Can Innovation Strategy and Use of Technology affect Business Competitiveness?

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Abstract. This research aimed at examining and analyzing the impact of Innovation Strategy and Use of Technology on Business Competitiveness. Methods used in this research was quantitative method using multiple regression, correlation coefficient, determination coefficient analysis, and hypothesis testing with validity and reliability test. Sampling method used in this research is saturated sampling through the distribution of questionnaires to 30 business actors at various distribution stores located in Bandung, Indonesia. The results showed that Innovation Strategy and Use of Technology have significant effect on Business Competitiveness simultaneously. Further research is also needed to understand whether Innovation Strategy and Use of Technology can affect other aspects besides Business Competitiveness such as business performance, business development, and business success.

Keywords — Innovation Strategy, Use of Technology, Business Competitiveness

1. Introduction

Over time, more and more companies compete in all aspects of selling goods/services, including distribution stores. Distribution stores are an option for teenagers to adults that offer a wide variety of fashion products. Each distribution store will use raw materials and create a design that is different from other distribution stores. Not only clothes, but many variations of other products are offered, such as bags, hats, sweaters, and other fashion accessories. Business competitiveness is defined as the company's ability to maintain its long-term performance better than their competitors in the market [1].

Currently, the internet has become a necessity for everyone in various activities, this shows that the internet has now become a phenomenon. Realizing that the growing need for the internet in society can be an opportunity, companies must maximize the use of the internet to help increase sales of their products. Technology has affected not only society, but also its surroundings, and it has helped to develop more advanced economies [2].

Companies should not only prioritize innovation in product design, but also pay attention to the quality of the products they offer. Products that are not good in quality will give a bad impression to the distribution store. So that the design and product quality must be balanced. Innovation transforms insights and technology into new products, processes and services that create new value for stakeholders, drive economic growth and raise living standards [3].

There were prior researches showed the impact of innovation strategy and use of technology to business competitiveness. DoĐan indicated that innovation positively affect the competitiveness [4]. The research use knowledge-technology output and creative output as indicators of innovation. Another research by Atkinson showed that innovation can help productivity and competitiveness. And innovation

means that the goods and services of the future will not only be cheaper but better [5]. On the other hand, other research by Şener & Sarıdoğan found that countries that have innovation-based science and technology-based economic policies and strategies have a great advantage and a sustainable competitive advantage not only in global competitiveness but also in economic growth and development that leads to the country's prosperity and welfare [6]. The result of research by Filipova & Yuleva states that competitiveness is directly related to innovative business activities. Innovation contributes to the improvement of technology, product and service characteristics, company organizational skills and specific competencies with respect to its main competitors [7]. Then, another research from Majerník shows that innovation affects the competitiveness of companies by creating new products or improving the quality of existing products. In terms of the types of innovation, the benefits can be felt at various levels of business activity [8].

This research has purpose to determine innovation strategy and use of technology toward business competitiveness.

2. Method

The research method is a scientific way of getting data in a certain way. The research method according to Sugiyono is a scientific way to obtain valid data with the aim of finding, developing and proving certain knowledge so that it can be used to understand, solve, and anticipate problems [9].

Survey design in this research is a cross-sectional survey design used a questionnaire. Cross-sectional survey design is a type of observational research design. In a cross-sectional study, researchers measure the outcomes of participants at the same time [10]. The analysis was conducted to distribution store owners in Bandung on July 2020. The sample is taken from 30 distribution store owners. Distribution store owners who were used as respondents in this study were those who had innovated and used the internet to offer products to consumers. This can provide an appropriate answer for this research in determining the business competitiveness.

Verificative method according to Narimawati is hypothesis testing using statistical analysis tools [11]. This research method is using verificative methods with a quantitative approach using multiple regression analysis, correlation coefficient analysis, and determination coefficient analysis. Multiple regression is used to model variations in the outcome variable as a linear function of the regression set [12]. Prior to testing, the classic assumption tests are carried out. Verificative method in this research is used to test the impact of innovation strategy and use of technology on business competitiveness, both partially and simultaneously.

In addition, hypothesis testing is also carried out. The hypothesis is a provisional assumption of the problem formulation. For that the hypothesis must be tested empirically for its validity [13]. To test the hypothesis partially, t-test is carried out to see the impact of each independent variable on dependent variable. And to test the hypothesis simultaneously, F-test is carried out to see the impact of the independent variables on the dependent variable simultaneously.

The hypothesis proposed in this research are as follows:
H1: Innovation strategy has a significant effect on business competitiveness
H2: Use of technology has a significant effect on business competitiveness
H3: Innovation strategy and use of technology have a significant effect on business competitiveness

3. Results

Before the multiple regression analysis is carried out, classic assumption test (normality test, multicollinearity test, heteroscedasticity test) are conducted to assess whether in a linear regression model there are problems with classical assumptions or not. Table 1 below explains the results of normality test.

Table 1. The Result of Normality Test

		Business Competitiveness
N		30
Normal Parameters[a,b]	Mean	2.8080
	Std. Deviation	.66088
Most Extreme	Absolute	.124
Differences	Positive	.104
	Negative	-.124
Kolmogorov-Smirnov Z		.681
Asymp. Sig. (2-tailed)		.743

a. Test distribution is Normal.
b. Calculated from data.

From table 1 above, the Kolmogorov-Smirnov test results are 0.743 which is greater than 0.05, so it can be stated that the data is normally distributed. Table 2 below explains the results of multicollinearity test.

Table 2. The Result of Multicollinearity Test

	Model	Collinearity Statistics	
		Tolerance	VIF
1	Innovation Strategy	.985	1.015
	Use of Technology	.985	1.015

a. Dependent Variable: Business Competitiveness

Based on the results of the multicollinearity test in table 2, the tolerance value is more than 0.10 and the VIF value is less than 10, it can be said that there are no symptoms of multicollinearity. Table 3 below explains the results of heteroscedasticity test.

Table 3. The Result of Heteroscedasticity Test

	Model	t	Sig.
1	(Constant)	1.092	.285
	Innovation Strategy	-.186	.854
	Use of Technology	-.126	.901

a. Dependent Variable: abresid

Based on the results of the heteroscedasticity test in table 3 above, the significance value obtained by each variable is more than 0.05. This proves that the residual variance is homogeneous. It can be concluded that the assumption of absence of heteroscedasticity has been fulfilled for the regression equation. So that all variables can be used for further testing in this research.

The next step is to perform data analysis using the multiple regression analysis. This test is conducted to determine whether the research model hypothesis is accepted or rejected. The following is a structural equation of research using the multiple regression analysis:

$$BC = 0.539 + 0.538*IS + 0.230*UT$$

From the regression equation above it can be seen that the value b0 of 0.539 means that if the innovation strategy and use of technology is zero, then business competitiveness will be worth 0.539. b1 value of 0.538 means that if the innovation strategy increases and the use of technology is zero, then business competitiveness will increase by 0.538. b2 value of 0.230 means that if the innovation strategy

is zero and the use of technology increases, then business competitiveness will increase by 0.230. Table 4 below explains the results of correlation and determination coefficient analysis.

Table 4. The Result of Correlation and Determination Coefficient Analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.473[a]	.223	.166	.60359

a. Predictors: (Constant), Use of Technology, Innovation Strategy

Based on table 4 above, it is known that the correlation value obtained between the innovation strategy and use of technology with business competitiveness is 0.473. This value falls into the category of a fairly strong relationship, in the interval class between 0.400 - 0.599. Table 5 below explains the results of determination coefficient analysis. And it is known that the influence of the innovation strategy and use of technology on business competitiveness is 0.223. This value means that the innovation strategy and use of technology affect business competitiveness by 22.3%. Table 5 below explains the results of partial hypothesis test.

Table 5. The Result of Partial Hypothesis Test

Model		t	Sig.
1	(Constant)	.608	.549
	Innovation Strategy	2.665	.013
	Use of Technology	1.137	.266

a. Dependent Variable: Business Competitiveness

Based on table 5 above, it is found that the significance value of the influence of the innovation strategy on business competitiveness is $0.013 < 0.05$, which means the innovation strategy has a significant effect on business competitiveness, H1 accepted.

Meanwhile, the significance value of the influence of use of technology on business competitiveness is $0.266 > 0.05$, which means use of technology has no significant effect on business competitiveness, H2 rejected. Table 6 below explains the results of simultaneous hypothesis test.

Table 6. The Result of Simultaneous Hypothesis Test

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.830	2	1.415	3.883	.033[b]
	Residual	9.837	27	.364		
	Total	12.666	29			

a. Dependent Variable: Business Competitiveness
b. Predictors: (Constant), Use of Technology, Innovation Strategy

Based on the results of simultaneous hypothesis test in table 6 above, significance value of 0.033 is obtained, which is less than 0.05, it means the innovation strategy and use of technology have a significant effect on business competitiveness, H3 accepted.

4. Discussion

The innovation strategy is measured through three indicators, namely process innovation, product innovation, and innovation implementation. In general, the innovation strategy at distribution stores in

Bandung is considered quite good. This is because business actors have not made significant changes in the product manufacturing process.

Use of technology is measured through two indicators, namely benefit and effectiveness. In general, the use of technology in distribution stores in Bandung is still considered quite good. This is because the distribution store has not maximized sales through the website.

Business competitiveness is represented by three indicators, namely competitive price, product quality, product excellence. In general, distribution store owners have fairly good business competitiveness. This is due to significant fluctuations in sales under current conditions.

The innovation strategy should be in accordance with the company's mission, vision, goals and strategy. The company should be investing in research and development in order to produce innovative products and achieve maximum performance [14].

Innovation remains a difficulty for business owners because innovation has a high failure rate, even successful businesses cannot maintain their performance. The reason is that companies simply adopt whatever is in vogue or emulate current innovators. Managers should formulate an innovation strategy by establishing company innovation efforts that support the overall business strategy. This will help them make decisions so that they can choose the most appropriate course of action and prioritize innovation with all functions aligned. Creating an innovation strategy is related to how innovation will create value for potential customers, how the company will capture that value, and what types of innovation should be done. Just as product design must be developed in order to remain competitive, innovation strategies must be developed as the environment changes. [15].

Besides of innovation strategies, advances in information technology have also brought new opportunities for business people to run their operations more efficiently than in the past. The use of the internet and information technology has not only changed the way companies do business but also improves existing processes. The application of information communication technology tools such as the internet in the business world will assist in the development of new products to reach new customers outside the reach of the market and create greater price competition opportunities. [16].

5. Conclusion

Simultaneously this research shows the influence of innovation strategy and use of technology on business competitiveness, this is shown by the results of hypothesis testing which states that there is a significant influence of innovation strategy and use of technology on business competitiveness in distribution stores in Bandung. Partially, strategic innovation has a significant effect on business competitiveness, while use of technology has no significant effect on business competitiveness. The finding of the result contributes the references to encourage the owner of distribution store to develop their product and maximize marketing area to reach customer widely. Further research on other theory need to be conducted.

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