



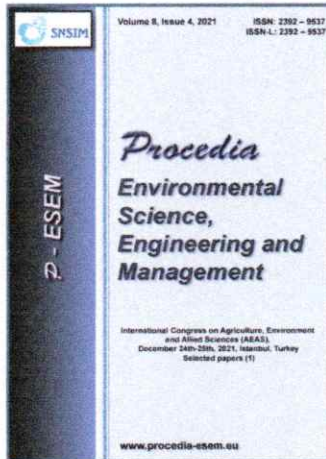
**SNSIM**  
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# Procedia

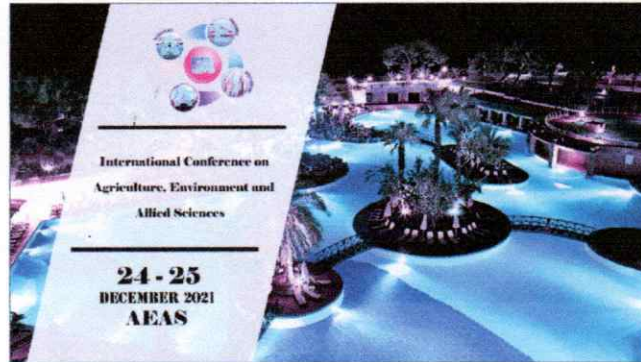
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## **PRODUCT INNOVATION BASED ON MARKET-ORIENTATION TO INCREASE ENVIRONMENTAL SUSTAINABILITY\***

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### **Abstract**

Environmental sustainability is described as accountable relations with the environment to evade depletion or degradation of natural resources and permit long-term ecological quality. This research objective is to evaluate the impact of product innovation and market orientation on environmental sustainability as well as performance of the banking markets in Indonesia. The methodology utilizes a causal investigating approach by a quantitative method. The sampling technique employed was a stochastic sampling approach. The number of respondents was evaluated employing the Slovin formula with a significance level of 10%. This study involved 50 banks consisting of 99 respondents. Data was obtained by giving a questionnaire. This study uses a Linkert scale in measuring variables. The analytical tool used is the path analysis technique with the Lisrel 8.54 software. The results showed a significant positive direct impact of market orientation on product innovation and environmental sustainability. Product innovation has a positive direct impact on environmental sustainability and, consequently, on the banking business.

*Keywords:* business performance, banking industries, environmental sustainability, market orientation, product innovation

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### **1. Introduction**

Product innovation and market orientation towards environmental sustainability can be better developed without being forcibly undermined by a change in the resources to which the

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system depends. On the other hand, the system for endurance and reliability is a kind of inevitability to success that the system achieves in connecting with the external environment. In other words, the stability of the system is completely reliable to the system of adaptation, change and transformation and responsiveness to the environment, and since the environment in turn is always changing, this system of adaptation must be dynamic and sensitive.

Banks are financial institutions with the main task of collecting public and channelling loans and services in cash payments. Banking is an economic driver for any country (Xu et al., 2018). Global banking financial performance can be seen in the capital markets of each country (Ahmad Abu-Alrop, 2020; Murti, 2021). A customer is a person who deposits money within the Bank to be used in banking business operations. The banking system is a fundamental part of the economy (Koju et al., 2019). Banking institutions strive to create product innovations for customers while customers try to find product innovations to meet their needs and desires.

Innovation is a new idea that can be applied in banking, such as an excellent online network and innovations that can retain customers (Septianan et al., 2018). Marketing strategy aims to create business intelligence from customer information (Bekamiri et al., 2021). Viewed from the aspect of banking institutions, the presence of a customer is significant for the success of the market orientation of the products offered. Besides that, the customer for the banking institution is a vital part also for the market orientation it does (Oskooii and Albonaiemi, 2017; Pustokhina et al., 2021). Customer satisfaction and customer loyalty will be achieved if the services provided can be improved (Kaura et al., 2015; Liu and Wang, 2017).

The banking business industry faces stiff competition. Banking business performance must be optimal in order to find profitable ways to create superior products. Product excellence is expected to be a competitive and sustainable advantage. Good business performance will get a good response from consumers changing markets (Christa and Kristinae, 2021). Business performance measures organizational achievement in preparing and delivering incentives to clients (Chienwattanasook et al., 2019). Increasing the competitiveness of companies is influenced by knowledge, innovation in management capabilities, strategies, services and human resource capabilities (Lestari et al., 2020). Teamwork is one of the most important keys to business success in the modern economic era (Berber et al., 2020; Plaščak et al., 2021).

Banking consolidation began in 2004 by promoting a market-driven approach that is more pro-market, namely, market orientation. Market-driven organizations adopt a customer-value strategy supported by market orientation. Organizations carry out market orientation to help management develop product innovations to gain a competitive advantage that impacts superior business performance. Also, there has been intense competition in terms of the competitive environment due to the opening of new markets. A tight business climate in terms of prices, products, technology, regulations and available resources. The companies develop product innovations to compete in new markets. Innovation can continuously change ideas in creating new products, processes, and systems for its benefit and stakeholders related to communication factors between the company and its environment. The work environment is one of the ten internal conditions for high creative behaviour and performance (Tri et al., 2019). From several studies that have been conducted related to market orientation, product innovation, and business performance, there are still some important issues that have not been revealed (Ali et al., 2018). The main issue is that almost all research does not realize that a company will not always be successful just by doing product innovation. However, there is evidence that there is a relationship between product innovation and business performance. Success depends on other factors, namely competitive advantage, meaning that the basis of business weak, then all existing innovations will not save enough from the company's losses. Innovation must be tested in the market to defend itself and surpass its competitors' performance to create a sustainable competitive advantage (Nurwati et al., 2014; Roozitalab and Majidi, 2018). No matter how creative an effort to change is not considered

the best innovation change if it is not proven its ability in the market as one of the critical indicators of companies' ability and competitive advantage in the banking industry.

Strategy researchers emphasize performance as Business Economic Performance, where business performance is included in the Target Approach as stated above and is a central concept in management (Mukhametzhan et al., 2020; Venkatraman and Ramanujam, 2018). Besides, performance measurement can use Return on Assets (ROA) (Costa et al., 2020; Fernandes and Afonso, 2020). Bank financial performance measures include earnings, assets, and earnings per share (Afuah, 2018). In many previous studies, business performance measurement can be seen from financial performance or non-financial performance. Return on Investment (ROI) is the most widely used performance measure. Business performance using measures such as Return on Assets (ROA) and Return on Equity (ROE) can be obtained from operating income: inflows from current operations in the business. The banking industry is regulated by the Bank Indonesia supervisory authority, including how to measure financial performance. Therefore, the financial ratios used to measure bank performance in this study are financial ratios used by Bank Indonesia, including ROA, ROE, Net Income Interest (NII), and non-performing loans ratio (NPL Performing). Banking financial performance affects customer satisfaction (Ahmed et al., 2020; Kahveci and Wolfs, 2018).

This study aims to analyze the effect of market orientation and product innovation on the performance of the banking business in Jakarta. Originality in this research is market orientation and product innovation variables as new variables to be tested. Besides, the difference between this study and previous research is that this study uses path analysis with the Lisrel 8.54 Software Analysis tool. The research object used in this study is the leadership of management managing business units from 3 selected banks in Jakarta. Several studies have been conducted related to market orientation, product innovation, and business performance, and there are still some important problems that have not been revealed. The main problem is that almost all studies do not realize that a company will not always succeed by innovating products. However, there is evidence that there is a relationship between product innovation and business performance; success depends on other factors, namely competitive advantage, meaning that the basic business is weak. All existing innovations will not save enough from the company's losses. No matter how creative the effort to change is not considered the best innovation change, its ability in the market is an essential indicator of companies' ability and competitive advantage in the banking industry. Besides, the diffraction of market innovation provides competitive achievement for organizational performance.

## **2. Hypotheses**

H1: There is a direct influence of market performance on the business action of the banking industry.

H2: There is a direct influence of market performance on productions innovation.

H3: There is a direct impact of product innovation on the business action of the banking business.

H4: There is an indirect effect of market orientation on the performance of the banking business through product innovation.

## **3. Research method**

This study employs a conventional investigating approach by a quantitative method (Mustafa et al., 2020; Shamsipur et al., 2012). The sampling approach utilized was a simple stochastic sampling method. The number of respondents was determined using the Slovin formula with a significance level of 10%. This study involved 50 banks consisting of 99 respondents. Data obtained by giving a questionnaire. The sampling criterion uses a simple random sampling technique, which is sampling by being determined secretly or simply, provided that the person

concerned has the characteristics, data, or information needed in the study. Profiles of respondents are the Head of the Bank who manages the business unit, namely the Branch Director (Spoke Manager) or the Hub Outlet Manager who oversees the Head Teller and Retail Officer (RO) and Customer Service Officer (CSO). Respondents' answers were measured using a Likert scale, 1 (Strongly Disagree), 2 (Disagree), 3 (Agree), and 4 (Strongly Agree). This study uses descriptive and inferential statistical data analysis techniques with a significance of 10%. The analytical tool used is the path analysis technique using Lisrel 8.54 software.

The banking industry is demanded to be market-oriented. Besides making products of interest to its buyers, they discuss innovation strategies carried out by their competitors. With their innovations, they harmonize cross-functional cooperation, carry out innovations, respond to competitors, and obtain better business performance. Market orientation is carried out to help management develop product innovation to obtain competitive advantages that impact superior banking business performance. Besides, there has been intense competition due to new markets marked by new players using increasingly sophisticated technology. Based on the description of the theoretical framework and the development of the above hypotheses, this study uses a framework model (theoretical model) that can be explained, as shown in Fig. 1.

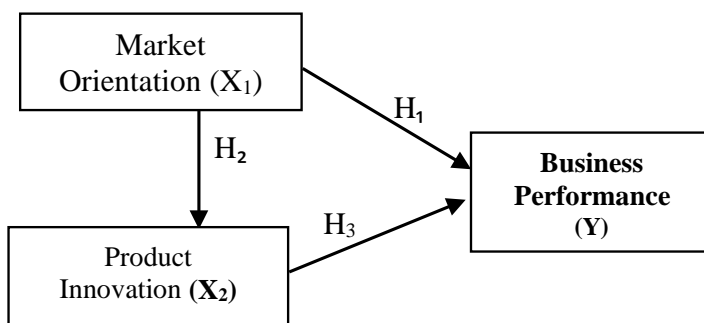


Fig. 1. Theoretic model for the theoretical framework and the development of the formulated hypotheses

#### 4. Result and discussion

##### 4.1. Results of descriptive data test

The variance between the sample variable data in Table 1 for the population variable is relatively small ( $\sigma < 10\%$ ), so it is feasible to use in research. Analysis of the Kolmogorov-Smirnov test results includes the validity and reliability tests based on the Cronbach's Alpha, as listed in table 1. Besides, based on the results of the research output, the AVE value of 0.62 (more than 0.5) means that it meets the validity requirements. The data processing outcomes in Table 2 indicate that the value of Cronbach's Alpha and Composite Reliability of all constructs is more than 0.70. This shows that all statements used to measure each construct are reliable.

The normality test results using the Kolmogorov-Smirnov test show that the data distribution on variables **X1**, **X2**, and **Y**, are normally distributed, according to Fig. 2 (data points close to normal).

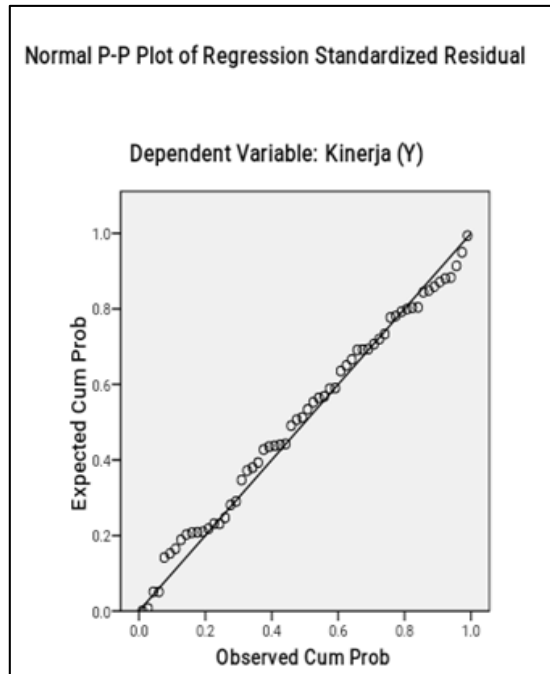
Table 3 is the Homogeneity Test Results Variants and it appears that the data between the Innovation variable (**X2**) in market orientation is homogeneous; likewise, the data between Business Performance (**Y**) on Innovation (**X2**) is homogeneous, including data between the Bank's business performance (**Y**) on the Market Orientation (**X1**) inhomogeneous conditions.

**Table 1.** Summary of descriptive data test

<i>Items test</i>	<i>Market performance (X1)</i>	<i>Product innovation (X2)</i>	<i>Business action (Y)</i>
<b>Total of Sample (n)</b>	98	98	98
Average	127.97	121.98	124.92
Median	128.98	122.99	126.90
Modus	139	109	130
Deviation (%)	8.467	8.450	9.001
Variance	72.011	70.012	77.998
Score Max.	144	136	135
Score Min.	111	103	102
Range	34	34	41

**Table 2.** Composite Reliability and Cronbach's Alpha

<i>Factor</i>	<i>Cronbach's Alpha</i>	<i>Composite Reliability</i>
Market Orientation	0.76	0.85
Product Innovation	0.71	0.84
Buss. Performance	0.75	0.84



**Fig. 2.** Normal distribution data on variables **X1**, **X2** and **Y**

#### 4.2. Results of the hypothesis test by using the path analysis

Table 4 shows a summary of the hypotheses test results, and among the several tests, there are significant results. There are direct or indirect effects between variables that can be seen in Table 5. The correlation test shows a correlation of 35.16% at **X1** to **X2** and 36% at **X2** to **Y** listed in 6.

**Table 3.** Summary of Homogeneity Test

No	Variable	n	X <sup>2</sup> Count	X <sup>2</sup> t.05	X <sup>2</sup> t.01	Result
1	The innovation of product [X2] on Market Orientation [X1]	98	17.332	89.01	97.93	Homogeneity
2	Business Performance [Y] on Product Innovation [X2]	98	46.099	89.01	97.94	Homogeneity
3	Bus Perform [Y] on Market Orientation [X1]	98	21.105	89.89	98.99	Homogeneity

**Table 4.** Summary of Hypothesis Test

Hypothesis	Statement	t.count	t.05	Results
H0 H1	The impact of Market performance (+) significantly on Product Innovation	4.83*	1.98	Rejected H0 and Receive H1
H0 H2	There is not directly the effect of Market performance significantly on the Business action	1.06	1.98	Receive H0 and rejected H2
H0 H3	There is an effect of the Product Innovation (+) significantly on the Business action	7.35*	1.98	Rejected H0 and Receive H3
H0 H4	There is indirectly the effect of Market performance (+) significantly on the Business action through product innovation	4.04*	1.98	Rejected H0 and Receive H4

Description: \* = Significantly effects

**Table 5.** Direct and indirect effect among the variables X1, X2, and Y

Effects of Variable	Direct effect (ρ)	Indirect effect through X2	Total
X1 toward X2	0.45*		0.45
X1 toward Y	0.10		-
X2 toward Y	0.43*		0.59
X1 toward Y	-	ρ̂ = 0,30*	0.31

**Table 6.** Causal Value ρ̂<sub>xy</sub> and Correlation r<sub>xy</sub>; R<sup>2</sup>

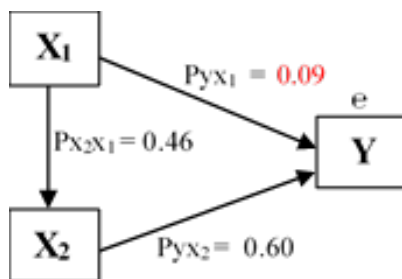
Relation of Variable X, Y	ρ̂ <sub>xy</sub>	r <sub>xy</sub>	r <sup>2</sup>
X1 with X2	0.46*	0.593	35.16%
X1 with Y	0.09	-	-
X2 with Y	0.44*	0.60	36%
X1 with X2 to Y	0.28*	0.59	-

Notation (red number): not significant

### 4.3. Results of hypothesis test by using the Path Analysis Model

To evaluate the amount of the causal influence, calculated using the path coefficient (ρ̂<sub>xy</sub>). After the calculation using Lisrel 8.54, a summary of the path coefficient calculation results is obtained, as shown in Table 4 and Table 5 of the causal values. Based on data from the results of hypothesis testing in Table 6, shown in Fig. 3.





**Fig. 3.** The results of hypothetical testing (**X1** = market performance; **X2** = product innovations; **Y** = business action; **P** = Path Coefficient)

#### 4.4. Market Performance and Product Innovation

The first hypothesis of the present research is that there is a positive and significant direct impact of Market Performance on Product Innovation. **t.count** = 4.83 > 1.98 (t-tab 0.5), which means that H0 is rejected and H1 is accepted, stating a significant influence of Market Performance on Product Innovation. This study shows that the increase in market orientation activities in the Bank's business has a significant direct impact on increasing the intensity of product innovation, which is proportionally proportional to the magnitude of the influence path coefficient of ( $\hat{\rho} = 0.46$ ). This finding means that the organization's efforts to market orientation will encourage product innovation faster than a bank in Jakarta.

Theoretically, market orientation is the organization's behaviour in gathering market information and disseminating information throughout the individual company and accepting input from customer or bank customer proposals. Efforts to find markets that have not yet been served, and mobilize resources in an organizational context, will encourage companies to focus on making changes and internal innovations that encompass inter-functional, competitor intelligence, and value creation of each individual in the organization competitive advantage. Besides, market orientation can motivate individual organizations to become innovators in responding to change. Besides, market orientation can contribute to a management culture that facilitates employees in making commitments and doing business transformations to benefit bank customers. The results of this study are consistent with previous studies where market orientation and product innovation have a positive and significant impact on the competitive advantage, which will improve company performance (Nikmah et al., 2015).

#### 4.5. Market Orientation Effect on Banking Business Performance

The second hypothesis of this study is to provide results that are not enough evidence Market orientation is a positive and significant influence on the performance of banking business with a path coefficient of  $\hat{\rho} = 0.09$  and **t.count** 1.06 < t-tab. 05 =1.98. The results of this study are not enough evidence that the data from market orientation research results significantly influence the performance of the banking business. This indicates that the marketing strategy adopted by banking institutions in Jakarta is not effectively implemented. Alternatively, bank customers are less transparent in providing information about bank products, how they need, for example, making more attractive products such as credit cards and time deposits made more attractive to bank customers, especially in expediting transactions. Market orientation is more dominant in



influencing competitive advantage to improve performance, while the results of this study stated the opposite.

#### 4.6. Product Innovation on the Banking Business Performance

Product innovation influences competitive advantage, which in turn will improve marketing performance. Individuals have different levels of adopting innovative products or services. These individuals are categorized into five levels based on their value orientation and motives in adopting or rejecting new products. The majority of people belong to the initial majority group: the group of people who adopt technology only when the technology is useful and has been widely adopted by other users. Technology is considered the most influential in increasing innovation in the financial sector (Hasan et al., 2021). Testing the fourth hypothesis shows no significant effect of market orientation on business performance through product innovation. Path coefficient  $\hat{\rho} = 0.28$  and  $\alpha = 0.05$  where  $t_{\text{count}} = 4.04 > 1.98$  (T-tab. 05). These results indicate that H0 is rejected and H4 is accepted. There is a simultaneous and significant influence on market orientation and product innovation on marketing performance. The results of testing the hypothesis in this study also have the same results. In the context of banking business performance, if the Bank's business organization adopts variations in market orientation and more diverse product innovation actions will significantly impact banking business performance.

Banking innovation can be developed by strengthening working groups and developing opportunities in the International. The research results can be synthesized that changes or variations that appear in improving the performance of the banking business can be influenced by market orientation and product innovation factors, as well as other factors (Musriha, 2019). Therefore, to improve the performance of the banking business, things that need to be considered are product innovation and market orientation factors, and environmental uncertainty needs to be considered in preparing the strategic planning of the banking industry organization in DKI Jakarta province. An increase in job efficiency will indirectly support the satisfaction of customers, citizens and businesses as a whole (Krasniqi and Statovci, 2019).

### 5. Conclusion

There is a direct influence on positive and significant market orientation on product innovation and environmental sustainability. On the other hand, market orientation is not enough evidence to significantly influence the performance of the banking business. Product innovation has a positive and significant direct effect on the performance of the environmental sustainability. Meanwhile, market orientation has an indirect influence on the performance of the banking business through product innovation.

The limitation in this study is the research sample which is only limited to the leadership of the management unit in three randomly selected banks from 50 banks in Jakarta. More analysis is suggested to examine other parameters that can influence the performance of the banking business, such as credit card product innovation, Safe Deposit Boxes, Bank Cards, ATM Cards, Giro, Deposits.

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