INNOVATIONS IN MSME DEVELOPMENT OF SMALL INDUSTRIAL PRODUCTS CERAMIC IN BANDAR DUA PIDIE JAYA REGENCY

Ismayli* ; Fakhrurrazi ; Zulfikar


Ismaylisaputra11111@gmail.com ; Fakhrurrazunigha.ac.id ; Zulfikar020759@gmail.com

ABSTRACT

The purpose of this study was to analyze the innovation of MSME development of ceramic small industrial products in Bandar Dua District, Pidie Jaya Regency. The population in this study were all small ceramic industries in Bandar Dua District, Pidie Jaya Regency, which consisted of 3 ceramic businesses, namely Various Work Enterprises, Cheap Raya Enterprises and Makmur Jaya Enterprises, which were studied with a workforce of 42 people. Data was collected using a questionnaire, data analysis uses a multiple linear regression model, with the independent variables of model innovation (X1) and shape/size innovation (X2), as well as the dependent variable of the ceramics industry (Y), with the following formula. The research results show that the relationship between the independent variables and the dependent variable is 69.7%. Meanwhile, to see the coefficient of Termination is 0.486 or (48.6%). This means that 46.6% has an influence between the model development innovation variable and size/shape development innovation on the UMKM Development variable, while the remaining (51.4%) is influenced by other variables not discussed in this study.

Keywords: Ceramic Product Innovation Development Strategy

INTRODUCTION

The ceramics industry is predicted to continue and have good market opportunities. Indonesia in increasing the activities of the ceramics industry has an advantage as well as the availability of natural resources to be processed as raw materials into semi-finished goods and finished goods. The government and various related party institutions are still making efforts to make the ceramics industry able to continue to compete in the international trade market by conducting joint research and technical service collaborations as well as with related agencies to support a sense of independence and improvement that can continue to grow and accelerate rapidly to create a thriving economy. superior nationally and internationally.

Efforts to increase micro-economic activities are aimed at increasing economic development and creating employment opportunities. It is hoped that micro-entrepreneurs can carry out better development, promote micro-enterprises in the regions and can reduce the unemployment rate which has been one of the problems faced by the government. If you look at the existence of micro-enterprises so far, they are actively developing their business, however, there is a need for facilities and assistance from the local government, especially in assisting in the field of capital. With the development of micro-enterprises it is hoped that it can help community activities, especially in increasing income. However, micro-enterprises are still difficult to develop, this is because apart from a lack of capital, micro-enterprises are still faced with a lack of skills of business actors in utilizing raw materials in the regions to be processed into high-value products.

Micro entrepreneurs are expected to be able to improve their skills and develop better products, so that people's interest in micro businesses is high. Micro-enterprises are still facing management limitations, because business management is still traditional, lacks the application of modern technology and is weak in utilizing the market. When viewed from the results of micro-businesses so far it has really helped the community to take advantage of the
products of micro-businesses, because the community wants products that are guaranteed of quality and at affordable prices.

In Aceh Province, the need for ceramics is increasing along with the development of development, especially office buildings and housing, where the demand for ceramics is high. Pidie Jaya Regency is one of the districts in Aceh where there are many ceramic industries. Until 2021 there are 6 ceramic industries, with a workforce absorption of between 5 and 19 people. The small industry is expected to grow and develop, especially in increasing revenue and regional economic development. The non-capital-intensive ceramics industry initially departed from small handicraft businesses or home industries, increased by producing several other types of ceramics such as floor tiles in various shapes and models, bricks, wall pillars, flower pots and so on.

Based on initial observations, the first problem is that on average the ceramics industry is still lacking in developing innovative models and shapes or sizes of products with a variety of products, resulting in people's saturation of ceramic products. The second problem is that the small ceramic industry still lacks new innovations in product design, even though there are many new models that must be developed to attract people's buying interest. Judging from the need for ceramic products in Bandar Baru District, Pidie Jaya Regency is high, while this small industry has not taken advantage of opportunities for product innovation development strategies, even though the community's desire for product models and forms is highly expected. To overcome people's saturation level with these ceramic products, the researchers made efforts to develop more attractive product innovation strategies and open up new opportunities for small ceramic industries to increase sales turnover.

The need for ceramics in Bandar Dua District, Pidie Jaya Regency is currently increasing, due to many rehabilitation of shops and buildings as well as schools and mosques. Therefore, quality ceramic products are needed with new and attractive models, so that consumer buying interest is also increasing. Considering that the demand for ceramics is getting higher, it is necessary to make efforts to develop better models, so that consumers are satisfied in using the product and do not run to ceramic products outside the Bandar Dua District.

Product innovation is one of the efforts that needs to be made in the ceramics business to increase consumer purchasing power. Product innovations that need to be developed such as increasing product models with the latest motifs with various modifications, so that they can be an option for consumers according to the desired model. In addition, it is also necessary to innovate the size/shape of the product, which so far has mostly been produced in small sizes, so that consumers cannot determine the desired product size. The ceramics business also needs to maximize the production of medium and large sizes, because judging from the need for using ceramics so far, many consumers need medium and large sizes of ceramics, especially for the floors of office buildings and mosques. By providing various sizes/shapes of ceramic products, consumers are increasingly interested in buying these ceramic products.

The problems that have occurred so far in the ceramics business in Bandar Dua District, Pidie Jaya Regency, are consumer saturation caused by a lack of product development and an increase in product models and sizes according to consumer desires. Because if the attention of MSMEs is lacking in product innovation, consumers will switch to buying other ceramic businesses, because consumers want quality products with the latest models. In addition, the ceramics business has not fully engaged the workforce to attend training, especially product model development training. In fact, if consumer skills increase, then the workforce will be more skilled in carrying out new innovations in product development. Another obstacle for MSMEs that produce ceramic products is the need to improve the quality of the machines, because by using machine tools that are in good condition and reducing the use of manual equipment, product development efforts can be carried out in accordance with consumer expectations.
Research purposes
The purpose of this study was to analyze the innovation of MSME development of ceramic small industrial products in Bandar Dua District, Pidie Jaya Regency.

Research methods
This type of research is quantitative with an observational analytic research design with a statistical approach and implementation research methods. This study aims to analyze the innovation of MSME development of small ceramic products in Bandar Dua District, Pidie Jaya Regency.

CONCEPT AND HYPOTHESIS
The product innovation strategy can be interpreted as the efforts made by business actors to improve, improve, and develop the products that have been produced so far. Products developed are not always in the form of goods, but can be in the form of service improvements. Innovation can perfect and develop a product in order to maintain the survival and profits of the company, changes occur because of marketing performance. Product innovation can be interpreted as an effort made by business actors to improve, improve, and develop the products that have been produced so far. Product Development is developing the product concept into a physical product to be sure that product ideas can be changed be a product that can embodied (Kurniawan & Azkiya, 2016).

Product Innovation
Innovation will create a new product that can provide a better solution for solving problems faced by consumers. Product innovation means improving existing goods and services or creating new ones. Product innovation is also the ability to integrate existing production elements in new and better ways. Product innovation is the ability to apply creativity to something that can be applied and add value to the resources you have. Product innovation is the emergence of something new, for example in the form of new ideas, new theories, new hypotheses, or new methods for organizational and business management (Naksir et al., 2022)

Innovation can refine and develop a product in order to maintain the viability and profit of the company, change occurs because of marketing performance (Devara & Sulistyawati, 2019). Key urgent for win competition locate donability company to create excellence eceome by understanding market needs and keep on innovating innovation so that product is generated in line with market developments and needs. Innovation is the process of changing a opportunity to become a marketable idea. A company can benefit which more big if they develop, communicate, and explore appropriate innovation market (Kencana & Giantari, 2021).

Produc cermustown superiority compete which is the hallmark of the product so that capable compete. Competitive advantage of a product can be formed by innovation as well closer to the market so that performance especially performance marketing could increase and company canablen maintain its presence in the market. Market orientation is planning strategic business units to meet demand smarket with attention to all functionsto companies that are able to absorb formation urgernครelated. Thing which in flue purchase, strategy taker and inter-functional decisions between division carry out activity marketing. (Kencana & Giantari, 2021).

States that product innovation is knowledge new products are often combined with novelties to form unknown production methods. Market globalization presents a challenge for every company to be able to continue to innovate in order to offer unique and superior products and services. New product introduction plays an important role in increasing company productivity, while process innovation plays a role as a strategy in reducing costs. Innovation can be carried out comprehensively both in terms of product, process, administration and technology, while still following market conditions, so as to achieve organizational performance and achieve

Competitive advantage

Competitive advantage is a benefit strategy from companies that do cooperation to compete more effectively in the marketplace. Strategy must be designed to realize a continuous competitive advantage, so that companies can dominate both old and new markets. Every company that competing in an industry has either an explicit or implicit competitive strategy. Strategy compete developed explicitly through activities-sharing activities company functional department. Competitive advantage is the company's ability to act better compared to the company others in the same industry (Anjaningrum & Sidi, 2018)

Marketing Strategy

Innovation indicators consist of namely, (Avriyanti, 2022) that is:

1. Relative advantage (relative advantage), the most important questions to ask in evaluate the potential success of a new product that is, is the product concerned will be deemed to offer much greater advantage than the product being replaced.

2. Compatibility / suitability (compatibility), is an important determinant of acceptancenew product. Conformity refers to the degree to which the product is consistent with value existing and past experiences from potential adopters.

3. Complexity (complexity), is the level where innovation is difficult to understand and used. The more complex the product in question, the more difficult the product gain acceptance.

4. Trialability Isthe degree to which an innovation is trialable beforehand or to be bound touse. An innovation can tested in real conditions, innovations are generally adopted more quickly. To further speed up the adoption process, then an innovation must be ableshow superiority. New product more likely to succeed if consumers can try or experiment with ideas limited.

5. Observability Levelhow the results of the use of an innovation visible to others. The more it is easy for someone to see the results of an innovation, the greater the possibility of innovation adopted by a person or group of people. Visibility and ease of communication reflects the level at which the results from New product usage seen by friends and neighbors.

Picture 1. Conceptual framework

In Concept and Hypothesis, Authors should state the concept and hypothesis which used in the research by very short literature survey. Inovasi model pengembangan dan bentuk produk UMKM berpengaruh terhadap Industri kecil keramik di Kecamatan Bandar Dua Kabupaten Pidie Jaya.

RESEARCH METHOD

This type of research is quantitative with an observational analytic research design with a statistical approach and implementation research methods. This study aims to analyze the innovation of MSME development of small ceramic products in Bandar Dua District, Pidie Jaya Regency.

Population and Sample

The population in this study were all small ceramic industries in Bandar Dua District, Pidie Jaya Regency, which consisted of 3 ceramic industries, namely Various Work Enterprises, Cheap Raya Enterprises and Makmur Jaya Enterprises, which were studied with a workforce of 42 people. First look at the potential or exposure that exists in the workplace environment of small industries that are at risk of consumer saturation about ceramic products.

This research activity uses data collection so that the information obtained is more in-depth
on the data obtained using questionnaires, including data on product innovation development strategies and data on the development of small ceramic industries. Obtaining data from direct interviews with consumers who use small ceramic industry products, as well as direct observations in the field and in the ceramic industry in Bandar Dua District, Pidie Jaya Regency, during specified working hours as well as operational activities to see first-hand product innovation activities that can be beneficial for product development to increase consumer attractiveness data.

Data collection techniques are carried out by:

1. Interviews (interviews) conduct direct Q&A with ceramic business leaders, employees and competing parties to obtain research data such as consumers who use ceramic products, and product sales shops.

2. Questionnaire, is a method of collecting data by distributing a list of questions to respondents, namely small ceramic industry entrepreneurs and employees.

3. Documentation, collecting data in the form of books, literature, which contains data on product innovation development strategies, model design, product shapes and sizes and Disperindagkop data.

Data analysis with independent variables and multiple linear regression model Model innovation (X1), shape/size innovation (X2), and the dependent variable (Y) for the ceramic sector are all included in the product innovation development plan.

Data analysis with independent variables and multiple linear regression model Model innovation (X1), shape/size innovation (X2), and the dependent variable (Y) for the ceramic sector are all included in the product innovation development plan.

**Validity and Reliability Test**

The validity coefficient describes the level of statistical ability to reveal data or information from the variable being measured. The technique for testing the validity of the data uses the product moment correlation technique from Pearson with a significant level of 5% to determine the closeness of the relationship between the independent variables and the dependent variable by correlating between the statement item scores to the total score. If the total Pearson correlation value is > 0.3 or the probability is less than 0.5, then the item is valid. The validity test is used to determine the feasibility of the items in a list (construct) of questions in defining a variable. An instrument is said to be valid if it is able to measure what is desired and can reveal data from the variables studied appropriately. Test reliability (reliability) is a measure of a stability and consistency of respondents in answering questions related to the constructs which are the dimensions of a variable and arranged in the form of a questionnaire. A questionnaire is said to be statistical or reliable if one's answers to statements are consistent or stable from time to time and can show the same results if done to other respondents.

**Classic Assumption Test**

The normality test aims to find out whether or not a data distribution is normal. The normality test is carried out by observing the histogram of residual values and statistics. The histogram shows the frequency distribution of the observed data. Statistics are used to test whether a data is normally distributed or not.

The heteroscedasticity test aims to test whether in the regression model there is an inequality of variance from the residuals of another observation. A good regression model is one that has homoscedasticity or does not have heteroscedasticity. To detect whether there is heteroscedasticity by looking at the pattern of dots on the regression scatterplot. If the dots spread in an unclear pattern above and below the number 0 on the Y axis, there is no heteroscedasticity problem. While the heteroscedasticity test in this study was used using a regression scatterplot.

Multicollinearity test is the existence of a perfect linear relationship (near perfection) between some or all of the independent variables. The multicollinearity test aims to test whether the regression model that is determined has a correlation between the independent variables. A good regression model is that there is no correlation between the independent variables.
The way to detect the existence of multicollinearity is to observe the value of the variance inflation factor (VIF) and tolerance, that is, with the same value when using 2 independent variables. If the relationship between all or some of the explanatory variables is very close, it means that there is multicollinearity, as a result, the estimating variable tends to be too large.

**Data analysis**

Data analysis uses a multiple linear regression model, with the independent variables of model innovation (X1) and shape/size innovation (X2), as well as the dependent variable of the ceramics industry (Y), with the following formula: Sudjana

\[ Y = a + B_1 X_1 + B_2 X_2 + e \]

Information

Y = Ceramic industry  
X1 = Model innovation  
X2 = Shape/size innovation  
a, b = Coefficients  
e = Error terms

Criteria for testing the hypothesis if the t-count is greater than the t-table then accept the hypothesis Ha and reject Ho, conversely if the t-count is smaller than the t-table then accept the hypothesis Ho and reject Ha with a significant level of 0.05 or 95%.

**Test Hypothesis**

The data that has been collected is made in tabular form and makes a matrix design, so that the data is analyzed more easily and also calculates the score of the answers from the questionnaire in accordance with the systematic data processing.

**F test**

The results of the linear regression analysis will show the magnitude of the influence of the independent variable on the dependent variable, so to prove the effect of (independent variable) on (dependent variable) it can be done using the F test, provided that the value of Fcount > Ftable with a level of confidence (Sig F) > Sig (α = 0.05) then accept Ho and reject Ha. Vice versa if the value of Fcount < Ftable with a level of confidence (Sig F) < Sig (α = 0.05) then accept Ho and reject Ha.

**RESULT AND DISCUSSION**

**Validity test**

The technique for testing the validity of the data uses the product moment correlation technique from Pearson with a significant level of 5% to determine the closeness of the influence between the independent variables and the dependent variable. The validity test is to see the correctness of the results of the respondents’ answers by comparing the correlation coefficient with the critical value. If the total Pearson correlation value is > 0.3 or the probability is less than 0.5, then the item is valid. In this study based on the results of the validity test, it was obtained that the average questionnaire submitted was in the valid category.

The test results obtained for all the variables used in this study, both the independent variable and the dependent variable were stated to be valid, because they have a correlation coefficient above the critical product moment correlation value of 0.168. Thus it can be concluded that all questionnaires given statements by respondents can be continued for further management, it means that the statements are all valid.

**Reliability test**

A variable is said to be reliable if it gives a Cronbach Alpha value > 0.06.

<table>
<thead>
<tr>
<th>No</th>
<th>Variable Item</th>
<th>Nilai Alpha</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ceramic industry (Y)</td>
<td>0.765</td>
<td>reliability</td>
</tr>
<tr>
<td>2</td>
<td>Model Innovation (X1)</td>
<td>0.781</td>
<td>reliability</td>
</tr>
<tr>
<td>3</td>
<td>Shape/size innovation (X2)</td>
<td>0.793</td>
<td>reliability</td>
</tr>
</tbody>
</table>

Source: Primary Data, 2022 (Processed)
Test the reliability of each variable in this study, both model innovation (X1), shape size innovation (X2) and ceramic industry (Y) with alpha values obtained 0.765 (X1), 0.781 (X2) and 0.793 (Y) declared reliable and these variables can be continued for processing regression data.

Normality test

The data normality test is used to test whether the data is a regression model, the dependent variable, the independent variable, both of which have a normal distribution or not. Analysis of data normality can be seen by looking at the normal probability plot graph which compares the cumulative distribution of the actual data with the normal cumulative distribution of data. If the data spreads along the diagonal line and follows the direction of the diagonal line, then the regression model meets the assumption of normality. The results of data processing show a normal probability plot like the data below.

The scatterplot graph shows that the points on the graph cannot form a clear pattern and these points spread above and below the number 0 on the Y axis, so it can be concluded that there is no heteroscedasticity.

Regression

Based on the results of the regression calculations in the output section of SPSS version 21.0 above, the regression equation showing MSME development as a function of competence and commitment can be formulated as follows

\[ Y = 6.891 + 0.318X_1 + 0.428X_2 \]

From the table above, it can be seen that the multiple linear regression equation of this study, it can be seen that if the constant value is 6,891, it means that if the model development innovation variable (X1), and size/shape development innovation (X2) are considered fixed, then the MSME development (Y) is of 6,891 on the Likert scale unit which indicates that the Innovation for the development of UMKM Small Ceramic Industry Products, Bandar Dua District, Pidie Jaya Regency.

Table 2. Multiple Linear Regression Results

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>6.891</td>
<td>2.518</td>
<td>2.737</td>
<td>.009</td>
</tr>
<tr>
<td>Model Development</td>
<td>.318</td>
<td>.136</td>
<td>.346</td>
<td>2.335</td>
</tr>
<tr>
<td>Size Growth Innovation</td>
<td>.428</td>
<td>.149</td>
<td>.425</td>
<td>2.875</td>
</tr>
</tbody>
</table>

Source: Primary Data, 2022 (Processed)
If the model development innovation (X1) increases by 1%, then the MSME product development innovation for the small ceramic industry in Bandar Dua District, Pidie Jaya Regency will increase by 0.318% assuming the independent variable X2 is considered constant. If the size/shape development innovation (X2) increases by 1%, the MSME Development Innovation for Ceramic Small Industry Products, Bandar Dua District, Pidie Jaya Regency will increase by 0.428% assuming the independent variables are considered constant.

The results of the analysis show that the correlation coefficient (R) has a positive relationship between the independent variables, namely model development innovation and size development innovation because the value is 0.697 or 69.7% indicating a strong relationship between the independent and dependent variables. Meanwhile, to see the value of the coefficient of Termination (R-square) it can be explained that the relationship between variables X1 and X2 with variable Y is the existence of model development innovation variables and size/shape development innovations on the MSME Development variable for Small Ceramic Industry Products in Bandar Dua District, Pidie Jaya Regency that is equal to 0.486 or (48.6%). This means that 46.6% has an influence between the model development innovation variable and the size/shape development innovation variable on the UMKM Development variable, while the remaining (51.4%) is influenced by other variables not discussed in this study.

The correlation test can be explained that there is a close relationship between the independent variables and the dependent variable. This means that the model innovation variable and the product size or shape innovation variable have a close relationship.

The termination test can be concluded that there is influence between the independent variables and the dependent variable. This means that the model innovation variable and product size or shape innovation variable have an influence on the development of the ceramics business. The better the product model development is, the more opportunities the ceramics business has to increase sales. Likewise with the development of product size and shape, if the size development is carried out better and meets consumer needs, then the ceramics business will also develop as expected.

**Proof of the Hypothesis**

Simultaneous Test (F Test) Simultaneous hypothesis testing (f-test) was conducted to measure the influence of the independent variable on the dependent variable, namely the Development of Small and Medium Enterprises for Ceramic Products in Bandar Dua District, Pidie Jaya Regency. For more clearly the results of the F-Test can be seen in Table 3 below for more information:

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>57.264</td>
<td>2</td>
<td>28.63</td>
<td>18.41</td>
<td>.000</td>
</tr>
<tr>
<td>Residual</td>
<td>60.641</td>
<td>39</td>
<td>1.555</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>117.905</td>
<td>41</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Primary Data, 2022 (Processed)

From the results of statistical calculations using the SPSS Version 21.0 program which is summarized in Table 4-3 above, F-count = 18.414 is obtained with a probability level of 0.000. Meanwhile, F-table = 3.220. Because the probability is much smaller than 0.05. F-count (18.414) > F-table (3.220) so it can be said that the MSME development variable can be explained together significantly by the variable product development innovation and size development innovation or in other words this study accepts the hypothesis Ha and rejects the hypothesis Ho.

**Conclusion**

The strong relationship between the independent variable and the dependent variable is 69.7%. Meanwhile, to see the coefficient of Termination is 0.486 or (48.6%). This means that 46.6% has an influence between the model
development innovation variable and size/shape development innovation on the UMKM Development variable, while the remaining (51.4%) is influenced by other variables not discussed in this study.

Hypothesis test obtained a decision to accept the hypothesis Ha and reject Ho, which means that there is a significant influence between model development innovation and product size/shape development innovation on MSME development variables.

It is hoped that the ceramics business in Bandar Dua District, Pidie Jaya Regency, should be able to improve better product development, by utilizing quality raw materials, machines that are in good condition and training the workforce in the field of product model development, so that efforts to increase sales and business development become better.

REFERENCE


