The Relationship Between E-Banking and Financial Performance of Go Public Bank in Indonesia

Rizki Sri Lasmini[1], Astra Prima Budiarti[2], Abel Tasman[3], Fifka Amelia Susant[4]
[1] Universitas Negeri Padang, Padang Indonesia,✉ rizkisrilasmini@fe.unp.ac.id
[2] Universitas Negeri Padang, Padang Indonesia,✉ astraprimab@fe.unp.ac.id
[3] Universitas Negeri Padang, Padang Indonesia, ✉ abeltasman@fe.unp.ac.id
[4] Sekolah Tinggi Ilmu Ekonomi Sumatera Barat, Pariaman, Indonesia ✉ fifkaamelia02@gmail.com

Abstract

E-Banking is a form of IT application that serve customers when doing transactions using their personal accounts by computer or mobile phone that is connected to the internet, therefore non-cash transactions applied. This research aims to analyze the relationship between the application of E-Banking and the financial performance of go public bank in Indonesia. It was conducted at 41 go pulic bank as the research sample that selected based on purposive sampling. The data used is sourced from the annual report for 2014-2018. As the dependent variable, financial performance peroxide by Return on Equity (ROE). The independent variable is E-Banking which consists of two variables namely Internet Banking and Mobile Banking which are measured using a dummy. This study uses control variables consisting of risk, liquidity, bank size and business cycles. The data analysis technique used is partial correlation analysis. The results of this study indicate that: (1) internet banking is positively and significantly correlated with the financial performance of banks going public in Indonesia, (2) mobile banking is positively correlated and not significant with financial performance of going public banks in Indonesia.

Keywords: *financial preformance, E-Banking, credit risk, liquidity, size, business cycle*

Introduction

The development of information technology at banking industry has ensured that banks have developed into business entities that offer self-service to their customers, for example electronic banking (E-Banking). According to Akishar, E-Banking is the activity of conducting transactions, payments and other transactions via the internet with a bank-owned website equipped with a security system [1].

Previous researchers has different view about E-banking activity. Hosein has conducted research in Asian countries [7]. Gutu has conducted research in Romania [8]. All researchers found that E-Banking had a negative impact on financial performance of bank. The reason is customers in developing countries still depend on the traditional channels of banks. The high cost of E-Banking infrastructure and the limited number of customers using E-Banking have resulted in negative profits in developing countries.

The positive impact of E-Banking on financial performance is due to operational cost efficiency. E-Banking causes banks to reduce the number of employees, because the role of employees such as tellers and customer service has been replaced by E-Banking, which allows customers to do transaction without them. According to Dubois et al and Brush et al when banks provide complete E-Banking services, bank operational costs will decrease and bank profits will increase [9] [10].

The phenomenon of the relationship between E-Banking and the financial performance of banks in Indonesia can be seen in Table 1.

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Table 1. The Relationshipberween E-Banking and the Financial Performance of Go Public Banks in Indonesia

Number	Institution	Capacity download of Mobile Banking Application	Website Address	ROE
1	Bank Mandiri	5.000.000	https://ib.bankmandiri.co.id	11,12%
2	Bank BNI	1.000.000	https://ibank.bni.co.id	15,50%
3	Bank BRI	10.000.000	https://ib.bri.co.id	23,08%
4	Bank BCA	10.000.000	https://ibank.klikbca.com	20,50%
5	Bank BTN	500.000	https://internetbanking.btn.co.id	18,32%

Source: Google play store dan annual report bank

Table 1 shows the relationship between E-Banking and bank financial performance of five banks, Bank Mandiri, Bank BNI, Bank BRI, Bank BCA and Bank BTN. Based on the number of downloads of mobile banking, the most active mobile banking users are customers of Bank BCA and Bank BRI with the total number of downloads of this application on smartphones totaling 10,000,000 downloads. Meanwhile, the financial performance of the two banks based on the Return on Equity (ROE) ratio, both banks have relatively high ROE, 20.50% and 23.08% respectively. Different conditions experienced by Bank BTN. Bank BTN customers can be said to be the most passive customers in using mobile banking, this is based on the number of mobile banking downloads on smartphones of 500,000 downloads, but the financial performance of Bank BTN is quite good at 18.32%, higher than Bank Mandiri and Bank BNI, although Bank Mandiri and Bank BNI have more active mobile banking customers, which are characterized by a higher number of mobile banking downloads compared to Bank BTN.

In this study, the effect of E-Banking on the financial performance of banks is also influenced or controlled by control variables. Control variables are included so that the influence of mobile banking and internet banking on financial performance is constant, so it cannot be influenced by other variables not examined[11]. The control variables in this study are company size, credit risk, liquidity and business cycles.

According to Al-Smadi and Al-Wabel in practice, the use of E-Banking will be able to cut costs, so it is hoped this will increase profits [14]. According to DeYoung, Hasan, Pigni et al, Kagan, Arnaboldi and Claeys, Ciciretti et al, stated that the application of E-Banking applications that require sophisticated technology increases the profitability of banks in many countries in the Americas and Europe[15][16] [17][18][19][20]. E-Banking provides a positive contribution in competition between banks and is also able to improve bank financial performance.

According to Arnaboldy and Claeys and Ciciretti, the application of internet banking applications led to banks oriented towards technological development[19][20]. Hasan danh Cicaretti et al stated that the technology base, especially internet banking, reduced bank operational costs[16][20]. According to Kagan the application of internet banking will improve the quality of bank assets which will further increase the bank's Return On Equity (ROE)[18].

Krawish and Al-Sa'di, Hosein, Gutu have conducted research in various developing countries in Asia. The majority of researchers get the results that the application of E-Banking reduces operational costs and will further increase bank profitability[6][7][8].

Hosein and Gutu stated that the application of E-Banking negatively affected bank financial performance, this was because customers were still dependent on traditional banking channels[7][8]. The high cost of infrastructure, the high cost of advertising and the still limited number of customers who use E-Banking causes the profit generated is still low.

One of the risks faced by banks is credit risk. Credit risk is identical to problem loans. According to Al-Smadi and Al-Wabel, an increase in credit risk will reduce bank stability which means it will reduce the financial performance of the bank[14].

Liquidity is one of the important things in bank management. High liquidity will increase customer confidence in the bank, so the level of bank confidence will also increase. But there is a trade off between liquidity and profitability. According to Gutu, a high level of liquidity will cause a decrease in profitability[8].

Company size can be reflected in the number of assets owned by the company. The large amount of assets reflects that the company's activities also increase, along with the increase in company activity, the company's profit will also increase. Thus, it can be concluded that company size has a positive effect on bank profitability or financial performance[14].

The business cycle is reflected by Gross Domestic Product (GDP). If the GDP Rate growth is good, indicating that the business cycle is progressing, the economy is in good condition and this will result in profits and bank financial performance will increase. It can be concluded that the business cycle has a positive and significant effect on bank financial performance.

Methods

The object of this research is that all banking companies go public listed on the Indonesia Stock Exchange. The population of this research is 41 bank and the sample will be selected based on purposive sampling. Samples were selected as many as 25 banks during the five-year study period produced 125 observations.

The variables used in this study include the independent variable, the dependent variable and the control variable. The dependent variable is the bank's financial performance as measured by profitability ratios in the form of Return on Equity (ROE). The independent variable is e banking, this variable is included in the dummy variable, which is code 1 for banks implementing e banking and code 0 for banks not implementing e banking. In addition to the dependent variable and the independent variable, this study also uses a control variable. According to Sugiono the use of this control variable aims to create a relationship between the dependent variable and the independent variable not influenced by outside factors not examined[21]. The control variables used in this study are company size, credit risk, liquidity and business cycles.

Schematically, the research design to describe the flow of problems and the expected answers and the test model can be described as follows
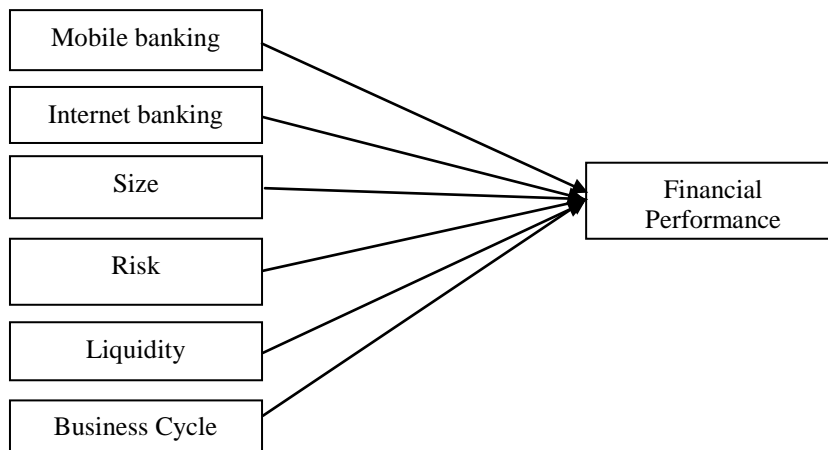
Picture 1. Research Design

In this study, the technical analysis of the data used is partial correlation analysis. According to Cornelius partial correlation analysis is an analysis used to express the degree of closeness of the relationship between variables, this analysis is used to test the relationship between two variables by removing other variables (control variables) that affect the correlation[11]. Before doing this analysis, the classic assumption test is performed first. The classical assumption tests include normality test, multicollinearity test, autocorrelation

test, and heterokedasticity test. In this case, the model feasibility test is also needed in the form of the coefficient of determination (R2) test, F test and hypothesis test (t test).

Results and Discussion
Descriptive Statistics

Based on Table 2, it appears that the number of research observations from 2014-2018 is 120 observations. For financial performance variables that are proxied by ROE, the minimum value is -64% and the maximum value is 31%, while the average value is 9.58% and the standard deviation is 10.81%. E-Banking variables are proxied by internet banking (INT) and mobile banking (MOB). INT and MOB are dummy variables that have a minimum value of 0, which means companies do not implement internet banking and mobile banking, a value of 1 for companies that implement internet banking and mobile banking. The credit risk variable which is proxied by NPL has a minimum value of 0% and a maximum value of 7%, an average value of 1.83% and a standard deviation of 1.36%. The liquidity variable which is proxied by LDR has a minimum value of 51% and a maximum value of 145%, an average value of 86.68% and a standard deviation of 13.02%. Company size variables are proxied by the natural logarithm of total assets having a minimum value of 15.18 and a maximum value of 20.98, an average value of 18.12 and a standard deviation of 1.59. The business cycle variable which is proxied by GDP growth has a minimum value of 4.88% and a maximum value of 5.17%, an average value of 5.03% and a standard deviation of 0.094%.

Table 2. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
PERF	120	-0.64	0.31	0.0958	0.10815
INT	120	0.00	1.00	0.9167	0.27754
MOB	120	0.00	1.00	0.7833	0.41370
RISK	120	0.00	0.07	0.0183	0.01356
LIQU	120	0.51	1.45	0.8668	0.13028
SIZE	120	15.18	20.98	18.1222	1.59942
CYC	120	0.05	0.05	0.0503	0.00094
Valid N (listwise)	120				

Partial Correlation Analysis

According to Cornelius correlation analysis is an analysis that is used to express the degree of closeness of the relationship between variables and partial correlation analysis was used to test the relationship between two variables by issuing other variables (control variables) that influence the correlation. Partial correlation analysis performed using SPSS. The result of partial correlation can be seen in Table 3.

The Relationship Between Internet Banking and Financial Performance

The correlation table shows that the correlation value between internet banking and financial performance has a correlation value of 0.156. This means that any increase in internet banking usage will increase the financial performance of banks going public with the assumption that the control variable used is constant.

<div align="center">**Table 3. Partial Correlation Analysis Test Results**</div>

Control Variables			INT	MOB	PERF
	INT	Correlation	1000	.231	.156
		Significance (2-tailed)	-	.013	.095
		Df	0	114	114
RISK&LIQU&SIZE& CYC	MOB	Correlation	.231	1000	.037
		Significance (2-tailed)	.013	-	.690
		Df	114	0	114
	PERF	Correlation	.156	.037	1000
		Significance (2-tailed)	.095	.690	-
		Df	114	114	0

The first hypothesis in this study is that internet banking is positively correlated with the financial performance of banks going public in Indonesia with credit risk, liquidity, company size and business cycles as control variables. Based on the correlation table, the correlation value of internet banking with financial performance is 0.156, with a significant value of 0.095 <0.10. This means that internet banking has a positive and significant correlation to the financial performance of banks going public in Indonesia, so the first hypothesis is accepted.

Control variables are used in this study so that the relationship between insider ownership and institutional ownership with debt policy becomes constant and is not influenced by other variables not examined (Cornelius, 2010: 129). The control variables used in this study are micro variables found in banks in the form of credit risk, liquidity, company size and macroeconomic variables in the form of business cycles. The control variable was chosen because the control variable also affects financial performance.

The results of research that show that internet banking is positively and significantly correlated to the financial performance of banks going public in Indonesia indicate that the application of internet banking has created operational efficiency for banks going public in Indonesia. This efficiency is in the form of cutting costs that do not need to be spent by banks with the implementation of internet banking. The existence of internet banking allows customers to transact without having to come to the bank, so that the role of tellers and customer service can be minimized. With the reduction in labor costs, this causes an increase in profits so that the bank's financial performance will increase.

The results of this study are in line with Al-Smadi and Al-Wabel (2016) which states that e banking positively contributes to the financial performance of banks. The results of the study contradict Hosen and Gutu (2015) which states that e-banking is negatively correlated to bank financial performance.

The Relationship Between Mobile Banking and Financial Performance

The correlation table shows that the correlation value between mobile banking and financial performance has a correlation value of 0.037. This means that any increase in internet banking usage will increase the financial performance of banks going public with the assumption that the control variable used is constant.

The second hypothesis in this study is that mobile banking is positively correlated with the financial performance of banks going public in Indonesia with credit risk, liquidity, company size and business cycles as control variables. Based on the correlation table, the correlation value of internet banking with financial performance is 0.037, with a significant value of 0.690> 0.10. This means that mobile banking has a positive and not significant correlation to the financial performance of banks going public in Indonesia, so the second hypothesis is rejected.

In principle, the application of mobile banking is a follow-up of internet banking. Technological developments allow the transition from internet banking to using a computer or laptop to a mobile phone. The use of internet banking and mobile banking allows customers to transact without having to go to a bank, so this can create efficiency for banks. With the efficiency will improve the financial performance of banks. However, the increase in bank performance caused by the implementation of mobile banking is not significant.

The insignificant change in bank financial performance due to the adoption of mobile banking is caused by the adoption of mobile banking is relatively new compared to internet banking. To feel the impact or benefits of using technology, it certainly takes quite a long time, while the application of mobile banking in Indonesia is still relatively new and not all banks apply it. So research is needed some time in the future so that it can be clearly seen whether mobile banking has a positive contribution to the bank's financial performance.

Conclusion

Based on the discussion it can be concluded that: (a) The application of internet banking has a positive and significant correlation with the financial performance of banks going public in Indonesia, And, (b) The application of mobile banking is positively and insignificantly correlated with the financial performance of banks going public in Indonesia.

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