# Analyzing the Sustainability of Micro, Small and Medium Enterprises during Covid-19 Pandemic in Bireuen Regency, Indonesia

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**Abstract**

This study aims to analyze the effect of product innovation, sales method, technology mastery, market share, and MSME compliance in *muamalah* on the sustainability of MSME food product during the Covid-19 pandemic in Bireuen Regency, Indonesia. The research method used multiple linear regression analysis method. Respondents in this study were 87 Micro, Small and Medium Enterprises (MSMEs) in food products. The results of the study partially found that the Product Innovation was the most dominant (significant) variable influencing the sustainability of MSMEs. The compliance in *muamalah,* reflected in sales zakat payment, honesty and transparency as well as product halalness, also had a significant effect on business sustainability. Meanwhile, the variables of sales method, technology mastery and market share expansion had no significant effect on business sustainability. Simultaneously, all independent variables had a significant effect on business sustainability and the ability to affect the independent variables on the dependent variable was 30.40%. The implication of this research is finding a solution to overcome the problem of the sustainability of MSMEs in Bireuen Regency. Whilst the limitation of the research is on collecting MSMEs data from the industry office, even though the conditions in the field are many Micros, Small and Medium Enterprises having not been registered and holding no a business license.

*Keywords:* Sustainability, innovation, method, technology mastery, market share, *muamalah*

## 1. Introduction

The sustainable condition of the COVID-19 pandemic causes Micro, Small and Medium Enterprises (MSMEs) to hardly keep going their sustainability (Agyapong, 2010; Tambunan, 2019; Pari et al., 2020; Prameswari et al., 2021). This is a consequence of policies to reduce the spread of the virus by restricting activities and social interactions by closing or restricting the operating hours of crowded places, schools and offices. Even though, those are marketing places for MSME products, in which if operational hours are restricted or closed, it will certainly have an impact on the number of sales of MSME products, which will of course have an impact on MSME income (Syuhada et al., 2013; Novikasari et al., 2021; Latifah et al., 2019; Miradji et al., 2020).

One indicator of the level of business sustainability is the number of sales. The higher the level of sales is, the better the impact on business sustainability in the long term (Olson et al., 2003; Rezaee, 2016). The demand to continually keep going business sustainability is a must for MSME actors, although there are many problems faced, especially during the pandemic. This is underlying the researchers to conduct research related to the sustainability of MSME businesses.

Apart from the economic aspect, this study also would like to measure the extent to which the concept of Islam as *rahmatan lil alamin* which has been regulated in Islam through the Qur'an and Hadith, is adhered and believed by sharia MSME actors in Bireuen Regency, especially compliance in *muamalah*. MSME compliance in *muamalah* is reflected through compliance in paying sales zakat, honesty and transparency as well as product halalness (Rahmayati, 2021; Pradesyah and Triandhini, 2021; Yudhy, 2020; Fadliansyah et al., 2021).

Choosing Bireuen Regency as the research location was based on data from the Industry Service which stated that Bireuen was the regency with the most stable growth of MSMEs in food products in Aceh Province for the last 3 years. In addition, Bireuen Regency has also been designated as a student (*santri*) city by the Aceh Provincial

Government since October 2020. Briefly, the people of Bireuen Regency generally understand and adhere to Islamic concepts well.

Based on problem of research above, the main objective of this study is to analyze the effect of product innovation, sales method, technology mastery, market share, and MSME compliance in muamalah on the sustainability of MSME food product during the Covid-19 pandemic in Bireuen Regency, Indonesia.

## 2. Literature Review

Business sustainability is a consistency of the business condition. The sustainability is a process of ongoing business both including growth, development, strategy to keep going sustainability and development of business which leads to sustainability and existence of business (Sun et al., 2018).

Business sustainability is largely determined by the existence of production innovation and technology mastery. Agri et al. (2018) stated that young entrepreneurs could compete with leading companies in all business scales only by using innovation method and technology mastery. Research conducted by Yanti et al., (2018) related to MSMEs stated that product quality, better innovation and information technology mastery were vital factors in determining business sustainability. This shows the importance of entrepreneurs to continually innovate in production and master advances in marketing technology in order to expand their market share.

The expansion of market share is used to measure market competitiveness which aims to record how well and developing the company's performance over its competitors. Companies having a high market share show the possibility of business sustainability. Tiawon and Kristinae (2021) in their research related to the sustainability of MSMEs with various strategies, found that the market share expansion strategy could provide a strength for entrepreneurs in facing market competition and keeping going their existence.

In addition to expanding the market share, compliance in *muamalah* also plays an important role in running a food business in a predominantly Muslim area and enforcing Islamic law. Compliance in *muamalah* is reflected by compliance in paying sales zakat. Zakat has a significant effect on the Company's Performance. Research conducted by Ismail et al. (2013) proved that giving zakat would not reduce the company's ability to earn net income. The results of this study are also in accordance with Islamic teachings, because Allah SWT has guaranteed that zakat will not reduce wealth, it will increase wealth instead.

Compliance with zakat accompanied by honesty, transparency and product halalness is the most basic values to support the company's sustainability in a predominantly Muslim country. Without honesty and transparency, business will not last long, because honesty is the main key in business success. The principle of honesty is the most basic principle of business ethics in supporting the company's success in various aspects. Mariyudi et al. (2014) in their research related to the leading MSME economic cluster in Aceh Province, found that MSMEs that remain sustainable success were MSMEs applying the principles of business ethics. Based on the aforementioned literature review, the conceptual framework used in this study can be seen in Figure 1.
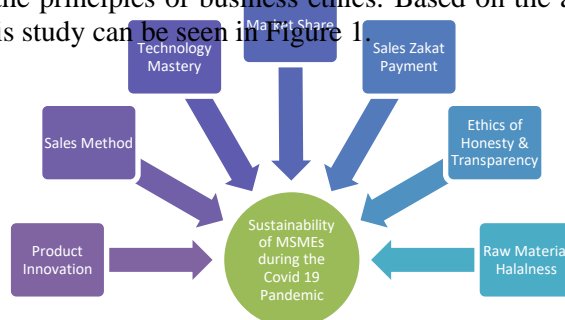


**Figure 1**. Conceptual Framework

## 3. Materials and Methods

### 3.1. Materials

The variables predicted to affect business sustainability are Product Innovation, Sales Method, Marketing Technology Mastery, Market Share Expansion and Compliance in *Muamalah* according to the guidance of the Qur'an and Hadith as measured by sales zakat payment, ethics of honesty and transparency and the produced product halalness.

Sustainability is reflected in the number of sales that can be made with a measurement scale of thousands of rupiah (Rp/000). Product innovation is indicated by whether or not there is a change in the shape of the packaging or the product during running the business with a dummy measurement scale (1 for existing 0 for none). The sales method in this study shows how the sales system has been run by MSME actors while it runs a business with a dummy measurement scale (0 for the offline method, 1 for the online method, 2 for the online and offline methods). Technology mastery is the ability of MSME actors to utilize advances in marketing technology through social media and e-commerce with a dummy measurement scale (0 for not knowing social media and e-commerce, 1 for knowing one of the two, 2 for knowing both but not being utilized, 3 for already utilizing one of them, 4 for already utilizing both). Expansion of market share is indicated by the ability of MSME actors to open business branches in several places with a measurement scale of 0 for MSMEs that do not yet have branches and 1 for MSMEs with existing branches. Compliance in *Muamalah* is based on the guidance of the Qur'an and Hadith as measured by sales zakat payment, ethics of honesty and transparency and the produced product halalness.

## 3.2. Methods

### 3.2.1. Research Design

This study was designed as a descriptive research from quantitative data. In addition, this study would analyze the characteristics of MSMEs in maintaining their sustainability by looking at the magnitude of the effect of the variables that have been determined previously.

### 3.2.2. Population and Sample

The population in this study was all MSMEs that had been recorded at the department of industry in Bireun Regency, namely 87 MSMEs while the sampling method used the census method.

### 3.2.3. Data Collection Technique

Data collection techniques were carried out by means of observation, interviews, literature studies, mass media content analysis and questionnaires. The literature study was collected from the Aceh Central Statistics Agency (BPS), the Bireuen Industry Department, the Bireun Trade department, the Bireun Cooperatives and Small and Medium Enterprises (SME) department and various libraries that could support the discussion of the existing problems.

### 3.2.4. Formula / Equation

The formula used in data analysis is as follows:

$$Y_i = a + \beta 1 X1 + \beta 2 X2 + \beta 3 X3 + \beta 4 X4 + \beta 5 D1 + \beta 6 D2 + \beta 7 D3 + \mu_t. \tag{1}$$

Where:
$Y$ = business sustainability, $X1$ = product innovation, $X2$ = sales method, $X3$ = technology mastery, $X4$ = market share, $D1$ = sales zakat payment $D2$, = ethics of honesty and transparency, $D3$ = Product Halalness, $\beta_0$ = Constant, $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6$ = Parameter, $\mu_t$ = Error term.

## 4. Results and Discussion

Based on the result of data processing using Eviews, it found the results as follows:

### 4.1. The Results of Classic Assumption Testing

### 4.1.1. The Results of Normality Testing

The normality graph shows that the data of this study had been normally distributed (see Figure 2). It is indicated by the comparison of the Jarque-Berra probability value which was greater than the significance level of 5% (0.75 > 0.05).
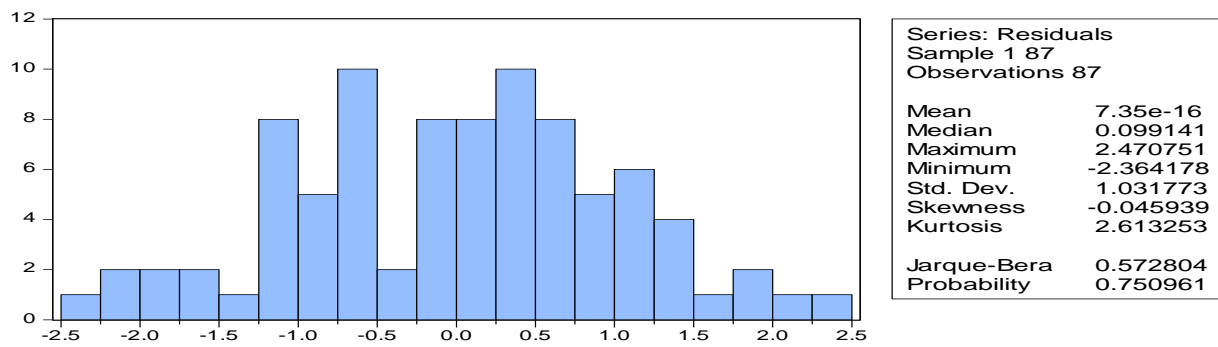
**Figure 2**. The results of normality testing

## 4.1.2. The Results of Autocorrelation Testing

The Table 1 shows the results of autocorrelation testing. The results found that there was no autocorrelation problem in the research model. This indicates that the data of this research have met the requirement for Best Linear Unbiased Estimators (BLUE) in the regression of Ordinary Least Square (OLS).

**Table 1**. The Results of Autocorrelation Testing

| Breusch-Godfrey Serial Correlation LM Test: | | | |
|---|---|---|---|
| F-statistic | 2.025321 | Prob. F(2.77) | 0.1389 |
| Obs*R-squared | 4.347971 | Prob. Chi-Square(2) | 0.1137 |

## 4.1.3. The Results of Heteroskedastisity Testing

The Table 2 shows the results of heteroskedasticity testing. The results found that there was no heteroskedasticity problem in this research. Thus, the data of this research have met the requirement for Best Linear Unbiased Estimators (BLUE) in the regression of Ordinary Least Square (OLS).

**Table 2**. The Results of Heteroscedasticity Testing

| Heteroskedasticity Test: Breusch-Pagan-Godfrey | | | |
|---|---|---|---|
| F-statistic | 1.383685 | Prob. F(7,79) | 0.2239 |
| Obs*R-squared | 9.501679 | Prob. Chi-Square(7) | 0.2186 |
| Scaled explained SS | 6.319584 | Prob. Chi-Square(7) | 0.5030 |

## 4.1.4. The Results of Multicollinearity Testing

The Table 3 shows the result of multicollinearity testing. The results found that there was no relationship between independent variables. Therefore, the data of this research have met the requirement for Best Linear Unbiased Estimators (BLUE) in the regression of Ordinary Least Square (OLS).

**Table 3**. The Results of Multicollinearity Testing

|  | *X1* | *X2* | *X3* | *X4* | *D1* | *D2* | *D3* |
|---|---|---|---|---|---|---|---|
| X1 | 1.000000 | 0.004055 | -0.038278 | 0.124138 | -0.057113 | -0.060478 | -0.060478 |
| X2 | 0.004055 | 1.000000 | 0.159915 | 0.176515 | -0.138467 | 0.264941 | -0.059290 |
| X3 | -0.038278 | 0.159915 | 1.000000 | -0.135928 | 0.058981 | 0.188700 | 0.049574 |
| X4 | 0.124138 | 0.176515 | -0.135928 | 1.000000 | 0.081655 | -0.018085 | -0.018085 |
| D1 | -0.057113 | -0.138467 | 0.058981 | 0.081655 | 1.000000 | -0.102864 | 0.081655 |
| D2 | -0.060478 | 0.264941 | 0.188700 | -0.018085 | -0.102864 | 1.000000 | -0.156915 |
| D3 | -0.060478 | -0.059290 | 0.049574 | -0.018085 | 0.081655 | -0.156915 | 1.000000 |

## 4.2. The Results of Multiple Linear Regression Estimation

The estimation results found in this study can be seen in Table 4. Based on the aforementioned Table 4, the formulation of this study is:

$$Y = 3.927 + 1.19X_1 + 0.09X_2 + 0.22X_3 + 0.26X_4 + 0.50D_1 + 0.56D_2 + 0.53D_3$$

Interpretation of the results is as follows: A constant of 3.93 means that if all independent variables are constant, the business sustainability will be constant at 3.93%.

The value of $X1$ coefficient of 1.19 means that existing MSME actors create new innovations to their products. Their business will have the potential to be more sustainable by 1.19% compared to MSMEs that do not make new innovations on their products.

The value of $X2$ coefficient of 0.09 means that MSME actors who run online and offline marketing methods, their business will have the potential to be more sustainable by 0.09% compared to MSME actors only who run their business offline or online only. The value of $X3$ coefficient of 0.22 means that MSME actors who master and are able to utilize technology, their business will have the potential to be more sustainable by 0.22% compared to MSME actors who do not know the progress of marketing technology or already know but do not utilize it.

**Table 4**. The Results of Multiple Linear Regression

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 3.927065 | 0.379263 | 10.35447 | 0.0000 |
| X1 | 1.188640 | 0.234321 | 5.072703 | 0.0000 |
| X2 | 0.090628 | 0.159248 | 0.569102 | 0.5709 |
| X3 | 0.220358 | 0.243338 | 0.905565 | 0.3679 |
| X4 | 0.257678 | 0.242687 | 1.061770 | 0.2916 |
| D1 | 0.497619 | 0.237484 | 2.095384 | 0.0393 |
| D2 | 0.561732 | 0.247548 | 2.269181 | 0.0260 |
| D3 | -0.527546 | 0.236257 | 2.232930 | 0.0284 |
| R-squared | 0.360658 | Mean dependent var | | 3.547126 |
| Adjusted R-squared | 0.304007 | S.D. dependent var | | 1.290379 |
| S.E. of regression | 1.076514 | Akaike info criterion | | 3.072782 |
| Sum squared resid | 91.55178 | Schwarz criterion | | 3.299532 |
| Log likelihood | -125.6660 | Hannan-Quinn criter. | | 3.164087 |
| F-statistic | 6.366350 | Durbin-Watson stat | | 1.555660 |
| Prob(F-statistic) | 0.000006 | | | |

The value of $X4$ coefficient of 0.26 means that MSME actors who have carried out Market Share Expansion, their business will have the potential to be more sustainable by 0.26% compared to MSME actors who have not expanded their market share.

The value of the $D1$ coefficient of 0.50 means that MSME actors who always pay business zakat, their business has the potential to be more sustainable by 0.50% compared to MSME actors who rarely or never pay business zakat. The value of $D2$ coefficient of 0.56 means that MSME actors who are honest and transparent to consumers, their business has the potential to be more sustainable by 0.56% compared to MSME actors who are not honest and transparent to their consumers.

The value of $D3$ coefficient of 0.53 means that MSME actors who use raw materials that are clearly halal, their business has the potential to be more sustainable by 0.53% compared to MSME actors who use raw materials whose halalness is unclear.

## 4.3. The Results of Hypothesis Testing

The results of the study partially found that the Product Innovation variable was the most dominant (significantly) influencing the sustainability of MSMEs. The compliance in *muamalah* reflected through sales zakat payment, honesty and transparency as well as product halalness, also had a significant effect on business sustainability. Meanwhile, the variables of sales method, technology mastery and market share expansion had no significant effect on business suatainability. Simultaneously all independent variables had a significant effect on business sustainability. Whilst the ability of the independent variable to affect the dependent variable was indicated by the $R^2$ value as many as 30.40% while the remaining of 69.40% is affected by other variables outside this research model.

## 4.4. Discussion

The results of hypothesis testing found that Product Innovation had a positive and significant effect on business sustainability. This means that the more product innovations are carried out, the higher the possibility of the business sustainability will be. Therefore, in order to remain sustainable, the company must be able to innovate the appearance of the product, both from the variety of taste and from packaging. The results of this study are in line with previous research conducted by Mandey and Salindeho (2018) who stated that there was a significant effect of product innovation on total sales.

The Sales Method had a positive and insignificant effect on business sustainability. This means that if the sales method follows the times and consumer desires (online and offline), the higher the possibility of the business sustainability will be. This is in line with the theory described by Saturwa et al. (2021), in which one of the factors that affect business sustainability was the sales method commonly used, one of which was promotion consisting of advertising, demonstrations, campaigns, and giving gifts that often affect sales because it was expected with these factors, the buyer will repurchase the same item.

Technology Mastery had a positive and insignificant effect on business sustainability. This shows that the technological mastery of MSME actors in Bireuen Regency was still low. Only a few MSME actors control and do marketing using social media and e-commerce. Market Share Expansion did not significantly affect business sustainability. This means that the expansion of market share did not affect business sustainability in MSMEs for food business in Bireuen Regency. The results of this study are supported by research (Mandey and Salihendo, 2018) who stated that market share did not have a significant effect on total sales.

Compliance in *muamalah* indicated by compliance in paying zakat, honesty, transparency and product halalness was the most basic values to support company sustainability in a predominantly Muslim country. Without honesty and transparency, business will not last long inasmuch as honesty is the main key in business success. The principle of honesty is the most basic principle of business ethics in supporting the company's success in various aspects.

## 5. Conclussion

The results concluded that product innovation and compliance in *muamalah* greatly had an effect on business sustainability. Whilst changes in sales method, technology mastery and market share expansion had a positive and insignificant effect on sustainability of MSMEs in food products. Simultaneously, all the independent variables studied had a significant effect on business sustainability.

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