



## The Role of Digital Literacy in Moderating the Effect of Entrepreneurial Orientation and Market Orientation on Business Sustainability in the Culinary Sector MSMEs in Surabaya

Tony Susilo Wibowo; Christina Menuk Sri Handayani

Department of Management, Faculty of Economics & Business, Universitas PGRI Adi Buana Surabaya, Indonesia

E-mail: [tonysus\\_sw@unipasby.ac.id](mailto:tonysus_sw@unipasby.ac.id); [menukch@unipasby.ac.id](mailto:menukch@unipasby.ac.id)

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### **Abstract**

MSME empowerment is an effort to facilitate the achievement of the goal of bringing the community towards economic sustainability. Evidence shows that MSMEs have been able to survive and thrive in the face of the crisis for more than six years, but during the pandemic, MSMEs experienced a downturn due to restrictions on activities. The government has made various efforts to encourage MSMEs to rise again, including through digitalization. This study aimed to determine and analyze the role of digital literacy in moderating entrepreneurial orientation and market orientation on the sustainability of the culinary sector MSME business in Surabaya. Digital literacy variables are moderating variables, entrepreneurial orientation, and market orientation are independent variables, and MSME business sustainability is the dependent variable. 80 MSME players were taken from culinary business actors who sell in three culinary tourism centers in South Surabaya. The questionnaire is used to collect data that has been systematically arranged to contain the requirements for obtaining data on the variables studied. Furthermore, it will be analysed using PLS-SEM (Partial Least Square-Structural Equation Modelling), which previously carried out instrument tests and assumption tests as analytical requirements to prove the relationship between the dependent and independent variables. The results of the analysis indicate that entrepreneurial orientation has a meaningful effect on business sustainability, market orientation has a significant effect on business sustainability, digital literacy moderates the influence of entrepreneurial orientation and market orientation of MSME business actors in the culinary sector in Surabaya.

**Keywords:** *Digital Literacy; Entrepreneurial Orientation; Market Orientation; Business Sustainability; MSMEs*

## Introduction

Post-pandemic economic recovery requires the role of various parties, including MSMEs; although they have experienced a decline during the post-pandemic period, they have a significant role. Another fundamental role is as an economic motor for low-income communities to reduce social problems and drive the economy productively. The Ministry of Cooperatives and MSMEs, as of March 2021, stated that the number of MSMEs in Indonesia reached 64.2 million, contributing to Gross Domestic Product (GDP) of 61.07% or IDR 8,573.89 trillion. (Kemenkeu.go.id). The contribution of MSMEs to GRDP in 2019 in East Java Province reached 57.26, and in 2020, it reached 57.25, with 18,827,593 MSMEs and 1,558,078 of them engaged in the accommodation, food, and beverage sector. (Diskopukm, 2022).

MSMEs also absorb 120.59 million workers, with an investment value of 60.42% of total investment, filling 15.65% of non-oil and gas exports, and 24% of MSME players have utilized e-commerce. In utilizing e-commerce, strengthening the MSME ecosystem is carried out by creating a healthy business climate for digital payments, logistics, personal data protection, electronic systems and transactions, and digital infrastructure. (Limanseto, 2022). Business sustainability in MSMEs in the digital era must be distinct from the role of business actors in digital literacy, where understanding business actors in the digital world is the key to success. There is a positive and substantial impact on using digital tools to support business sustainability due to the utilization of the Internet of Things, digital platforms, and digital orientation. (Khrais & Alghamdi, 2022).

Information and communication technology development has reached an extensive range and has begun to be widely used by MSMEs, contributing significantly to economic development. This condition is the mainstay of the Surabaya City Government in driving the regional economy. Surabaya is famous for its culinary tourism, which consists of various MSMEs in the culinary field typical of East Java and is presented with specific characteristics according to local wisdom. Surabaya City Government's efforts to empower MSMEs by creating culinary tourism centers that are placed in certain locations have various considerations for tourism development. As stated by the Mayor of Surabaya (Widarti, 2021), inevitably, MSMEs will move great if they play with digital; especially during this pandemic, consumers will automatically order via digital such as GoFood, Gojek and others. Another support is through the e-Peken software innovation, an MSME trading application launched on October 31, 2021. The application is part of the development innovation from previous applications, namely e-local market and e-discount, with the aim of assisting the marketing of products produced by MSMEs and the distribution of basic daily necessities by providing a variety of products categorized into household preparations, fast food from the Culinary Tourism Center, and staples from grocery stores.

This condition will work if MSME actors have the flexibility to explore new opportunities and develop strategies for business sustainability. (Davidsson, 2015). Innovation and implementing new ideas are essential drivers for a business's long-term survival. MSMEs that have a high entrepreneurial orientation tend to seek new opportunities and strengthen their competitive position as a force to encourage national economic growth and innovation. Entrepreneurial orientation affects improving company performance; the more significant the entrepreneurial orientation of business actors, the better their ability to market their products. (Hatta, 2015). Entrepreneurial orientation contributes to the performance and durability of a business and has the ability to improve the performance of a company. (S. Hidayat & Murwatiningsih, 2018). MSME performance requires the support of the roles of strategic orientation, social networks, knowledge sharing, and innovation organization (Muafi, 2020) as well as digital literacy. To master this technology, the competence of MSME business actors is needed to operate information technology devices and matters related to technology. The ability to master information technology can be realized in the form of literacy on digital devices. Literacy owned by MSMEs is expected to support business sustainability and lift the economy of the Surabaya community.

## Literature Review

### Entrepreneurial Orientation and Business Sustainability

Entrepreneurial orientation is one of the supporting factors for carrying out entrepreneurial activities. In general, entrepreneurial orientation can be seen as a set of abilities and experiences that pave the way for success in entrepreneurial activities. (Pulka et al., 2021). Furthermore Hidayat & Pangaribuan (2023) stated that entrepreneurial orientation positively and significantly impacts business sustainability. Subsequently, MSMEs that sell online must implement entrepreneurial orientation strategies to grow customers online. Entrepreneurial orientation plays a enormous part in successful implementation of business sustainability. (Nuseir & Aljumah, 2022). Nuseir further explained that MSMEs need to be more adaptive and innovative and can combine a range of resources related to business sustainability and be able to provide unique business solutions. The explanation identifies several things as the primary support, such as innovative ability, risk management, effective use of resources, and value development. Clarissa et al. (2023) expressed the same point of view, which states that entrepreneurial orientation has a positive relationship with business sustainability, where stable profits can increase business confidence and contribute to the formation of entrepreneurial orientation in finding business opportunities and identifying segmentation that can avoid long-term risks. Entrepreneurial orientation has elements of innovation and the ability to read the market. Dess & Lumpkin, (2005) state that entrepreneurial orientation includes the method, implementation, and decision-making style of managers to behave like an entrepreneur, so there are five elements of entrepreneurial orientation: autonomy, innovativeness, proactiveness, competitive aggressiveness, and risk-taking tendencies. The hypothesis put forward is as follows.

H1: Entrepreneurial orientation has a positive effect on business sustainability.

### Market Orientation and Business Sustainability

Market orientation is the company's effort to get closer and respond to market conditions by preparing company resources. Market orientation is concerned with company policies that focus on strategic issues to help consumers understand competitors' reactions and create an environment conducive to doing business. Market orientation is an essential concept for MSMEs, which refers to the company's focus on meeting the needs and desires of its customers (Riswanto et al., 2020). Research by Putranto et al. (2023) revealed that market orientation and market performance positively influence business sustainability. Market orientation helps product sales, services, and customer communication so that marketing implementation is more coordinated. A similar opinion was conveyed by Arafat et al. (2021) where market orientation has a positive effect on the sustainable growth of business actors. Market orientation supports businesses in improving product quality so that they can compete with competitors. Market orientation pays attention to consumer tastes, seeks to satisfy consumers, pays attention to after-sales service, responds quickly to competitor threats, discusses competitor threats, and discusses competitor strategies to improve services to meet customer needs continuously (Widyaningsih et al., 2018). Market orientation uses three dimensions proposed by Acosta et al. (2018): customer orientation, competitor orientation, and inter-functional coordination. The hypothesis put forward is as follows.

H2: Market orientation has a positive effect on business sustainability.

### Entrepreneurial Orientation and Business Sustainability through Digital Literacy

Micro and small business sustainability is achieved by strengthening ethics in trade and fairness in labor relations and partnerships (Baldarelli et al., 2015). MSME business sustainability requires efforts and innovations from various lines, whereas, in the culinary business, it is quite a challenge due to competitive factors. Business sustainability needs the support of digital literacy of business actors.

Wardana et al. (2023) state that digital literacy can explain the creative economy, business sustainability, and entrepreneurial behavior. With this research, digital literacy can strengthen business actors to conduct market research about targeted product sales. Digital literacy can also increase customer satisfaction, improving MSME business performance. (Suryani et al., 2020). Digital literacy that supports business sustainability is related to reducing costs in any form so that companies can achieve profitability, competitiveness, and business longevity. Bocken et al. (2014) state that a sustainable business model consists of a value proposition, which means product output, both in the form of goods and services delivered to consumers at a price that can be paid coupled with competitive advantages owned by the company and products with complete functions approaching competitor products, value creation and delivery systems are defined as activities and cooperation aimed at using fewer resources with additional value and competitive product advantages, value capture which means cost optimization with the use of raw materials and waste reduction and supports increased business profits at more competitive prices. The hypothesis put forward is as follows.

H3: Entrepreneurial orientation has a positive effect on business sustainability through digital literacy.

### **Market Orientation and Business Sustainability through Digital Literacy**

In 2021, economic growth increased by 4.29% to 7.17% in 2022 due to changes in transaction patterns in marketing activities, which initially used conventional methods, starting to switch to digital methods (Elaine, 2022). The perspective on digital literacy prioritizes communication in the digital world. Reddy et al. (2020) explain that digital literacy is the ability to use efficient and appropriate technologies to produce information with new insights. About the elements of digital literacy, Sasmito & Prestianto (2021) convey that there is an individual's ability to master the use of information and communication technology, so individual abilities still play an important role. Another opinion was expressed by Bawden (2001) that digital literacy resembles multimedia literacy, which means the ability to understand and comprehend information regardless of its presentation, and that digital literacy involves the skills of deciphering images, sound, and text. Digital literacy is a person's ability to operate information technology devices, give meaning to acquiring information from these media through software, and optimize information to add and develop the value of business activities. Reddy et al., (2020) state that there are six dimensions of digital literacy, namely 1) Information literacy, 2) Computer literacy, 3) Media literacy, 4) Communication literacy, 5) Visual literacy, and 6) Technology literacy. The hypothesis put forward is as follows.

H4: Market orientation has a positive effect on business sustainability through digital literacy.

### **Research Method**

The population of this research is MSMEs in the Culinary Sector in Surabaya City, which sells at the Jambangan, Great Mosque, and Karah culinary tourism centers consisting of 80 culinary businesses with Indonesian characteristics, in the sense that the culinary served is Indonesian culinary tastes. The sampling method is saturated sampling for all culinary sector businesses located in culinary tourism centers as the object of research. Data was obtained through a Google Forms questionnaire and written on paper sheets. To measure digital literacy, the measuring instrument of Reddy et al. (2020) includes information literacy, computer literacy, media literacy, communication literacy, visual literacy, and technological literacy. Entrepreneurial orientation uses the theory Dess & Lumpkin, (2005) which consists of entrepreneurial orientation dimensions such as autonomy, innovativeness, proactiveness, competitive aggressiveness, and risk-taking tendencies. The measuring instruments from Acosta et al., (2018) for market orientation are customer orientation, competitor orientation, and inter-functional

coordination, while business sustainability uses measuring instruments from (Bocken et al., 2014) namely value proposition, value creation and value capture.

The data obtained is then tested for requirements to obtain valid data through the inferential statistics PLS-SEM application with the assistance of SmartPLS program for hypothesis testing. To make it easy in interpreting the research design, from the application of theory and the placement of variables from the design of the model to be obtained specifically, the research steps are conceptualized as shown below:

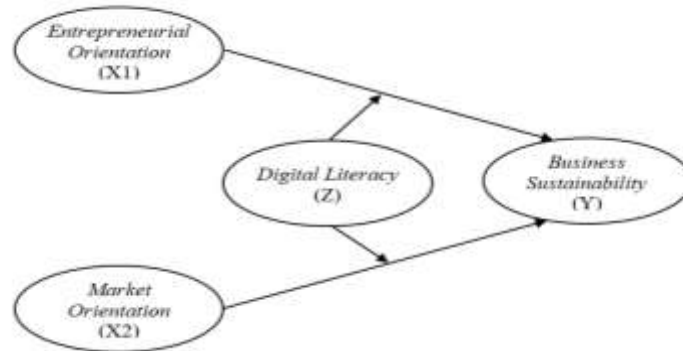


Figure 1. Conceptual Model

## Analysis and Discussion

### Demographics

The 80 MSME business owners in the culinary sector who participated in this study were dominated by women, 74.2%, with an age range of 30-40 years, 38.9%. 52.2% of business actors have a Bachelor's degree. In running their business, the majority are assisted by one person (60.3%) with a net income of less than 3 million rupiah (50%). The above conditions illustrate that MSMEs in the culinary sector in Surabaya are dominated by highly educated young mothers (< 40 years old), and the business scale is still relatively small, with one employee and a net income of less than 3 million Rupiahs per month.

### Validity and Reliability Test

All indicators of each variable are said to be valid if the significant value is above 0.3 (Malhotra & Birks, 2007). Convergent validity is measured from the factor loading value of the Exploratory Factor Analysis (EFA) results of one factor. The minimum factor loading value is 0.50 and, preferably, 0.70, but a value of > 0.40 still meets the minimum level for testing measuring instruments. (Hair et al., 2017). After the validity test is carried out, the results show the corrected item-total correlation value of each measurement item on all variables has a range between 0.474-0.834 (greater than 0.30), and also the factor loading value has a range between 0.577-0.868 (greater than 0.40). Thus, all statement items meet criterion validity and convergent validity in measuring variables of entrepreneurial orientation, market orientation, digital literacy, and business sustainability.

In addition, reliability is a measure that shows how much a measuring instrument can be trusted or reliable. The reliability analysis that is often used is internal consistency reliability, namely by checking the Cronbach's Alpha coefficient; if the Cronbach's Alpha value is greater than or equal to 0.60, the questionnaire is reliable (Malhotra & Birks, 2007). According to Hair et al. (2017), reliability measures have a range from 0 to 1; the generally agreed lower limit for Cronbach's Alpha value is above 0.70 (good reliability), with a value of 0.60 to 0.70 considered the lower limit that is still acceptable

(acceptable reliability). The results show that all four values are more significant than 0.70, so it is concluded that the preparation of the statement items used to measure these variables can be declared to have good reliability and can be trusted as a consistent measuring instrument, as shown in the following table.

Table 1. Reliability Test Result

Variable	Cronbach's Alpha	Critical Value	Remarks
Entrepreneurial Orientation (X <sub>1</sub> )	0,847	0,7	Reliable
Market Orientation (X <sub>2</sub> )	0,789	0,7	Reliable
Digital Literacy (X <sub>3</sub> )	0,943	0,7	Reliable
Business Sustainability (Y)	0,873	0,7	Reliable

Source: Data processed in 2023

### Common Method Bias (CMB)

After the questionnaire is confirmed to be valid and reliable, the researcher needs to conduct a CMB evaluation to ensure no bias in the data collection process. Bias in the data can affect the validity of the analysis results and the conclusions drawn. Bias also makes the conclusions of the analysis results cannot be generalized to the population.

CMB is a bias that can occur due to the measurement of several variables using the same method, so there are similarities in the wording structure of questionnaire statements that can produce similar responses from respondents. CMB can also arise because there is a tendency for respondents to respond according to their mood, thus encouraging respondents to give an incorrect assessment of the questionnaire statement (over-reported or under-reported). (Jordan & Troth, 2020; Podsakoff et al., 2003).

This research adopts procedural strategies and statistical strategies to control bias. Regarding procedures, the researcher created a questionnaire that was adapted specifically to the conditions of MSMEs in Surabaya so that it was expected to be easy for respondents to understand, presented measurement items in separate sections for each construct, selected respondents who were sufficiently knowledgeable and sufficiently experienced (respondents were direct managers of MSMEs with a length of business above one year), and ensured complete protection of respondents' anonymity (Podsakoff et al., 2003). This procedure ensures that respondents can answer the questions carefully and honestly. Thus, through this procedural strategy, the researcher stated that the data was obtained from reliable sources of information and that there was no bias in the data collection procedure.

Furthermore, with a statistical strategy, the researcher conducted Harman's single-factor test using the EFA and CFA approaches. The EFA results showed that the first extracted factor explained only 30.29% of the total variables (still far below 50 percent), thus not accounting for most of the variance. CFA was also used by linking all construct items into a single method factor. The fit indices (GFI 0.486; CFI 0.543; TLI 0.514; NFI 0.411; RFI 0.373; and AGFI 0.419) are unacceptable because they are far from the minimum standard of 0.90, so the model fit is not fit when all items are forced into a single method factor. Based on these statistical checks, the researcher concluded that respondents gave different responses to each variable even though the statement items were written in the same questionnaire, indicating that respondents read the questionnaire statements first before giving a response (answer). Thus, it can be concluded that common method bias is not a severe threat in this study.

The primary model is used to evaluate the validity and reliability of constructs, the level of model fit, and the significance of the direct effect, while the moderation model is used to test the significance of the moderating effect.

Interpretation of PLS-SEM results is carried out in 2 stages: outer model evaluation and inner model evaluation. The outer model is designed to determine the validity and reliability of each construct, while the inner model is used to determine the fit of the model and analyze the significance of the influence between variables.

**PLS-SEM: Outer Model Evaluation**

The outer model evaluation consists of three parts: convergent validity, discriminant validity, and composite reliability. The outcome of the external model evaluation is presented in Table 4.

The first evaluation is convergent validity, which shows how much weight the indicator has in measuring its variable. It is known that all indicators produce outer loading values  $\geq 0.50$  and are significant at 5% alpha ( $T\text{-stat} \geq 1.96$  and  $p\text{-value} \leq 0.05$ ). The AVE value is also  $\geq 0.50$ , so it is decided that all indicators meet convergent validity and are declared valid in measuring entrepreneurial orientation, market orientation, digital literacy, and business sustainability variables.

The second evaluation is discriminant validity, which is assessed using the Fornell-Larcker criterion and HTMT. Table 4 shows the Fornell-Larcker Criterion value (bolded); the value is greater than the correlation value between variables, so all indicators on each variable are declared to meet discriminant validity. The HTMT value between variables is also smaller than the 0.90 limit, which indicates that the variables have good discriminant validity.

The third evaluation is composite reliability, which shows that the Composite Reliability value for each variable is more than 0.70, meaning that the measurement of entrepreneurial orientation, market orientation, digital literacy, and business sustainability variables is declared to have good reliability.

Table 4. Outer Model Evaluation

Construct	Indicator	Outer Loading	T Statistics	P Values	AVE
<i>Entrepreneurial Orientation</i> (X1)	X1.1	0.817	17.274	0.000	0.617
	X1.2	0.784	9.401	0.000	
	X1.3	0.735	6.561	0.000	
	X1.4	0.778	11.436	0.000	
	X1.5	0.813	15.065	0.000	
<i>Market Orientation</i> (X2)	X2.1	0.809	7.395	0.000	0.715
	X2.2	0.886	11.478	0.000	
	X2.3	0.841	11.957	0.000	
<i>Digital Literacy</i> (Z)	Z.1	0.746	11.673	0.000	0.761
	Z.2	0.877	24.385	0.000	
	Z.3	0.920	47.670	0.000	

	Z.4	0.916	36.435	0.000					
	Z.5	0.892	35.340	0.000					
	Z.6	0.873	24.188	0.000					
<i>Business Sustainability (Y)</i>	Y.1	0.899	41.953	0.000	0.806				
	Y.2	0.869	30.603	0.000					
	Y.3	0.924	47.423	0.000					
<i>Fornell-Larcker Criterion</i>					<i>HTMT</i>				
	X1	X2	Z	Y		X1	X2	Z	Y
X1	0.786				X1				
X2	0.056	0.846			X2	0.105			
Z	0.323	0.358	0.873		Z	0.336	0.406		
Y	0.456	0.334	0.461	0.898	Y	0.500	0.390	0.492	
<i>Composite Reliability</i>									
X1=0.890		X2=0.883		Z=0.960		Y=0.926			

### PLS-SEM: Inner Model Evaluation

The inner model evaluation evaluates R-square and Q-square,  $f^2$  effect size, and model fit. The inner model evaluation is presented in Table 5.

Table 5. Inner Model Evaluation

<i>Statistic</i>	<i>Value</i>
<i>Coefficient of determination</i>	R-square (Y) = 0.359 Q-square (Y) = 0.252
<i><math>f^2</math> effect size on Y</i>	X1=0.178 X2=0.064
<i>Model fit (SRMR)</i>	0.073 (< 0.08)
<i>PLS predict</i>	RMSE PLS<LM: 3 indicators (100%)
<i>Y : Business Sustainability</i>	

The first evaluation of the inner model is to interpret the R2 and Q2 values. The R2 value has a substantial category of 0.75, moderate 0.50, and weak 0.25. The Q2 value shows predictive relevance



with a relative size of 0.02, 0.15, and 0.35, indicating that the relevance of the independent variable is small, medium, or significant in predicting the dependent variable.. (Hair et al., 2017).

The following evaluation is the  $f^2$  effect size, which reflects how much the exogenous variables contribute to the  $R^2$  of the endogenous variables. The most considerable  $f^2$  value is found in entrepreneurial orientation (0.178), indicating that the variable that contributes the most to changes in business sustainability is entrepreneurial orientation, followed by market orientation (0.064).

The third evaluation is model fit analysis, which shows how well the model fits the data. (Hair et al., 2017) explains that an SRMR value of less than 0.08 indicates a good fit model. The results of the model fit assessment provide an SRMR value of 0.073 (<0.08), which indicates that the model developed in this study has a good fit model.

The fourth evaluation is PLS Predict, which is used to evaluate how well the predictive ability of the PLS model estimation results. In the PLS Predict results, researchers need to compare the RMSE value in the PLS model with the benchmark using a linear model (LM) to produce predictions. To predict the dependent construct (business sustainability), this construct consists of 3 indicators. The PLS Predict results show that the three indicators produce an RMSE value in the PLS model that is smaller than the LM model (100 percent), so it is concluded that the PLS model has excellent predictive ability.

### Discussion

The significance test of the influence path between variables with the research hypothesis using SmartPLS software is carried out using the bootstrapping path coefficient table. The bootstrapping results resulted in testing the importance of each path. In the 2-tailed test, the research hypothesis can be accepted if the t-statistic value  $\geq 1.96$  or the p-value is less than the 5% error rate ( $\alpha$ ). The following is the line coefficient value (original sample estimate), t-statistic value, and p-value in the PLS model:

Table 6. Hypothesis testing result

Influence path	Coef.	Stdev	T-stat	P-values	Remarks
<i>Entrepreneurial Orientation (X1) → Business Sustainability (Y)</i>	0.358	0.088	4.079	0.000	H <sub>1</sub> accepted
<i>Market Orientation (X2) → Business Sustainability (Y)</i>	0.218	0.102	2.132	0.033	H <sub>2</sub> accepted
Moderating Effect <i>X1*Z → Y</i>	0.229	0.096	2.377	0.018	H <sub>3</sub> accepted
Moderating Effect <i>X2*Z → Y</i>	0.132	0.064	2.078	0.046	H <sub>4</sub> accepted

The number one result of hypothesis testing is to test the effect of entrepreneurial orientation on business sustainability, show a significant effect with a T-stat value of 4.079 ( $\geq 1.96$ ) and a p-value of 0.000 ( $\leq 5\%$ ), a coefficient of influence of 0.358 (positive), indicating that the higher the entrepreneurial orientation, the higher the business sustainability in MSMEs (H1 accepted). These results are consistent with organizational learning theory (Katz & Shepherd, 2003) that MSMEs with an entrepreneurial orientation tend to be more able to adapt and improve their business processes over time; they learn from experience and can identify more efficient and sustainable business practices. (Hitt et al., 2020) Also, MSMEs with an entrepreneurial orientation tend to be more open to innovation in their processes, products, and services. Innovation can help create more environmentally friendly products and services and improve resource efficiency. This can eventually lead to more sustainable business processes.

MSMEs with high entrepreneurial orientation tend to be more innovative and able to adapt to changes in the business environment. They are open to new opportunities, try new ideas, and develop products or services relevant to changing market demands. This can help MSMEs operate more efficiently and sustainably in the long term. MSMEs with an entrepreneurial orientation also often collaborate and establish partnerships with other stakeholders, which can help them access additional resources, knowledge, and support needed to improve sustainable business practices.

The second hypothesis test results, which test the effect of market orientation on business sustainability, also showed a significant effect with a T-stat value of 2.132 ( $\geq 1.96$ ) and a p-value of 0.033 ( $\leq 5\%$ ), the coefficient of influence of 0.218 (positive), indicating that the higher the market orientation, the higher the business sustainability in MSMEs (H2 accepted). These results are consistent with the theory of customer empowerment by Phelps et al. (1996) that MSMEs with market orientation are more likely to understand the power of customers in organizing sustainable business demands. They can listen to customers increasingly concerned about social and environmental issues and respond with appropriate products and services. This customer empowerment can create long-term business sustainability. Business sustainability emphasizes integrating sustainable business practices into business strategies and operations. Market-oriented MSMEs can more effectively identify sustainable business opportunities that match market demand, such as environmentally friendly products or socially responsible practices. Bouten (2012) added that business sustainability emphasizes integrating sustainable business practices into business strategies and operations. Market-oriented MSMEs can more effectively identify sustainable business opportunities that match market demand, such as environmentally friendly products or more responsible social practices.

The explanation is that MSMEs with high market orientation will actively understand and respond to the requirements of their customers by carrying out market research and listening to feedback to create products and services that match consumer preferences. This increases customer satisfaction and helps maintain a stable market share, so they tend to stay in business longer. Market orientation can play an essential role in promoting business sustainability. MSMEs that understand the market well, respond to changing trends and customer preferences, and identify sustainable business opportunities tend to integrate sustainability practices into their business processes better. This, in turn, helps MSMEs maintain long-term business and support socially and environmentally responsible businesses.

Testing the third hypothesis, the results of the digital literacy moderation test on the effect of entrepreneurial orientation on business sustainability show a significant effect with a T-stat value of 2.377 ( $\geq 1.96$ ) and a p-value of 0.018 ( $\leq 5\%$ ). The resulting coefficient of influence is 0.229 (positive), meaning that digital literacy strengthens the influence of entrepreneurial orientation on MSME business sustainability (H3 accepted).

Testing the fourth hypothesis, the results of the digital literacy moderation test on the effect of market orientation on business sustainability also show a significant effect with a T-stat value of 2.078 ( $\geq 1.96$ ) and a p-value of 0.046 ( $\leq 5\%$ ). The resulting coefficient of influence is 0.132 (positive), meaning that digital literacy also strengthens the influence of market orientation on MSME business sustainability (H4 is accepted).

MGA analysis was conducted to clarify the moderating effect of digital literacy on the effect of entrepreneurial orientation and market orientation on business sustainability. The results of the MGA analysis are presented in Figure 4.

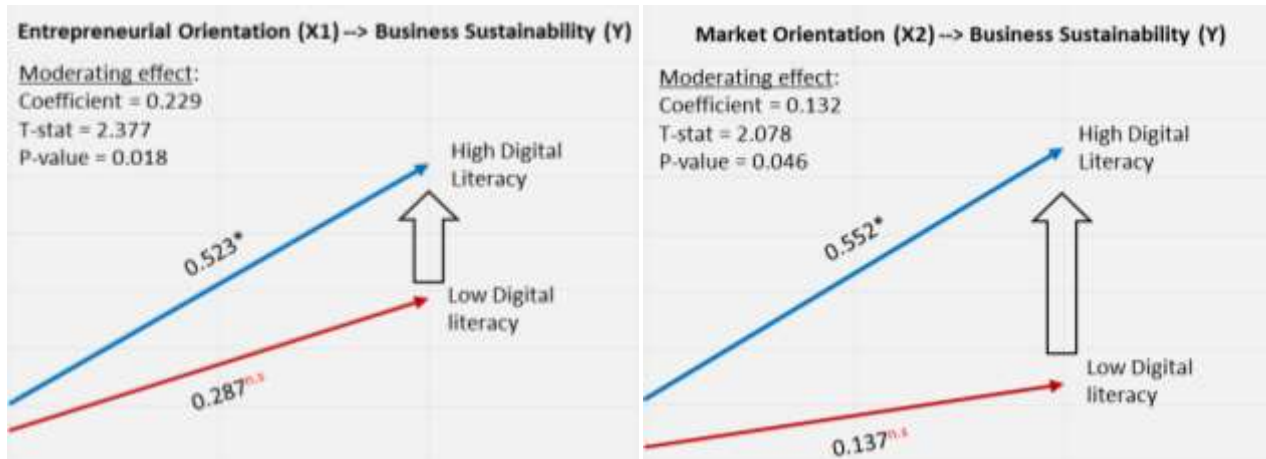


Figure 4. Multigroup Analysis (MGA)

Figure 4 provides information that the moderation of digital literacy on the effect of entrepreneurial orientation on business sustainability is positive and significant; this shows that digital literacy strengthens the influence of entrepreneurial orientation on MSME business sustainability. The greater the digital literacy, the more powerful the influence of entrepreneurial orientation in driving business sustainability; it can be seen that the slope has increased from 0.287 at low digital literacy levels to 0.523 at high digital literacy levels.

Figure 4 also shows that the moderation of digital literacy on the effect of market orientation on business sustainability is also confirmed to be both positive and significant; this shows that digital literacy also strengthens the effect of market orientation on MSME business sustainability. The stronger the digital literacy, the more influential market orientation is in driving business sustainability; it can be seen that the slope has increased from 0.137 at low digital literacy levels to 0.552 at high digital literacy levels.

### Conclusion

The ability and mastery of information technology in MSMEs, manifested in digital literacy, allows MSMEs to access relevant information more quickly and efficiently. They can better collect data on business trends, market opportunities, and sustainable business practices. This helps them to make more informed decisions and identify sustainable business opportunities. (Nambisan, 2017; Teece J. David, 2018). Furthermore, digital literacy enables MSMEs to utilize digital tools such as online messaging applications and social media. MSMEs can use these applications to promulgate their products or services more efficaciously and reach a broader market. The ability to reach customers online can help businesses grow and create sustainable business opportunities. Thus, digital literacy plays an essential role in strengthening the positive influence of entrepreneurial orientation on business sustainability in the MSME perspective. Using digital technology effectively helps MSMEs identify, implement, and manage sustainable business practices.

MSMEs with adequate digital literacy can conduct market research more efficiently and in-depth. They can collect market data, analyze trends, and better understand customer preferences. With a better understanding of the market, MSMEs can sustainably respond to changing trends and customer needs. (Sarstedt et al., 2012; Slater & Narver, 1995). Digital literacy also enables MSMEs to use e-commerce and online ordering applications and provides an opportunity to develop online sales channels and reach a wider market. Broader sales, supported by business orientation, promotional tactics, and pricing strategies, become success factors in achieving goals. (Srihandayani et al., 2022). Thus, MSMEs can

create more significant sales potential for their sustainable products or services. Thus, digital literacy is essential in strengthening the positive influence of market orientation on business sustainability in the context of MSMEs. Understanding, interacting, and adapting with the market digitally helps MSMEs run sustainable business practices more effectively, improve customer relationships, and support sustainable business growth.

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