

Innovation Strategies in Financial Performance in Banking Sector

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Abstract

The banking sector is one of financial services industries which has important organ in the Indonesian economy. Technology innovation in the financial sector have provided new ways to offer products to customer experience. Disruptive innovation are changing the face of business in increasing financial service provision. This change has shifted customers attention to experience and changed the financial industry from using traditional transactions using technology as a facilitator of internal processes in increasing market access, offering various products, and facilitating customers in optimizing financial transactions with a variety of financial services. Fintech in the financial sector utilizes various technology platforms / models to optimize the way consumers interact and conduct financial transactions with a variety of financial services. This study addresses this gap by empirically examining the effect of innovative capability dimension of firm performance focusing in banking industry. The target sampling of 100 bank staff in Medan. This study found that marketing innovation, product innovation, process innovation, organizational innovation, innovation capability have a relationship to firm performance. This study was conducted according to the research methodology and the results are presented. The conclusion of this research is that bank performance become more proactive in developing products and providing the best service to create value for customers.

Keywords: *Financial innovation, disruptive innovation, disruptive technology, bank performance.*

1. Introduction

The recent developments in technologies and innovations have stimulated the financial services industry to adopt the latest technology that of advantages to increase the business environment in the recent decades. In the financial services industry, innovation was created and popularized by financial instrument markets and technologies which facilitated access to information, trading and means of payment. The bank sector bringing up new product called e-banking [1]. The innovation usage of e-banking could increases risk many factors to performance bank overall. Innovation is a key factor financial institutions for developing new products to survive and grow in the long run. Financial innovation has been a component of economic activity for several millennia. Innovations is process the arrival of a new that better product which can lowers the cost of producing existing on financial services [2].

One of the important reasons for this change is innovation which includes innovation in business philosophy, management, procedure, product, promotion and scientific and technology [3]. This change could improves the quality, differentiation of products, and stimulates financial innovation by introducing more modern skills, management techniques and technologies. Hamel [4] conducted a study on the corporates that are able to build sustainable competitive advantages over long periods of time are those that have implemented of innovations [4]. Innovative capabilities used refer to the resources and competencies possessed by the corporate succeed in the competitive environment [5]. It is however important to reckon that not all corporate capabilities have the potential of giving a corporate sustainable competitive advantage.

King and Baatartogtokh [6] have said that four key elements of the theory of disruption is that incumbents in a market are improving along a trajectory of sustaining innovation, disruptive could the overshoot customer needs, corporate possesses the capability to respond to disruptive threats, and that incumbents end up floundering as a result of the disruption [6]. Managers should evaluate dan choosing the right way to use capabilities the existing identity of the organization to calculate the value of winning.

The innovation model has four dimensions to introduce new products or services that improve the capability of firm performance, namely product innovation, process innovation, organizational innovation, and marketing innovation. The corporate create and deliver products, services, organization transactions, management style and business model driven by market forces. Previous studies revealed which is a positive relationship between innovation and firm performance. But some of them show there are a negative relationship. Innovation activities are beneficial for firms to improve performance in various aspects. Previous research has explored three types of performance consisting of financial performance, market performance, and innovative performance that accommodates to provide a frontier explanation in terms of performance. The problem faced by innovation technology driving force hampered by the many companies that encounter internal and external distruption that get of the right capabilities to support the innovation process. All new financial products and services must be completely explained to imitators, vetted by government regulators, and probably promoted to potential imitators in order to enter into common use. The ability to survive competition was getting tighter means banks must re-examine their business models to pave way for innovation [7]-[10].

Research using the term capabilities as the key of strategic management adapting, integrating and reconfiguring organisational skills, functional competencies to the ability of firms to utilize external information for transfer into new knowledge [11]. While some authors have highlighted the importance of innovative capabilities in ways that competitors find difficult to imitate effectiveness in order to create customer value [12]. The corporate capability to innovate is the most important factor for competitive advantage in extremely turbulent market conditions. Innovation capability directs the organization to develop innovation continuously to respond the changing market environment and embedded with systems, strategies, and structurse that support innovation in an corporate. The greater the organization's capability to succeed and continue to develop innovation capabilities, the greater the benefits organization will receive from these efforts [13]. On the other hand, most research deals with the capability innovation and corporate performance. Financial innovation in corporate performance effectiveness based on the innovation performance and others have pointed out risks and uncertainties associated with organizational innovation, particularly with respect to the complexities it poses to the conduct of firm [14]. The foregoing literature show that financial innovations have widespread effects on transmission mechanism with differing implications on the innovation performance. The profitability performance of banks customer portfolio must be expanded to increase the bank performance encouraging electronic banking activities in order. The quality services increase attract new customers, increase the market share, operating costs, the rate of customer retention, helps to improves employee morale, market performance, profitability financial performance. [15]-[18].

The important issue to increase the efficiency firm that is use outsourcing firm for promotion stage of technological innovation. In line with this study, innovation capability as used refers to explore new ideas and concepts to experiment with potential opportunity patterns detected in the market and the ability to develop into marketable and effective innovations, leveraging external and internal resources and competencies was also studied by Brush et al. [19]. They have studied on the development of provide services banks then operational expenses reducing and revenues increasing to operational efficiency

methodologies [20]. A similar study finding indicate that almost all the banking services that improve product and process the innovation capability be able to increase revenue generation. The electronic banking products of a positive impact on the performance of the role of providing the cost effectiveness of internet banking is great by using developing countries banking data. Some research has been conducted on customers who prefer electronic banking than traditional financial intermediaries [21].

Based on the background description, this study intend to examine whether relationship between innovation capabilities strategies and corporate performance in banking sector using Bank in Medan as a case study. Therefore the purpose of this paper is to fill the gap find out how much developing and the services of the bank performance both individually and simultaneously these factors affect innovation. The results of this analysis are expected to its overall benefits for the organisations and other stakeholder groups.

2. Methods

2.1. Materials

The object of this study is a bank clerk. Data analyzed included capability innovation, marketing innovation, product innovation, process innovation, and organizational innovation as independent variables and firm performance as the dependent variable. The type of data used in this study is primary data obtained and collected using random sampling through questionnaires that have been prepared online and randomly to several respondents. The sample in this study uses the Lemeshow formula because the population is unknown. In all 100 respondents drawn from Bank are expected to participate in the study distributed to several banks in Medan.

2.2. Methods

The study design chosen is descriptive research design which one the adopts in examining the effects of innovative capabilities on firm performance in the banking industry. Data was analysed using quantitative methods. Five indicators were generated to measure the innovation strategies in banking sector. Respondents were asked to rate the innovation activities currently available in their firms with each scale of (5 point scale). Scale 1 for strongly disagree, 2 for disagree, 3 for neither agree nor disagree, 4 for agree from product, process, marketing, and organizational practice firm, and 5 for strong agree. Some mean and standard deviations would be used for likert scale questions. The use Microsoft excels and SPSS would be appropriate for the analysis. Individual questions designed to assess for each variables. After completing the data collection process, the questionnaire was evaluated with the SPSS 16.0 statistical software package to measure the construct validity. The quality of data that can be identified with respect to the use of the questionnaire includes; reliability and validity [22].

3. Results and Discussion

In this section, an analysis is carried out covering multiple linear regression analysis, validity and reliability test, classical assumptions, and hypothesis testing. And the results of data processing which inline into two sub-sections of the results and discussion for the presentation of the analyzed data.

3.1. Results

Multiple linear regression analysis. Multiple linear regression analysis is used to measure the relationship between two or more variables between the dependent variable and the independent variable as shown in Table 1.

Table 1. Multiple linear regression

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	.005	.428		.012	.990		
Marketing Innovation (X1)	.295	.115	.227	2.577	.012	.626	1.598
Product Innovation (X2)	.174	.080	.184	2.175	.032	.675	1.481
Process Innovation (X3)	.193	.069	.237	2.820	.006	.688	1.454
Organizational (X4)	.161	.075	.180	2.141	.035	.685	1.459
Innovation Capability (X5)	.172	.045	.272	3.827	.000	.955	1.047

a. Dependent Variable: Performance (Y)

Based on Table 1, multiple linear regression equations are obtained as follows.

$$Y = 0,005 + 0,295X_1 + 0,174X_2 + 0,193X_3 + 0,161X_4 + 0,172X_5 + e$$

Where if the constant value is 0.005, it can be interpreted that marketing innovation, product innovation, process innovation, organizational, innovation capability has no effect on performance. And if the regression coefficient value of the marketing innovation variable is positive at 0.295, the product innovation variable is positive at 0.174, the process innovation variable is positive at 0.193, the organizational variable is positive at 0.161, the innovation capability variable is positive at 0.172, the value of the variable This can be interpreted when the variables of marketing innovation, product innovation, process innovation, organizational, innovation capability, increase by 1 unit, then the performance variable tends to increase by 0.295 percent, 0.174 percent, 0.193 percent, 0.161 percent, and 0.172 percent.

Validity and Reliability Test. Validity test is done with the aim to test the validity of each question in the questionnaire that has been designed. The question item is valid if the correlation value (R Compute) of the question item > R table. In this study, it is known that all the values of R count > 0.361 (R table), that it can be concluded that all questions are valid. The purpose of the reliability test is to test the reliability of the research work and ensure that the variability of the generalization conclusions meet the validity test. This is considered a measure of scale reliability. Cronbach's alpha is a measure of internal consistency, that is, how closely related a set of items are as a group. Based on the results of the reliability test of this study, where the Cronbach Alpha value is greater than 0.6 then the research questionnaire can be relied upon as shown in Table 2.

Table 2. Vailidy and Reliability test

Variabel	R value	R table	Cronbach's Alpha
Marketing Innovation (X1)	0.851	0.361	0.93
Product Innovation (X2)	0.888	0.361	0.95
Process Innovation (X3)	0.921	0.361	0.98
Organizational (X4)	0.869	0.361	0.93
Innovation Capability (X5)	0.472	0.361	0.89
Performance (Y)	0.889	0.361	0.96

Table 2 can be explained that valid if the calculated R value > 0.361 (R Table). And in this table above all the values of R count > 0.361, so it can be concluded that all questions are valid. The Cronbach's alpha coefficient for marketing innovation was 0.93, product innovation was 0.95, process innovation was 0.98, organizational innovation was 0.93, innovation capability was 0.89, whilst that of performance was 0.96. These values are above 0.6 hence the scale can be considered reliable with research sample.

Classical assumptions test. Classical assumptions test are requirement tests for multiple linear regression that use Ordinary Least Square (OLS) techniques. The regression has four key assumptions as normality testing, multicollinearity testing, autocorrelation testing, and heteroskedacity testing. In this study, the normality test for residues using the Kolmogorov-Smirnov test had a significance level of $\alpha = 0.05$ as shown in Table 3.

**Table 3. Normality testing
 One-Sample Kolmogorov-Smirnov Test**

		Unstandardized Residual
N		100
Normal Parameters ^{a,b}	Mean	.0000000
	Std. Deviation	.38444767
Most Extreme Differences	Absolute	.073
	Positive	.073
	Negative	-.051
Kolmogorov-Smirnov Z		.731
Asymp. Sig. (2-tailed)		.659

Table 3 can be explained based on estimated values p or asymp. Sig. (2-tailed) of 0.659. This means that the probability value p is greater than the level of significance, which is 0.05, then the data is normally distributed.

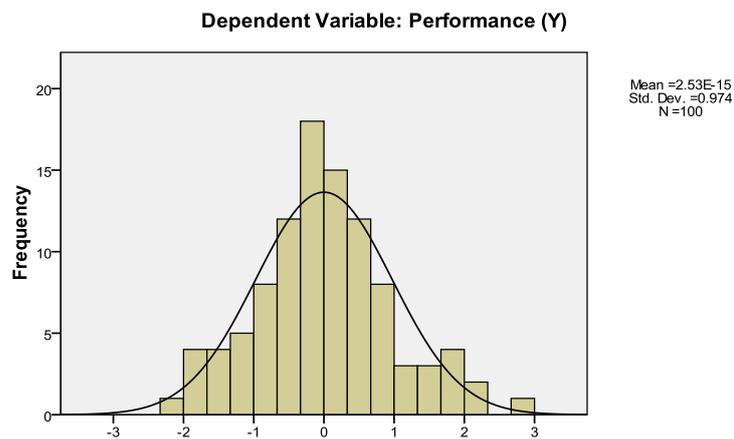


Figure 1. Histogram Normality Test

The results of the normality test in this study indicate that the data are normally distributed. That can be seen from the output graph histogram graph in Figure 1. The results show that the data distribution pattern is in the form of a normal curve that can be said that the data is normally distributed.

Hypothesis testing. Hypothesis testing is the important part of making decisions. Hypothesis testing aims to test the effect of independent variables together or simultaneously on the dependent variable performance. The coefficient of determination

(R²) is a value (proportion value) that measures how much the ability of the independent variables used in the regression equation, in explaining the variation of the dependent variable.

Table 4. Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.738 ^a	.545	.521	.39454

a. Predictors: (Constant), Innovation Capability (X5), Organizational (X4), Process Innovation (X3), Product Innovation (X2), Marketing Innovation (X1)

b. Dependent Variable: Performance (Y)

Based on Table 4 above, the coefficient of determination (R-Square) is 0.454. This value can be interpreted that the variable marketing innovation, product innovation, process innovation, organizational, innovation capability is able to affect performance by 70.3% and the remaining 20.7% is explained by other variables or factors.

Table 5. ANOVA^b

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	17.546	5	3.509	22.543	.000 ^a
Residual	14.632	94	.156		
Total	32.178	99			

Based on Table 5 above, the calculated F value is 22.543 and the Sig. is 0.000. The calculated F value of 44.500 > F table 2.31 and the Sig value is 0.000 < 0.05, then marketing innovation, product innovation, process innovation, organizational, innovation capability together or simultaneously have a significant effect on performance.

Table 6. Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	.005	.428		.012	.990		
Marketing Innovation (X1)	.295	.115	.227	2.577	.012	.626	1.598
Product Innovation (X2)	.174	.080	.184	2.175	.032	.675	1.481
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Innovation Capability (X5)	.172	.045	.272	3.827	.000	.955	1.047

a. Dependent Variable: Performance (Y)

Based on the results of the coefficients test in Table 6 above, the regression coefficient value of the marketing innovation variable is positive, which is 0.295. This means that the marketing innovation variable has a positive effect on performance. The calculated t value of the marketing innovation variable is 2,577 and the Sig. of the marketing innovation variable is 0.012 <0.05, it is concluded that marketing innovation has a positive and significant effect on performance. The regression coefficient value of the product innovation variable is positive, which is 0.174. This means that the product innovation variable has a positive effect on performance. The t value of the product innovation variable is 2.175 and the value of Sig. of the product innovation variable is 0.032 <0.05, then concluded product innovation has a positive and significant effect on performance. The regression coefficient value of the process innovation variable is positive, which is 0.193. This means that the process innovation variable has a positive effect on performance. T value calculated from the process innovation variable is 2,820 and Sig. of the process innovation variable is 0.006 <0.05, it is concluded that process innovation has a positive and significant effect on performance. The regression coefficient value of the organizational variable is positive, which is 0.161. This means that organizational variables have a positive effect on performance. The calculated t value of the organizational variable is 2141 and the value of Sig. of the organizational variable is 0.035 <0.05, it is concluded that organizational effect has a positive and significant effect on performance. The regression coefficient value of the innovation capability variable is positive, which is 0.172. This means that the innovation capability variable has a positive effect on performance. The t value of the innovation capability variable is 3,827 and the value of Sig. of the innovation capability variable is 0.000 <0.05, it is concluded that innovation capability has a positive and significant effect on performance.

3.2. Discussion

Input factor X₁. Marketing innovation has a positive and significant effect on performance. This means that managers must improve firm performance with strategies and perceptions of marketing innovation in promotion, design, product placement, and pricing in order to create sustainable firm growth and serve customer needs better.

Input factor X₂. This means that to increase product innovation to meet customer needs, bank employees must develop new products that are driven by technology operating systems. Product innovation can provide revenue growth, financial stability, improve customer experience and face competition that seems to benefit the firm and increase firm performance.

Input factor X₃. Process innovation has a positive and significant effect on performance. This means that the process innovation on firm performance is the application of methods to be better. The innovation process can increase firm productivity and profitability. Process innovation is a new change to facilitate bank clerk in the service process and introduce products to customers.

Input factor X₄. Organizational innovation has a positive and significant effect on performance. This means that organizational innovation can increase bank clerk satisfaction in companies and reduce administrative costs to improve the quality of products and services where the bank sector is the public sector. Organizational innovation refers to changes in larger scales mainly related to changes in organizational design and structure.

Input factor X₅. Innovation capability has a positive and significant effect on performance. This means that the ability of innovation to meet customer needs in companies must implement an increase in firm performance in the process of developing new products to support the integrity and capability of innovation so that it can be superior to competitors.

4. Conclusion

The study concluded there is innovation capabilities in the some bank in Medan. All

independent variables consisting of marketing innovation, product innovation, process innovation, organizational innovation, innovation capability able to affect performance by 70.3%, and the remaining 20.7% are explained by other variables or factors. And based on the results of simultaneous tests, marketing innovation variables, product innovation, process innovation, organizational innovation, innovation capability simultaneously have a significant effect on performance. Bank clerk agreed that there has being product innovation, marketing innovation, organizational innovation, innovation capabilities and process innovation had a relationship with firm performance. The study further indicated that product innovation, marketing, innovation and process innovation had a significant impact on organizational performance. The capability of the firm's innovation in creating new ideas to understand and identify customer needs in the future. Innovation can potentially respond quickly and precisely in the culture of implementing internal organizations such as bank clerk.

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