

CAMEL BANKING FINANCIAL PERFORMANCE ANALYSIS BEFORE AND AFTER DIGITAL TRANSFORMATION BASED ON TECHNOLOGY (Case Study on Banking that Wins "Indonesia Digital Innovation Award 2018")

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Abstract: The last few years Indonesia has entered the technology-based digital era and at this time the world is welcoming the industrial revolution 4.0. This requires banking companies to continue to innovate in carrying out digital transformation. Digital transformation as an organizational change where the implementation involves people, processes, strategies, structures, through the use of technology and business models to improve performance. Industrial Revolution 4.0 business model. Technology-based ones affect the performance of banking companies which are represented by profit dimensions, namely Assets, Equity, ROA and ROI. This study analyses the financial performance of banks according to the CAMEL version of the criteria before and after carrying out technology-based digital transformation with a case study on the 2018 Indonesia Digital Innovation Award-winning Banking. The type of research used is quantitative research with the type of data that is secondary data. The research population is sixteen banks that won the "Indonesia Digital Innovation Award 2018". Where these banks have implemented digital innovation starting in 2016 so that this study takes the population of the bank's financial statements four years before and four years after implementing digital innovation. The results of the analysis of this research are still in the process of being completed which will be displayed on the full paper

Keywords: Financial Performance, Digital Innovation, Transformation

1. Introduction

The last few years Indonesia has entered the technology-based digital era and at this time the world is welcoming the industrial revolution 4.0. This requires banking companies to continue to innovate in carrying out digital transformation. According to Das et al (2016), digital transformation is driven by 4 (four) technologies that are increasingly developing and their existence has a significant impact on the global economy. Westerman et al. (2011) defines digital transformation as an organizational change where the implementation involves people, processes, strategies, structures, through the use of technology and business models to improve performance.

Westerman George, Bonnet Didier (2014) stated that digital transformation will carry out a lot of innovations that will change companies to be more effective and efficient in running their business. According to McKinsey (2016), more and more industrial sectors will transform

towards digital use, one example is banking companies. Nwankpa & Roumani, (2016) stated that digital transformation is characterized by changes and transformations that are driven and built on a technology foundation, where companies will experience an organizational shift to big data, analytics, cloud, mobile and social media platforms.

Financial and banking companies are one type of company that moves quickly by continuously improving services by utilizing digital technology so that their existence can continue to be digitally transformed. Banking companies in this case carry out a massive cost reduction program with digital transformation carried out, and this of course has the aim of improving the financial performance of the banking company.

Ismanto & Yulianto (2020) stated that the Industrial Revolution 4.0 business model, technology-based ones affect the performance of banking companies which are represented by profit dimensions, namely Assets, Equity, ROA and ROI. Nwankpa & Roumani (2016) revealed that digital transformation plays an important role in influencing IT capabilities and company performance. Karagiannaki et al., (2017) revealed that innovation in technology is a very important factor that drives the survival of the company and affects the company's overall performance.

This study analyzes the financial performance of banks according to the CAMEL version of the criteria before and after carrying out technology-based digital transformation with a case study on the 2018 Indonesia Digital Innovation Award-winning Banking. Development of the Special Region of Yogyakarta, PT Bank Pembangunan Daerah Sumatera Selatan and Bangka Belitung, PT Bank Negara Indonesia (Persero) Tbk, PT Bank Tabungan Negara (Persero) Tbk, PT Bank Bukopin Tbk, PT Bank Central Asia Tbk, PT Bank CIMB Niaga Tbk, PT Bank Danamon Indonesia Tbk, PT Bank MNC International Tbk, PT Bank Tabungan Pensiunan Nasional Tbk, PT Bank Victoria International Tbk, PT Bank BNI Syariah, and PT Bank BRISyariah

2. Literature Review

Bank

Munawir (2004:14) in his book states that based on Law no. 10 of 1998, a bank can be defined as a business entity that has the activity of collecting funds from the public in the form of savings and channeling these funds back to the public in the form of credit and or in other forms with the aim of advancing the standard of living of the community at large.

Munawir (2004:14) in his book writes that based on Law no. 10 of 1998 regarding banking, there are several types of banks including: (1) Commercial Bank, which is defined as a type of bank whose business activities are carried out conventionally and in their operational activities provide payment traffic services; and (2) Rural Banks (BPR) can be defined as a type of bank whose business activities are carried out conventionally and or in sharia principles but whose business activities are not allowed to carry out payment traffic services. BPRs are the same as commercial banks, except that their areas of activity are very limited, for example cities or districts.

According to Munawir (2004:24), the activities carried out by banks include: (1) Collecting funds from the public in the form of demand deposits, time deposits, certificates of deposit, savings, and other forms; (2) Providing credit; (3) Issuance of debt acknowledgment letters; (4) Purchase, sale and guarantee at own risk or for the benefit of and on behalf of the customer's orders; (5) Transfer of money either for own interest or for the benefit of customers; (6) Borrowing of funds, placing of funds in or lending of funds to other banks, either by using letters, telecommunication facilities or by money orders, checks or other means; (7) Obtaining funds from securities claims and performing calculations with or between third parties; (8)

Provision of facilities for storing goods or securities; and (9) Implementation of custody activities for the benefit of other parties in accordance with the contract letter.

Banking Financial Performance

According to Kasmir (2012:17) revealed that financial performance can be defined as a periodic determination of financial appearance based on predetermined targets, standards and performance. In measuring financial performance, a financial analysis is used, this is because financial analysis involves calculations that describe an assessment of future finances, and to determine whether or not a bank's financial performance is good. The financial performance of banking companies can be assessed from the performance for the past and current year by analyzing the financial statements.

According to Munawir (2004:2) Financial statements are defined as the result of accounting activities that are used as a means of communication between financial data and banking company activities with parties who have an interest in the data or activities of the bank. Meanwhile, Hararap (2007:7) states that financial statements are defined as the final result of an accounting activity that becomes information material for users (stakeholders) as a basis for decision-making activities and is also able to be a reference in assessing the success of banking companies in achieving goals. business, where the assessment of the financial performance of this banking company can be done by calculating financial ratios.

Banking Financial Statement Analysis

Darmawi (2011: 201) states that ratio analysis can be defined as a technique or tool to evaluate the finances and performance of an organization/entity/company. The performance appraisal of a banking company is determined by Bank Indonesia, the first procedure for evaluating the performance of a banking company was implemented in 2004, namely CAMEL (Capital, Asset, Management, Earning, Liquidity). An explanation of banking ratio analysis using CAMEL (Capital, Asset, Management, Earning, Liquidity) can be seen in the following explanation: (a) Capital is represented by the CAR Ratio as an indicator, where the CAR (Capital Adequacy Ratio) ratio can show the adequacy of capital owned by a bank so that the capital can be used by banks in overcoming current risks and anticipating future risks. Standard by the Bank of International Settlement (BIS). Capital Adequacy Ratio is the minimum amount required for banking in Indonesia is 8% (Kuncoro and Suhardjono, 2002); (b) Assets can use the NPL (Non Performing Loan) ratio indicator. According to Kasmir (2011) the calculation of Assets Analysis is based on 2 (two) ratios, namely: Earning Assets Ratio which can be classified against Earning Assets Quality (KAP) and Earning Assets Allowance Ratio (PPAP) established by the Bank; (c) Management, can be assessed with a qualitative assessment aspect, namely through several questions to assess management's ability to manage banking activities as a whole. However, in this study, the management aspect is represented by the NPM (Net Present Value) indicator; (d) Earning (profitability), can be assessed by using the Return On Assets and the Ratio of Operating Costs in the last 12 months to Operating Income in the same period or often used with the abbreviation BOPO, namely operating costs compared to operating income. (Khasanah, 2010); and (e) Liquidity, can be assessed using indicators Loan to deposit Ratio (LDR) and Net Call money to current assets (NCMCA) (Kasmir: 2008).

The Effect of Digital Transformation on Banking

According to Kurniawan, Rahayu, and Wibobo (2021), there is a positive and significant effect of digital transformation on the performance of banking companies. According to Westerman, G., Bonnet, D., & McAfee, A. (2014) the existence of technology-based digital transformation provides added value for banking companies so as to increase public trust and improve overall banking performance. According to Verganti, R. (2016), business innovation in the banking

world is needed to improve company performance. Similar opinions were also expressed by other researchers, namely Prince, K., Barrett, M., & Oborn, E. (2014), Nambisan, S., Lyytinen, K., Majchrzak, A., & Song, M. (2017), Markus, ML, & Loebbecke, C. (2013) and Majchrzak, A., Lynne Markus, M., & Wareham, J. (2016).

Framework

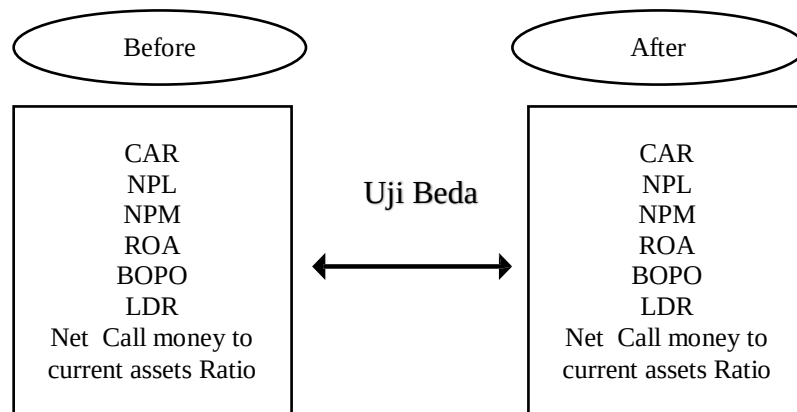


Figure 1. Framework

Hypothesis

There are differences in the performance of banking capital before and after digital transformation

H01: there is no difference in the CAR (Capital Adequacy Ratio) ratio in banking before and after digital transformation

H1 : There are differences in the CAR (Capital Adequacy Ratio) ratio in banking before and after digital transformation

There are differences in the performance of banking assets before and after digital transformation

H02: there is no difference in the ratio of NPL (Non Performing Loans) in banks before and after digital transformation

H2 : There is a difference in the ratio of NPL (Non Performing Loans) in banks before and after digital transformation

There are differences in the performance of banking management before and after digital transformation

H03: there is no difference in the ratio of NPM (Net Present Value) in banking before and after digital transformation

H3 : There is a difference in the ratio of NPM (Net Present Value) in banking before and after digital transformation

There are differences in the performance of banking profitability before and after digital transformation

H04: there is no difference in the ratio of On Asset Ratio in banking before and after digital transformation

H4 : There is a difference in the ratio of On Asset Ratio in banking before and after digital transformation

H05: there is no difference in the ratio of operational costs compared to operating income in banks before and after digital transformation

H5 : There is a difference in the ratio of operational costs compared to operating income in banking before and after digital transformation

There are differences in banking liquidity performance before and after digital transformation

H06: there is no difference in the Loan to deposit Ratio in banks before and after digital transformation

H6 : There are differences in the Loan to deposit Ratio in banks before and after digital transformation

H07: there is no difference in Net Call money to current assets Ratio in banking before and after digital transformation

H7 : There is a difference in Net Call money to current assets Ratio in banking before and after digital transformation

3. Method

Types of research

The type of research used is quantitative research with the type of data that is secondary data. The data in this study is from banking financial report data that won the "Indonesia Digital Innovation Award 2018", where the report data was downloaded from the bank Indonesia website. There are 15 banks that have been designated as winners of the "Indonesia Digital Innovation Award 2018" with the criteria: banks have made digital innovations starting in 2016, have the advantages of digital innovation, digital innovations that are carried out bring benefits to companies and stakeholders.

Population

The research population is sixteen banks that won the "Indonesia Digital Innovation Award 2018". Where these banks have implemented digital innovation starting in 2016 so that this study takes the population of the bank's financial statements four years before and four years after implementing digital innovation. This study used sampling with a purposive sampling approach with the following criteria:

1. Bank that won "Indonesia Digital Innovation Award 2018"
2. The bank has audited financial reports which are always reported annually and can be downloaded through the ojk website <https://www.ojk.go.id>
3. Banks issue complete audited financial reports for four years before to four years after digital transformation

The names of banks and types of digital innovations that have been carried out are as follows:

Table 1. Indonesia Digital Innovation Award 2018

No	Bank Name	Type of Innovation	The Transformation was Carried out from
1	Citibank Indonesia	Innovative Company in Digital Services	2016
2	PT Standard Chartered Bank Indonesia	Innovative Company in Digital Services and Applications	2016
3	PT Bank Commonwealth	Innovative Company in Digital Services and Products	2016
4	PT Bank DBS Indonesia	Innovative Company in Digital Services	2016
5	PT Bank DKI	Innovative Company in Digital Financial Services	2016

No	Bank Name	Type of Innovation	The Transformation was Carried out from
6	PT Bank Pembangunan Daerah Daerah Istimewa Yogyakarta (Bank BPD DIY)	Innovative Company in Digital Banking Services	2016
7	PT Bank Pembangunan Daerah Sumatera Selatan dan Bangka Belitung	Innovative Company in Digital Banking Services	2016
8	PT Bank Negara Indonesia (Persero) Tbk	Innovative Company in Digital Transaction and Services	2016
9	PT Bank Tabungan Negara (Persero) Tbk	Innovative Company in Digital Banking Services and Campaign	2016
10	PT Bank Bukopin Tbk	Innovative Company in Digital Banking Services	2016
11	PT Bank Central Asia Tbk	Innovative Company in Digital Transaction and Customer Services	2016
12	PT Bank CIMB Niaga Tbk	Innovative Company in Digital Banking Services	2016
13	PT Bank Danamon Indonesia Tbk	Innovative Company in Digital Transaction Services	2016
14	PT Bank MNC Internasional Tbk	Innovative Company in Digital Banking Applications	2016
15	PT Bank Tabungan Pensiunan Nasional Tbk	Innovative Company in Digital Banking Services	2016

Data Analysis Method

The data analysis method used in this research is quantitative analysis. The quantitative analysis used in this research is:

- 1) Descriptive Statistics
- 2) Normality Test

The output of the normality test table using the Kolmogorov-Smirnov Test is obtained by the probability number or the Monte Carlo Sig (2-tailed). This value is compared with 0.05 (because it uses a significant level of 5%) for decision making using the following test criteria:

- a. If Monte Carlo Sig (2-tailed) < 0.05 then the data distribution is not normal.
- b. If Monte Carlo Sig (2-tailed) > 0.05 then the data distribution is normal.
- 3) Hypothesis Testing Method using Paired Sample t test analysis. The hypothesis testing used is the two-average difference test (Paired sample T-Test).
 - a. If the significance of the test is < 0.05 , then there are differences in the financial performance of banking companies that carry out digital transformation.
 - b. If the significance of the test is > 0.05 , then there is no difference in the financial performance of banking companies doing digital transformation.

4. Result and Discussion

Normality Test

The test results obtained the significance value of the Kolmogorov-Smirnov Test obtained the following data: (1) CAR (Capital Adequacy Ratio) BEFORE applying digital innovation of 0.088 and for the variable value of CAR (Capital Adequacy Ratio) AFTER applying digital innovation of 0.217 it can be concluded that the assumption of normality has been fulfilled; (2)

The NPL (Non Performing Loan) ratio BEFORE implementing digital innovation is 0.001 and for the NPL (Non Performing Loan) ratio variable AFTER applying digital innovation is 0.058 that the assumption of normality is not met. So that the hypothesis testing cannot be continued for the Paired Sample T-Test, and must use the Wilcoxon Non-Parametric Test as an alternative; (3) NPM (Net Profit Margin) ratio BEFORE implementing digital innovation of 0.283 and for the variable value of the NPM ratio (Net Profit Margin) AFTER implementing digital innovation of 0.245, that the assumption of normality has been met; (4) The On Asset Ratio BEFORE implementing digital innovation is 0.093 and for the On Asset Ratio value variable AFTER implementing digital innovation is 0.113 that the normality assumption has been met; (5) The ratio of operational costs compared to operating income BEFORE implementing digital innovation is 0.063 and for the variable value the ratio of operating costs compared to operating income AFTER implementing digital innovation is 0.101. Because the value of the Kolmogorov-Smirnov Test is greater than 0.05 (5%) that the assumption of normality has been met; (6) Loan to deposit Ratio BEFORE applying digital innovation is 0.142 and for the variable value Loan to deposit Ratio AFTER applying digital innovation is 0.122 that the normality assumption has been met; and (7) Net Call money to current assets Ratio BEFORE implementing digital innovation is 0.142 and for the variable value Net Call money to current assets Ratio AFTER implementing digital innovation is 0.082 that the normality assumption has been met.

T-Test Results

1) Paired Sample Statistics

Based on the interpretation of the calculation output using SPSS which is the result of a summary of descriptive statistics from the results of the sample data, the output results can be described as follows: (a) The output results show the average value of CAR (Capital Adequacy Ratio) BEFORE and AFTER the bank implements digital innovation, which is $20,0136 < 22,1751$ which means descriptively there is a difference in the average value of CAR (Capital Adequacy Ratio) between BEFORE implementing innovation digital by AFTER implementing digital innovation; (b) The Mean Rank or average increase is 15.73, while the number of positive ranks or Sum of Ranks is 236.00. Ties is the similarity of value between the value of Non-Performing Loan BEFORE implementing digital innovation and the value of Non-Performing Loan AFTER implementing digital innovation is 0, so it can be said that there is no equal value between the value of Non-Performing Loan BEFORE implementing digital innovation and the value of Non-Performing Loan. Performing Loan AFTER implementing digital innovation; (c) The results of this output show the average value of the NPM Ratio (Net Profit Margin) BEFORE and AFTER the bank implements digital innovation, namely $4.2878 < 4.9604$ which means descriptively there is a difference in the average value of the NPM Ratio (Net Profit Margin) between before implementing digital innovation with after implementing digital innovation; (d) The output results show the average value of the On Asset Ratio BEFORE and AFTER the bank implements digital innovation, which is $0.8949 < 1.1052$, which means descriptively there is a difference in the average value of the On Asset Ratio between before implementing digital innovation and after implementing innovation digital; (e) The results of this output show the average value of the Operating Cost Ratio compared to operating income BEFORE and AFTER the bank implements digital innovation, namely $1.1269 < 1.7262$, which means descriptively there is a difference in the average value of the Operating Cost Ratio compared to operating income between before implementing digital innovation with after implementing digital innovation; (f) The results of this output show the average value of Net Call money to current assets Ratio BEFORE and AFTER the bank implements digital innovation, namely $1.6949 < 1.9060$ which means descriptively there is a difference

in the average value of Net Call money to current assets Ratio between before implementing digital innovation with after implementing digital innovation; (g) The results of this output show the average value of the Loan to deposit Ratio BEFORE and AFTER the bank implements digital innovation, namely $1.2746 < 1.8159$, which means descriptively there is a difference in the average value of the Loan to deposit Ratio between before implementing digital innovation and after implementing digital innovation; and (h) The results of this output show the average value of Net Call money to current assets Ratio BEFORE and AFTER the bank implements digital innovation, namely $1.6949 < 1.9060$ which means descriptively there is a difference in the average value of Net Call money to current assets Ratio between before implementing digital innovation with after implementing digital innovation.

2) Paired Sample Correlations

The second part of the results of the paired sample t test (paired t test) is the result of the correlation or relationship between each data or variable showing that CAR, NPL Ratio, NPM Ratio, ROA, Net Call money to current assets Ratio, Loan to deposit Ratio and Net Call money to current assets Ratio at 15 banks designated as winners of the "Indonesia Digital Innovation Award 2018" there is a relationship between the average value of the variable before and after implementing digital innovation.

3) Paired Samples Test

By using the Paired Samples Test. known value of Sig. (2-tailed) is $0.001 < 0.005$, then H_a is accepted and H_o is rejected. So it can be concluded that there is a significant difference between the value of the Capital Adequacy Ratio BEFORE and AFTER the bank implements digital innovation. Meanwhile, the Non-Performing Loan value is based on Asymp's "Test Statistics" output. Sig. (2-tailed) is 0.001 less than < 0.05 , then " H_o is rejected and H_a is accepted". So it can be concluded that there is a significant difference between n before and after the bank implements digital innovation. The same thing also happened to other variables, namely Net Profit Margin, ROA, Net Call money to current assets Ratio, Loan to deposit Ratio and Net Call money to current assets Ratio which also found a significant difference between the Net Present Value before and after the bank implements digital innovation

5. Conclusions

Based on the results of the research above, it can be concluded that digital transformation is proven to provide significant differences in the value of CAR, NPL Ratio, NPM Ratio, ROA, Net Call money to current assets Ratio, Loan to deposit Ratio and Net Call money to current assets Ratio at 15 banks. designated as the winner of the "Indonesia Digital Innovation Award 2018".

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