Influence of Product Quality and Digital Business on Micro and Small and Medium Enterprises Income during the COVID-19 Post Pandemic

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Abstract

This study aims to determine the Effect of Product Quality and Digital businesses on the Income of Micro, Small, and Medium Enterprises during the COVID-19 Post Pandemic. Micro, small and medium enterprises (MSMEs) have an important role in the Indonesian economy. The government of Republic Indonesia also views the importance of the existence of MSME entrepreneurs. The existence of MSMEs can have an impact on increasing people's income and also with service innovations that can attract consumers. The method used is quantitative which is taken, it can be ascertained that t-statistics 8.453> t table 1.985 and the value of sig o.oo <0.05, indicates that the effect of product quality has a positive and significant effect on increasing the income of MSME actors. T-statistics is 6.568 > t table 1.985 and sig o.oo <0.05, this indicates that product quality has a significant and positive effect on increasing the income of MSME actors. While F-statistics 153,927 > from F table 4.09 and sig value 0.000 <0.05 this shows that digital business and product quality criteria have a significant and positive effect on increasing the income of MSME actors during the COVID-19 post pandemic.

Keywords: Product Quality, MSME, Digital Business, Marketing Management, OLS

PRELIMINARY

The Indonesian economy during the last 5 years experienced fluctuations which resulted in the economic structure changing dynamically. If viewed from the formal sector as a variable calculated in Gross Domestic Product, the MSME sector has also increased along with the increase in population. This indicates that the formal sector is no longer effective in absorbing labor forces. However, the pandemic condition worsened the condition of the formal sector and the informal sector. The informal sector which is almost 90% without legal permission and settled business resistance tends to go bankrupt or go out of business (Harahap et al., 2020). Based on the empirical facts above, the government, business actors, academics and the community must work together to strengthen the sustainability of the Indonesian economy, especially in the informal sector whose contribution to the economy in real terms is more than 50 percent (Arianto, 2020). There is largest number of MSME workers in 2016 was 123.23 million people. Meanwhile, during 2017 to 2020 there was an increase in the number of workers in the MSME sector by 5%. This indicates that the MSME sector contributes greatly to employment, which is 79% (Widodo & Djaja, 2019)

The previous research conducted by Arianto (2020) Regarding the influence of digital business on the development of MSMEs, when viewed from the increase in MSME income and turnover over the last few years, MSMEs that have experienced digitization have significantly increased their income. In addition, research Dwijayanti & Pramesti (2021) revealed that MSMEs that have implemented digital businesses are more resistant when there is a decline in the business cycle. This is in line with research conducted by Kartini & Gede (2019) regarding the marketing of handicraft products which have increased sales due to marketing through social media through Instagram and Tiktok. Given these facts, MSME actors must have the right and reliable business strategy. As is the case with research conducted by Marfuin, (2021), Sultoni et al., (2021), and Werthi et al., (2021) regarding strategies and mediating the impact of the economic crisis on MSME performance. Some of the empirical facts found are as follows: (1) MSMEs that are digitizing can survive during the COVID-19 post pandemic because sales transactions can be done online, (2) the decline in turnover of MSMEs that have digitized is not too significant during the post pandemic, (3) MSMEs that innovate in digital products and marketing are more attractive to the public during the post pandemic.

THEORITICAL REVIEW
Micro, Medium, and Small Enterprise

According to Indonesia Constitution Number 20 of 2008 is includes the basic concept of Micro, Small and Medium enterprises are it is characteristics, advantages, weaknesses, threats, and opportunities. Micro Enterprises are businesses unit owned by individuals and group that running for economy activity such providing goods and service as mentioned in Indonesia Constitution Number 20 of 2008 about Micro, Small, and Medium Enterprises. Small Business is a business economic unit that survived by themselves , and it is also owned by individuals or group that are not suported or not branches by another steady companies. It makes Small Business is mostly provide cheap and essential goods like household stuff and food. (Sultoni et al., 2021).

Product Quality

MSMEs, which are small businesses, need to focus on making good-quality products because this helps them stand out from competitors, keeps customers happy and coming back, and builds a trustworthy reputation. When products are well-made, they save money on repairs, can expand to new markets, and have better opportunities for partnerships. To ensure quality, MSMEs should check their materials, teach their workers how to do things well, follow industry rules and get certificates if needed, listen to customer feedback, always look for ways to improve, and use technology to check their products. All these steps help MSMEs succeed and grow their business (Priyatna et al., 2020).

Digital Business

The digital business Business method that using digital technology when they are conducting goods and services or in their production process Marfuin, (2021). Digital business is not only sold goods and services with no physical form, such as computer and mobile software. So, in short, it means every product that is marketed and used online, it should be running through a hardware peripheral or physical machine. Digital business provide certain services, in instance, consumers can have the ability to make wonderful writing of essays, scientific papers, and many works. Everyone can organize these skills and milking money from it. Essentially, digital business is a business method that takes advantage in information technology application for ease everyone's workflow and increases productivity. Digital infrastructure and operations of the internet have changed forever since the early 21st century. Indonesia's government has already invested its money to escalate Indonesia's internet access inclusively from west to east. It has optimizing benefits from economy activity especially when Indonesia has suffered from the COVID-19 pandemic. Most of the offices in metropolitan has relied to an online workflow as known as *work-from-home*. The digital transformation had huge benefits to all of us, There is no way we are not applying it for the greater good, especially in a disrupted era like nowadays (Werthi et al., 2021).

METHODOLOGY

The data used in this research is quantitative primary data. The form of data used is mixed across more than 50 respondents with the scope of research on MSME data. In this study, the source of research data is information from related MSME sectors, such as income, goods and services as products, and MSME digital businesses. The data in this study were obtained through library research methods in the form of literature studies, scientific writings and articles related to the topic of the productivity of the MSME sector in Tangerang city.

Informal Sector Labour

The informal sector as a type of work carried out by a person refers to the 2002 Indonesian Occupational Classification (IOC) which is guided by the 1988 International Standard Classification of Occupations (ISCO). The workforce can be defined as the entire population who has entered working age (15-64 years). A person who have economic activities with the intention of obtaining or helping to earn income or profits, at least 1 hour

(uninterrupted) in the past week (Armiani et al., 2021). The classification of various types of workers in the MSME sector according to Priyatna et al., (2020), namely:

Free Workers in the MSME sector

A person who is working for an employer in the form of an individual or group (institution) temporarily (more than 1 employer in the last month) in the MSME sector, both the form of formal and informal businesses based on remuneration by receiving rewards in the form of money or goods, and either with the system payments per day or weekly or even monthly. Micro, small and medium enterprises in question include: culinary, tourism, non-food goods, and services

Family Worker / Volunteer (Unpaid)

A person who works to help and lighten the workload of others in the MSME sector without receiving compensation in the form of money or goods. The unpaid workers consist of: (1)Household members, such as wives/children who help their husbands/fathers who work in MSMEs and are not paid, (2) Workers who are not household members but still in a large family environment that helps and is not paid. (3) workers are not from household members and not from the family of the person being helped, but living in the home environment of the family being helped. Example: Neighbors who volunteer to help weave bamboo in a bamboo farmer's family are not paid.

Operational Variable

Table. Operational Variable

No	Variabel	Measurement	Unit	Source
1.	MSME's ideal product quality	Ideal Product Quality that including many factor, such as : reliability, compliance, durability, performance, ease of use, materials and component	Ordinal	Primary
2.	MSME's Digital Business	Digital Business to ease MSME's marketing activity such as : social media, promotion, accesibility	Ordinal	Primary
3.	MSME's Income	MSME's income from variant respondents	Ordinal	Primary

Research Model Framework

The research model below refers to several studies including by Aristi & Rahwana (2019), Hilmiana & Kirana (2021), Permatasari & Endriastuti (2020) The model that will be applied in this study is the equation of the function multiple linear regression. Ordinary Least Square Regression is a mathematical function that includes several types of variables, namely the dependent variable and the independent variable. This model relates changes in input to output. The specifications of the econometric model in this study are as follows:

Model :

$$\text{MSME\_Income}_t = \beta_0 + \beta_1 \text{Prod\_QLTY}_t + \beta_2 \text{DIG\_BIZ}_t + u_t \qquad (1.)$$

Variable Description :

β_0	=	Constants / Intercept
$\beta_{(1,2,3,n)}$	=	Parameter or Coefficient of Independen Variable
MSME_Income	=	Income of Micro and Small and Medium Enterprises in Tangerang City
Prod_QLTY	=	Product Quality of Micro, Small, and Medium Enterprises in Tangerang City
DIG_BIZ	=	Digital Business of Micro, Small, and Medium Enterprises in Tangerang City.

To find insight into the relationship between production input to MSME productivity, this paper uses model to elaborate and picture the common pattern of MSME's in Tangerang City. This model tries to find elaboration between product quality and digital business to MSME's income in Tangerang city.

Classical Assumption Test

To have good research output, regression model must have BLUE character, which *is* Best, Linear,and Unbiased Estimator. There are four test to determine best model regression to run as follow : Multicollinearity tests, heteroscedasticity tests, autocorrelation tests, normality test. Also, this paper testify hypothesis using : T-tests and F-tests for independent variable

RESULTS AND DISCUSSION

Table 1 : Estimated Data Results

Coefficientsª

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-24.136	5.954		4.054	.000		
	Product Quality	.319	.123	.290	2.599	.011	.900	1.111
	Digital Business	.868	.152	.513	4.583	.000	.900	1.111

This section displays the regression and test line equations. The regression line equation can be obtained from the Unstandardized Coefficients column (B). Thus the equation of the regression line is: Y = -24.136 + 0.319 X1 + 0.868X2

-24,136 indicates that if the Product Quality Criteria (X1) and Digital Business (X2) are considered constant, but are influenced by variables outside the model, it is estimated that the Increase in Community Economic Income (Y) will decrease by -24,136. The regression coefficient for Product Quality Criteria (X1), of 0.591, means that the Product Quality Criteria (X1), increases by one unit, and the income of MSME actors will increase by 0.319 assuming other variables are fixed. The regression coefficient for Product Innovation (X2) is 0.868, meaning that the MSME digital business increases and the income of MSME actors will increase by 0.868 assuming other variables are fixed. This findings are approved with the

similar previous research conducted by Armiani et al., (2021), Dwijayanti & Pramesti (2021), Kartini & Gede (2019).

Classical Assumption Tests

Normality Test

This test is to test whether in the regression model, the confounding or residual variables have a normal distribution. This study uses a normal probability plot to test for normality if the data spread (points) around the diagonal axis and follows the direction of the diagonal line, then the regression model meets the assumption of normality.
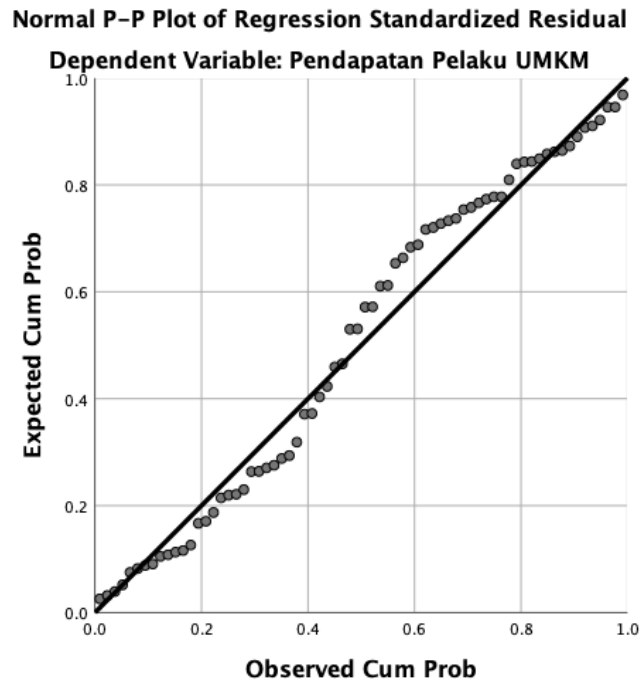

Figure 1. Estimated normality test

This figure shows that the data spread around the diagonal line and follows the direction of the diagonal line or histogram graph so that the data shows a normal distribution pattern or the model used has met the data normality requirements .

Multicollinearity tests

Multicollinearity test aims to test whether the regression model found a correlation between the independent variables (independent). In a good regression model there should be no correlation between the independent variables. The test examines the presence or absence of multicollinearity in this model seen from the values of Tolerance and Variance Inflation Factor (VIF). If the tolerance value is > 0.10 or equal to the VIF value < 10, there is no multicollinearity.

Table 2 : Estimated Multicolinearity Results

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	24.136	5.954		4.054	.000		
	Pemilihan Produk	-.319	.123	-.290	-2.599	.011	.900	1.111
	Bisnis Digital	.868	.150	.511	4.583	.000	.900	1.111

From the output above, the VIF (Variance InflationFactor) value of each independent variable for the price variable is 1,111. The Tolerance of each independent variable has the same value, namely 0.9. So it can be concluded that the regression model does not have a multicollinearity problem.

Heteroskedasticity tests

The heteroscedasticity test is used to test whether in a regression there is the same variance of the residuals from one observation to another observation. How to detect heteroscedasticity in this study by looking at the distribution pattern of the scatter plot graph. If there is a certain pattern, such as the point that is in the form of a certain regular pattern (wavy, widening, then narrowing), then heteroscedasticity has occurred. Conducted to test whether in a regression model, there is an inequality of variance of the residuals from one observation to another observation. Detection of the presence or absence of heteroscedasticity is done by looking at the presence or absence of certain patterns on the scatterplot graph between SRESID and ZPRED.
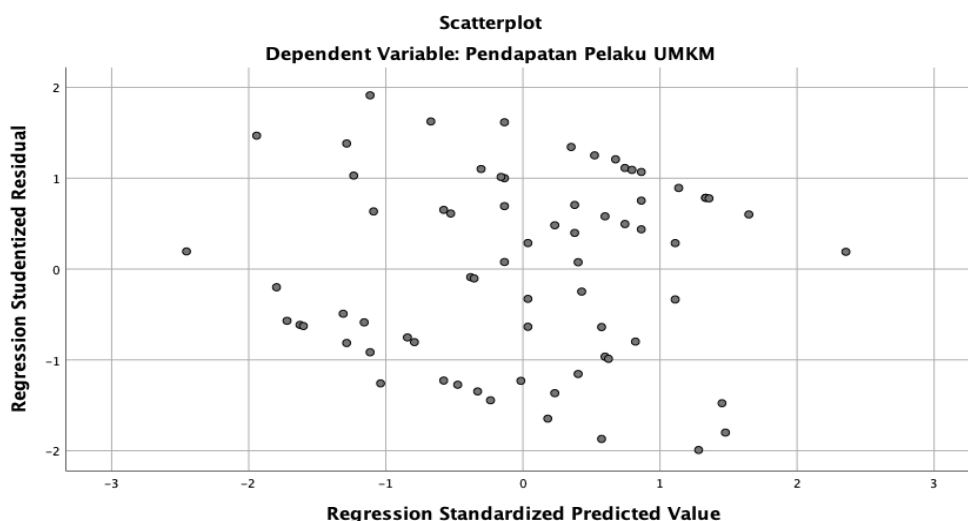

Figure 2. Estimated Scatterplot Results

This figure shows that the resulting dots spread randomly and do not form a certain pattern or trend line. This means that the data is spread above and below the number 0 so that this model is free from heteroscedasticity problems.

Autocorrelation tests

Autocorrelation test aims to determine whether there is a correlation between members of a series of observation data described according to time series (time-series) or space (cross-section). The basis for decision making in the Durbin - Watson test is as follows (Wicaksono et al., 2022):

a. If the Durbin-Watson number is below -2, it means autocorrelation.

b. If the Durbin-Watson number is between -2 to +2, this means that there is no autocorrelation.

c. If the Durbin – Watson number is above +2, this means that there is a negative autocorrelation.

Table 3. Estimated Durbin Watson Results

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.501[a]	.251	.229	3.27891	1.917

In the Summary Model Section, the D.W (Durbin-Watson) autocorrelation test section is 1,917, it can be concluded that the above regression model does not have an autocorrelation problem.

Hypothesis tests

T-Tests

To examine the relationship between each dependent variable (independent) X1 and X2 (Product Quality and Digital Business) to the dependent variable (income of MSME actors) Y partially in Tangerang City. For the Product Quality Criteria Variable (X1), it is known that the value of b1 = 0.319 with a t-statistics value of 2.599 > t-table of 1.985 obtained using a normal distribution *t-table* and using a test confidence level (1-α) of 95% with an error rate of ( ) of 5% and the degree of freedom (df) N − 2 = 100 − 2 = 98, then the normal distribution value of the t table is 1.985 with a significance level of 0.000. Because the value of sig <0.05, H0 is rejected and Ha is accepted, meaning that the product quality criteria partially / individually have a positive effect on the income of MSME actors in Tangerang City. The calculated t value for the X2 price is 4.583 (see the Coefficients table) and the t-table is 1.985 obtained by using the t-table normal distribution and using the test confidence level (1-α) of 95% with an error rate (α) of 5% and the degree of freedom or degree of freedom (df) N − 2 = 70 − 2 = 68,

For the Digital Business Variable (X1), it is known that the value of b1 = 0.686 with a t-statistics of 4.583 > t-table of 1.985 obtained using a normal distribution *t-table* and using a test confidence level (1-α) of 95% with an error rate (α) of 5% and the degree of freedom (df) N − 2 = 100 − 2 = 98, then the normal distribution value of the t table is 1.985 with a significance level of 0.000. Because the value of sig <0.05, H0 is rejected and Ha is accepted, meaning that the MSME Digital Business partially / independently has a positive effect on the income of MSME actors in Tangerang City.

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F-Tests

To find out together whether simultaneously / together the independent variables X1 and X2 have a significant relationship to the dependent variable Y. Decision-making criteria for testing If F-statistics < F-table and probability > 0.05, with the value of degrees of freedom or degree of freedom df numerator = k and df denominator = N-k-1 then Ho is accepted Ha is rejected, meaning the dependent variable (product quality and business digital) simultaneously has no effect on the independent variable (Increase in MSME's Income), and F-statistics > F-table probability < 0.05 with the value of degrees of freedom or degree of freedom df numerator = k and denominator df = N-k-1 then Ho is rejected, Ha is accepted, meaning that the independent variable (Role of Criteria for product quality and digital business) simultaneously affects the dependent variable (income of MSME actors).

Coefficient of Determinant (R-Squared)

Table 4 : Estimated R-Squared

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.501[a]	.251	.229	3.27891	1.917

Based on the table above, 0.501 shows the number of determinations (R^2), meaning that the variance in decision-making can be explained by the criteria for improving quality products and digital businesses through the model by 50% and the remaining 50% comes from other variables outside the model.

CONCLUSIONS AND IMPLICATIONS

Based on the results of the discussion, several conclusions are relevant to this research (1) The independent variables X1 (product quality criteria) and X2 (Digital business) together affect the Y variable (MSME's income) positively and significantly. This is indicated by the t-test, F-test, and classical assumption test which have the goodness of fit results, (2) The characteristics of respondents who have educational, and financial backgrounds, and the responses to the questionnaires that have been given are very heterogeneous or varied. This is a challenge as well as an opportunity to be able to identify the influence of the variables that most influence the income of MSME actors. Based on the framework of thinking, and the analysis of the proposed hypothesis testing along with the respondent data in the field for this research, we, the authors and researchers suggest several things as follows (1) The current post pandemic condition has been prolonged and there is no certainty that it will end during this New Normal period, so to build a new business that is full of innovation and creativity, the attention of small and micro businesses is urgently needed. So that it can improve the quality of people's lives and increase people's income, it can certainly reduce unemployment by opening up jobs and supporting the advancement of the Indonesian economy, especially in Tangerang City. Marketing strategies can be further improved influencing the success of small

and micro businesses. Literacy on the positive side as well as the negative side of E-marketing opens and adds insight into that SMEs are more prepared to use this marketing strategy.

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