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# The factors contributing to the sustainability of agribusiness MSMEs in Sukoharjo Regency during the Covid-19 pandemic

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**Abstract.** MSMEs play a significant role as one of the elements that encourage the national economy and the Indonesian government highly supports the development of competitive and innovative MSMEs. Making innovation is one of the MSMEs' efforts to survive during the Covid-19 pandemic because innovation and technology development can generate a creative industry. Technology development can support business activities but MSME players are also challenged with the Covid-19 pandemic today. However, the challenge can turn into an opportunity if they can take the advantage of using technology for online marketing. Competitive MSME players can improve their performance, which can keep their existence and contribute to their business sustainability. This research aims to investigate the factors influencing the sustainability of agribusiness MSMEs in Sukoharjo Regency during the Covid-19 pandemic. This research applied SEM analytical method with SmartPLS 3.0 software. The respondents taking part in this study were 120 agribusiness MSMEs operating in Sukoharjo Regency. The results of the research signify that the factors affecting the sustainability of agribusiness MSMEs in Sukoharjo Regency include the external environment, MSME players' perception, and infrastructure/technology utilization.

## 1. Introduction

The development of a country can be seen from its everyday economic activities. A country with abundant resources and the capability of utilizing the resources will have greater economic activities [1]. In Indonesia, the activities start from micro-business and then gradually develop into small, medium, and large businesses. Moreover, MSMEs are one of the elements supporting the national economy [2]; and thus, the development of MSMEs at a regional level will support the national economy [3].

The Indonesian government is highly supporting the development of the creative industry today. Creative industry brings a concept of intensifying information and creativity in the production factors [4]. MSMEs that can make innovation and produce creative products will be more competitive in facing the market; and therefore, they must get prepared along with the changing times. Moreover, when the world enters into revolution 4.0, MSMEs should get ready to face technological advancement and can create low-cost, abundant, and sustainable resources [5].

Technology develops into a particular business today. The development of information and communication technology, particularly the internet, can apply the concept of e-business [6]. However, this technological development also challenges market players, particularly MSMEs during



this pandemic, which is related to the government policy in the attempt of suppressing the Covid-19 transmission through the implementation of physical distancing that restricts people from doing activities outside their homes [7]. The Covid-19 has been identified as a threat to global public health since December 2019 [8], appearing for the first time in Wuhan (China) area caused by severe respiratory tract infection [9]. This Coronavirus belongs to a new type of virus labeled with Severe Acute Respiratory Syndrome (SARS-CoV-2) [10] and the disease is called Coronavirus disease 2019 (Covid-19) [11].

The presence of the Covid-19 pandemic affects MSMEs in Indonesia, including those in the culinary (food and beverage) sector [12]. Although the Covid-19 pandemic brings some problems to MSME players, it provides a great opportunity related to online marketing. The implementation of a physical distancing policy enables people to utilize information technology to purchase daily needs online. This condition becomes a potential for MSME players when they can shift their marketing strategy into digital marketing. The MSMEs' survivability amid this pandemic is inseparable from technology development by utilizing technology, information, and communication (ICT) facilities. Many MSME players have penetrated e-commerce by making use of smartphones to expand their market network and using communication applications such as social media to sell the products [13]. However, not all MSME players in Sukoharjo Regency have utilized e-commerce for their businesses because the adoption of information technology among Indonesian MSMEs is still low [14]. The low level of IT adoption by SMEs in Indonesia is attributed to many factors that are mostly internal [15].

Meanwhile, during this Covid-19 pandemic era, the use of e-commerce is very promising as one of the innovations the MSME players can make. The innovations are expected to contribute to business sustainability. Hence, the authors are triggered to research the factors contributing to the sustainability of agribusiness MSMEs during the Covid-19 pandemic.

Technology development and high competition rate demand the MSME players to keep innovating to improve their performance [16]. MSME players are necessary to be competitive by making innovation to maintain their existence in the market. Their existence will affect the sustainability of the business they run. This research aims to investigate the factors contributing to the sustainability of agribusiness MSMEs in Sukoharjo Regency during the Covid-19 pandemic.

## 2. Materials and methods

Hypothesis testing was conducted to find out whether or not the hypotheses are supported. This research formulated the following hypotheses:

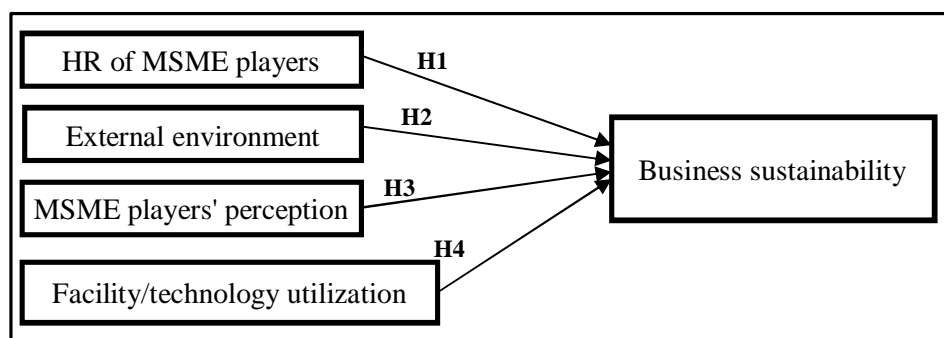
H1: Human resource of MSME players affects the business sustainability

H2: External environment affects the business sustainability

H3: MSME players' perception affects the business sustainability

H4: Facility/technology utilization affects the business sustainability

The research model is presented in Figure 1.



**Figure 1.** Research Model

This research employed descriptive and analytical methods. A survey technique was applied to obtain the data for further analyses. The primary data included the perception of MSMEs' in agribusiness of the factors contributing to the sustainability of MSMEs' businesses. Those factors were the human resources of MSME players, external environment, MSME players' perception, and technology facility utilization.

The respondents of the research consisted of 120 agribusiness MSMEs operating in Sukoharjo Regency. The number of respondents was determined using a variable: sample ratio of 1:20 [17]. This study used five variables; and thus, a total of 100 respondents were required. However, the data of 120 respondents were obtained and eligible to be analyzed in this study. The questionnaires were distributed online through Google Form and interviews by phone. The analysis was performed using the Structural Equation Modeling (SEM) with Partial Least Square (PLS) analyzing instrument and software. The evaluation was conducted on both the outer and inner models.

### 3. Results and discussion

#### 3.1. Evaluation on Measurement Model (Outer Model)

*3.1.1 Outer model involves validity and reliability tests.* A validity test was conducted using Average Variance Extracted (AVE). A variable is considered as valid, if  $AVE > 0.5$  [18]. The AVE values of the variables of the human resources of MSME players, external environment, MSME players perception, infrastructure/technology utilization, and business sustainability were 0.516, 0.502, 0.637, 0.621, and 0.614, respectively. All variables are considered as valid as they have an AVE value  $> 0.5$ , which means that all variables can explain the variance of all indicators.

*3.1.2 Reliability test with Cronbach's alpha and composite reliability parameters.* A construct is considered as reliable if Cronbach's alpha value  $> 0.7$  and the interval value of 0.6-0.7 is acceptable or sufficiently reliable but the composite reliability value  $> 0.6$ . The results of the test show that Cronbach's alpha values of the human resources of MSME players, external environment, MSME players perception, infrastructure/technology utilization, and business sustainability were 0.765, 0.807, 0.809, 0.697, and 0.869, respectively. Meanwhile, the composite reliability values of the variables were 0.841, 0.854, 0.874, 0.831, and 0.904, correspondingly. The value of each variable meets the criteria so that all variables are considered as reliable and can provide consistent and stable responses.

#### 3.2. Evaluation of structural model (inner model)

A structural model test was conducted considering R-square and  $Q^2$  predictive relevance values. The criteria of R-square assessment are 0.67 (strong), 0.33 (moderate), and 0.19 (weak). The results of the research show that the R-square of the business sustainability construct is 0.534, indicating that the human resources of MSME players, external environment, MSME players perception, and infrastructure/technology utilization, can explain business sustainability by 53.4%, while the remaining 45.7% is explained by other variables excluded from the model.

The relationship between latent variables can also be evaluated by considering Q-square. Q-square is intended to measure how good the observation score and the parameter estimation are yielded by the model. The Q-square value  $> 0$  indicates that the model has predictive relevance. Considering the findings of this research, the Q-square value of business sustainability was 0.298, indicating that the model has high predictive relevance because of  $Q\text{-square} > 0$ . In other words, the observation score yielded by the model and the parameter estimation is good.

#### 3.3. Hypothesis testing

Hypothesis testing was conducted using statistical tests on each path and the significance value of the parameter coefficient was calculated using the bootstrapping method. The criteria used in hypothesis

testing are at the significance level of 5%, with  $p\text{-value} \geq \alpha$  ( $\alpha$ ); therefore, the research hypotheses proposed are not supported [19].

**Table 1.** Results of evaluation-path coefficient bootstrapping.

|    | <b>Variable</b>   | <b>T-Statistics</b> | <b>P-Values</b> | <b>Descriptions</b> |
|----|---|---------------------|-----------------|---------------------|
| H1 | The human resources of MSME players (X1) > Business sustainability (Y1)   | 0.564               | 0.573           | Not Significant     |
| H2 | External environment (X2) > Business sustainability (Y1)                  | 2.085               | 0.038           | Significant         |
| H3 | MSME players' perception (X3) > Business sustainability (Y1)              | 4.379               | 0.000           | Significant         |
| H4 | Infrastructure/technology utilization (X4) > Business sustainability (Y1) | 1.906               | 0.05            | Significant         |

*3.3.1. The effect of the human resources of MSME players on business sustainability.* Considering the results of the analysis, it can be seen that the  $t$ -statistic value was 0.564 ( $<1.96$ ) and the  $p$ -value for the effect of the human resources of MSME players on the business sustainability was 0.573 ( $>0.05$ ), indicating that this variable does not affect the business sustainability. This suggests that the improvement of business sustainability is not followed by motivation, meaning that the MSME players have a low level of education and limited experience. Moreover, in general, the human resources of MSME players do not need a high level of education to establish MSMEs so that the profile of business players does not significantly influence business sustainability [20].

*3.3.2. The effect of the external environment on business sustainability.* The analysis resulted in the  $t$ -statistic value of 2.085 ( $>1.96$ ) and  $p$ -value of the external environment on business sustainability reaching 0.038 ( $<0.05$ ), signifying that the external environment gives a positive effect on business sustainability. Facilitation and training provided by the government can support MSMEs to maintain their productivity. The business networks built by many MSME players in Sukoharjo are considered good, as seen from the active roles of the MSMEs and the managing organizations. MSMEs do not face any difficulties in registering their business license and accessing information; and therefore, they can manage their businesses more vigorously and this significantly encourages their business sustainability.

*3.3.3. The effect of MSME players' perception of business sustainability.* The results of the analysis show the  $t$ -statistic value of 4.379 ( $>1.96$ ) and  $p$ -value of 0.000 ( $<0.05$ ) for the effect of MSME players' perception of business sustainability. These represent that the MSME players' perception positively affects business sustainability. During the Covid-19 pandemic, MSMEs can apply online marketing, signaling that MSMEs can expand their marketing networks through online platforms and improve their selling through online marketing. They consider that online marketing is faster and easier to be applied following the physical distancing policy that prohibits people from doing activities outside.

*3.3.4. The effect of infrastructure/technology utilization on business sustainability.* The analysis on the effect of infrastructure/technology utilization on business sustainability yielded the  $t$ -statistic value of 1.906 ( $>1.96$ ) and a  $p$ -value of 0.05. With the presence of online marketing, MSMEs can access information about customers more easily and this enables them to provide service faster service and higher quality products to customers. The development of information and communication technology today facilitates MSMEs to better maintain the relationship with suppliers and customers.

#### 4. Conclusion

This study concludes that the external environment, MSME players' perception, and infrastructure/technology utilization are the factors contributing to the sustainability of agribusiness MSMEs in Sukoharjo Regency, while the human resource of the MSMEs does not appear to have any effect on the business sustainability.

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