarani & El Abiad (2018), and the economic literature also pays great attention to banking performance expressed in terms of productivity, competition and profitability.

Hypothesis Development

The use of ATM (Automatic Teller Machine) affects Financial Performance.

Automatic Teller Machine (ATM) is a banking facility that operates 24 hours without limited space and time for those who use it, besides that it is very easy to find anywhere and of course the bank will charge a maintenance fee for the facility Alfatihah et al (2019). In general, automated teller machines or commonly abbreviated as ATMs allow customers to carry out various banking transactions and even operate outside of banking hours, and can also change people's habits that do not have to pay for their purchases directly using cash (Mary & Isola, 2019). Hence, the results of this study indicate that the use of ATM technology will significantly improve banking performance and produce efficient and effective services.
Based on the explanation above, the hypothesis in this study is
H1: The use of ATM (Automatic Teller Machine) affects Financial Performance.

The use of M-Banking has an effect on Financial Performance

The rapid progress of information and communication technology has triggered the technological revolution experienced by banking today throughout the world (Oluyemisi et al, 2021), as evidenced by banking financial services that have changed greatly due to advances in information and communication technology, this is also proven in research Mary & Isola, (2019) and El Chaarani & El Abiad (2018) which shows that there has been a tremendous increase in the number of m-banking users due to the increasing number of smartphone users and the fact that the service is easy to use. According to (Imamah et al, 2021) with the existence of m banking, banks are able to generate income other than higher interest, but the income is

not commensurate with the amount of operational costs that will be incurred for long-term maintenance (Imamah et al., 2021).
Based on the explanation above, the hypothesis in this study is
H2: The use of M-Banking affects Financial Performance.

Electronic Banking (ATM and M banking) has an effect on Financial Performance

Currently, banking services and products are growing along with technological advances, according to Olsy et al (2020) Electronic banking activities can be carried out anywhere without having to come to the bank, and aim to reduce costs and the number of hours customers spend at branch offices. This is also revealed in the research Ugbede et al (2019) which concludes that through electronic banking customers can transaction without the need to come directly to the bank office, and will indirectly create a culture that allows consumers not to have to pay for their shopping with cash. causes a decrease in the amount of cash held. The study also concluded that e-banking has made a positive contribution to the financial performance of banks. which can be seen from the trend in the variables where the value of transactions carried out using e-banking has a positive influence on banking financial performance, e-banking in this case provides effective and efficient services in facilitating the best service and diversified products according to client needs (Siddik et al, 2016).
Based on the explanation above, the hypothesis in this study is
H3: The use of ATM (Automatic Teller Machine) and M-Banking has an effect on Financial Performance.

Based on the hypothesis above, the research framework is presented as follows:

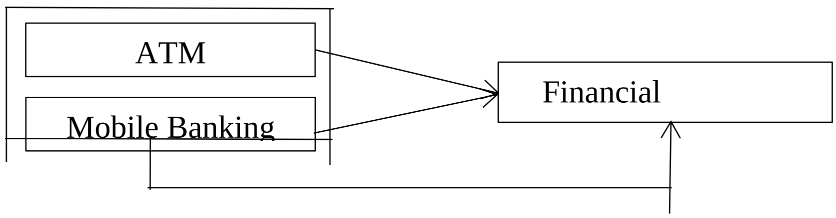

Figure 1: Research Framework

RESEARCH METHODS

This research is associative. The population in this study is banking sector companies listed on the Indonesian stock exchange for the 2018-2020 period. For the sampling method, it is done by setting criteria called the purposive sampling method.

Table 1. Sample Selection Results

Research population	Banking sector companies listed on the Indonesia Stock Exchange in 2018-2020	43
Sampling criteria	Companies in the banking sector that do not have complete annual financial reports in 2018-2020	(1)
	Banking sector companies that do not have complete data required for research	(4)
Number of samples during the study period		38 (38x3 tahun = 114)

Source: Research Data (2022)

The data is processed using the multiple linear regression analysis method so that the statistical equation below is obtained:

$Y = a+b_1X_1 + b_2X_2$

Note: Y = Financial Performance

a = Constant
b_1b_2 = Regression Coefficient
X_1 = ATM (Automatic teller machine)
X_2 = Mobile banking

RESULTS AND DISCUSSION

Results

The study was conducted for three years, which resulted in 114 observations by multiplying the number of samples taken by the 3 year period of the study. The data is obtained from the annual financial report which is accessed through www.idx.co.id. This research was conducted by all banking sectors listed on the Indonesia Stock Exchange in 2018-2020. The population in this study amounted to 43, after determining the sample criteria using the purposive sampling method so that the number of samples to be studied was 38. Then the data was processed using the SPSS application.
The following are the results of the research regression:

Descriptive Statistics

This descriptive statistic provides an overview of the number of sample data (N), the minimum, maximum, mean and standard deviation of each variable used in the study including bank performance (ROA), ATM, and mobile banking.

Table 2. Descriptive Statistics Test Results

Variable	N	Minimum	Maximum	Mean	Std Deviation
Financial Performance	114	-3,43	2,43	,5514	3,58114
ATM	114	,00	1,00	,8372	,37061
M banking	114	,00	1,00	,7364	,44228
Valid N (Listwise)	114				

Based on the table, it can be seen that the amount of data (N) from each valid variable is 114, from 114 sample data on financial performance (Y), the minimum value is 0 and the maximum value is 1, from the 2018-2020 period it is known that the mean value is 0.5514 and standard deviation of 3.58114. while for the ATM variable (X1) it is known that the minimum value is 0 and the maximum value is 1, in the 2018-2020 period the mean value is 0.8372 and the standard deviation is 0.37061 while the M banking variable (X2) for the minimum value is 0, and the maximum value is 1, for the 2018-2020 period the mean value is 0.7364 and the standard deviation is 0.44228, which means that the distribution of the values is evenly distributed because it is indicated by an average value that is greater than the standard deviation value.

The Classical Assumption Test

Normality Test

Table 3. The First Normality Test Results

Variabel	Bank Performance	ATM	M Banking
N	129	129	129
Kolmogorof -smirnovZ	5,252	5,758	5,234
Asymp. Sig	,000	,000	,000

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Table 4. The Second Normality Test Results

Variabel	Bank Performance	ATM	M Banking
N	114	114	114
Kolmogorof -smirnovZ	1,321	2,199	5,578
Asymp. Sig	,061	,000	,000

Based on tables 3 and 4, the normality test was carried out 2 times. The first normality test has data totaling 129 observations. After the test, it can be said that all the variables tested are not normal, with each asympsig below 0.05, so to normalize it, further data processing can be carried out where the only variable that can be normalized is ROA. While other variables use categories so that they are left alone and cannot be normalized because they are dichotomous. So to normalize the ROA variable, data transformation with Ln is used, after the data is transformed it can be seen in the second test table the amount of data processed is reduced from 129 data to 114, which is caused by automatic reduction or elimination of data whose value is 0 or negative. After logging the data, a second normality test was carried out with the results of the ROA variable being declared to have passed the normality test because it had a 2-tailed assymsig value > of 0.05, which is 0.102. For other variables, there is no need to normalize because it is dichotomous, so that data processing can be continued.

Multicollinearity Test

Table 5. Multicollinearity Test Results

Variabel	Toleran ce	VIF	Conclusion
ATM	,937	1,068	There are no symptoms of Multicollinearity
M banking	,937	1,068	There are no symptoms of Multicollinearity

The table above explains that the tolerance value for ATM and M banking variables > 0.10 is 0.937, while the Variance Influence Factor < 10 is 1.068, so it is concluded that there is no multicollinearity between independent variables in this study.

Autocorrelation Test

Table 6. Autocorrelation Test Results

Model	Durbin Watson	Conclusion
1	1,795	There is no autocorrelation

The occurrence of autocorrelation can be seen using the Durbin Watson test (Ghozali 2013). regression that is free from autocorrelation symptoms is a requirement of a good regression model. Based on table 6 above, based on the test results using Durbin Watson, the dw value of 1.795 is larger than -2 (> -2) and smaller than 2 (< 2), so it is concluded that there is no autocorrelation in the regression model.

Heteroscedasticity Test

Table 7. Heteroscedasticity Test Results

Model	Sig	Conclusion

Constant	,899	
ATM	,869	Heteroscedasticity does not happen
M Banking	,699	Heteroscedasticity does not happen

In the regression model, the Glejser test is used to detect the presence or absence of heteroscedasticity symptoms by using the absolute residual value regression on the independent variable, with a confidence level of > 5%. based on the results of the tests that have been carried out by regressing each independent variable first with residual or absolute residual variables where the variable must produce a significant value > 0.05 from the test, the ATM results are 0.86 and M banking is 0.69, so that it can be concluded that there is no symptom of heteroscedasticity in the regression model used.

Multiple Linear Regression Test

Table 8. Multiple Linear Regression Test Results

Model	Unstandardized Coeficients		Standardized Coeficients	t	Sig
	B	Std Error	Beta		
(Constant)	-2,482	,294		-8,440	,000
ATM	,615	,306	,190	2,007	,047
M Banking	,322	,226	,135	1,425	,157

This study uses multiple linear regression analysis method to test the hypothesis, so by referring to the table above, the regression equation is obtained as follows:

ROA = -2,482 + 0,615ATM + 0,322M Banking.

The equation can be explained as follows:

1. The constant value of 2.482 indicates if the ATM and M banking value is 0 then the ROA value is 2.482.
2. The ATM regression coefficient is 0.615, which means that if a bank uses an ATM machine, it will increase ROA by 0.615, while banks that do not use an ATM machine do not experience an increase in ROA of 0.615, which is assumed to be the other variable.
3. The regression coefficient of m banking is 0.322, which means that if a bank uses m-banking to support its services, it can increase ROA by 0.322, it is assumed that other variables remain.

Hypothesis Test

F-test

Table 9. F-test Results

Model	Sig	df	Mean Square	F	Sig
Regresion	8,640	2	4,320	4,002	,021
residual	119,827	111	1,080		
total	128,468	113			

The F test is useful for simultaneously testing the effect of the independent variable in the study on the dependent variable, with a significance level of < 5%. from the results shown in table 9 above, the test results show a sig value of 0.021, which means ATM and m banking together affect financial performance, the use of variables X1 (ATM) and X2 (M banking) is the right variable to be used in predict bank performance (Y).

Coefficient of Determination Test

Table 10. Coefficient of Determination Test Results

Model	R Square
1	,067

In the table above, the R square value obtained is 0.067 or 6.7%, meaning that the contribution from the use of ATM and M banking is quite small, namely 6.7% to the company's performance, and the remaining 93.3% which is explained by other variables that were not examined in this study, but even though the results were only 6.7%, this test value was still feasible because the F test was accepted or significant..

T-test

Table 11. T-test Results

Model	Unstandardized Coeficient		Standardized Coeficient	t	sig
	B	Std Error	Beta		
constant	-2,482	,294		-8,440	,000
ATM	,615	,306	,190	2,007	,047
M Banking	,322	,226	,135	1,425	,157

This test basically describes the influence of an independent variable on the dependent variable individually, with decision making based on a comparison of significance between the t-value of each regression coefficient with a significance level of 0.05. If the significant value <0.05, it indicates that the independent variable has a significant effect on the dependent variable. Seen in table 11 above, the results show that the variable that has a significant effect is the ATM partially because the ATM significance value is 0.047, which is less than 0.05 (<0.05), while the m banking variable shows no effect on bank performance because the significance value is more than 0.05(> 0.05).

Discussion

ATM and Financial Performance (ROA)

Research shows that the variable X1 (ATM) has a positive effect on banking financial performance. As shown in table 11 above, where the ATM variable gets a result of 0.047, which is less than 0.05 (<0.05), which means that the procurement of ATM machines has an effect on performance because currently the distribution of ATM facilities has spread in various places and can be easily used. What causes the formation of public perception is that ATMs can be found anywhere to transact with an unlimited time. This resulted in the growing number of customers and the influence on financial performance. This result is also supported by research (Kustina et al., 2020) and (Mary & Isola, 2019) which shows that there was a significant positive relationship between ATM use and banking financial performance.

M banking and Financial Performance (ROA)

M banking variable as shown in table 11 above is that there is no effect on banking performance, which can be seen from the M banking value of 0.157, which is more than 0.05 (> 0.05). This result is supported by research Siddik et al (2016), El Chaarani & El Abiad, (2018) and Imamah et al (2021) caused by the amount of investment that causes some banks to have not adopted the use of m-banking. In general the use of m-banking was not fully used by customers, and each customer did not necessarily take advantage of mobile banking facilities.

CONCLUSIONS AND RECOMMENDATIONS

As technology advances in Indonesia, the demands of very sophisticated information technology will be a challenge for now and in the future for companies, especially banks in providing the best service for the community, and now many banks have taken advantage of the development of information technology that provides convenience to every user with electronic banking transaction services (e banking). In this regard, the banking sector continues to strive to improve quality through long-term investments that are commensurate with the rapid use of electronic banking in Indonesia. Therefore, it is expected that electronic banking in banking companies can affect financial performance.

The research that has been done shows that the variable X1 which in this case is ATM has a positive effect on banking financial performance. This result is supported by research Kustina et al (2020) and Mary & Isola (2019) which shows that there was a significantly positive relationship between the use of ATMs and banking financial performance, while for the M banking variable, the results show that there was no effect on banking performance. This result is supported by research El Chaarani & El Abiad (2018) and Siddik et al (2016).

Based on the research that has been done, the advice that researchers can give for banking is that banks should continue to improve their products and services to the maximum and offer related convenience and flexibility to transactions using electronic banking to each user, so that profitability increases along with increasingly rapid technological developments. As for the research that has been carried out, there are still limitations, namely the problems that occur in the normality test conducted 2 times, and the scope of the research is still limited. Therefore, to obtain more representative results, it is recommended that further researchers extend the research time period and add research objects.

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