
THE INFLUENCE OF DIGITAL TECHNOLOGY USE ON THE SUSTAINABILITY OF MSMEs BUSINESSES IN BANDUNG CITY

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Abstract

This study aims to measure the extent of the influence of the Utilization of Digital Technology (X) on the Sustainability of MSMEs Businesses (Y). In this research process, a quantitative method was applied with a random sampling technique, namely random sampling where each individual in the population has an equal chance of being selected. The results of this study show a significant positive effect of variable X on variable Y, with the results of data processed using SPSS 30 amounting to 93.5% while the remaining 6.5% comes from other factors outside the scope of this study and is not subject to further analysis. Although this shows the significant use of digital technology on the sustainability of MSME businesses, there are also other external factors that must be considered again in further research which will later obtain a more comprehensive picture of the sustainability of MSMEs businesses.

Keywords: Utilization of Digital Technology, Business Sustainability, Quantitative Methods

INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) are a vital foundation of the Indonesian economy. This sector plays a crucial role as one of the main drivers of national economic growth.

In addition, MSMEs contribute significantly to the national GDP, absorb a large number of workers, and support people's income. Their presence strengthens economic stability and provides broad opportunities for community empowerment.

The growth of MSMEs in Bandung is quite rapid, particularly in the creative, fashion, culinary, and handicraft sectors, which attract many local and international tourists. Despite limited capital and access, these MSMEs continue to demonstrate innovative progress in product sales, supported by the use of technology and digitalization in business. However, the reality on the ground is that despite the high level of understanding of technology and digitalization, Despite the importance of digital adoption, only about 13% of MSMEs in Indonesia have utilized digital technology in their operations, indicating that a large majority are still not optimally leveraging digital tools to improve their business performance (Sunarso et al., 2025). MSMEs in Bandung already have social media accounts and are registered on e-commerce platforms, but there are still several MSMEs that experience significant gaps in the effectiveness of digital technology utilization, especially in utilizing advanced features for operational efficiency, customer data analysis, or product innovation, all of which greatly affect their growth potential and competitiveness..

Digital technology in business is the infrastructure and applications that mediate commercial transactions and manage information to support business operations and relationships digitally. (Laudon & Traver, 2020). The three indicators

of digital technology utilization that are the focus of this research are: the use of online sales platforms, a way of doing business by utilizing the store feature on social media to offer and sell products to customers online. Secondly, the use of social media for marketing and communication is a business strategy to utilize social media platforms as a tool to promote products, build brands, and interact with consumers. Thirdly, the adoption of digital innovation is the process of implementing new digital technologies into business operations or strategies, aimed at increasing efficiency, creating new products/services, and solving problems in a more modern way.

In the context of MSMEs, here are several indicators of business sustainability. The first is the ability to innovate, which is the potential of an individual or group to design and implement new things that bring added value, whether it is a product, service, work process, or business strategy that will be implemented. Next, market expansion can be interpreted as a business strategy to reach more customers or enter new sales locations with existing products and services. And finally, consistency in running a business is a business that continues to operate and has the ability to maintain a stable level of quality, service, or performance over the long term.

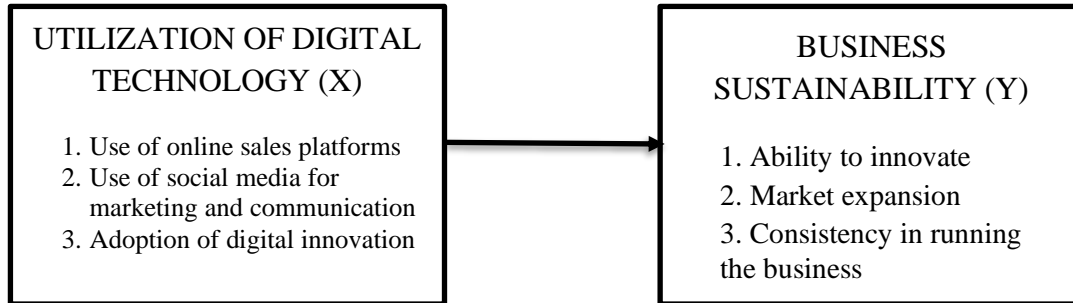
According to Abdul Halim, MSMEs are defined as the use of raw materials sourced from the utilization of local potential, such as natural resources, individual expertise, and traditional artistic heritage from the region. (Halim, 2020). Based on data obtained in 2024, there were 10,916 MSMEs with a turnover of between 0 and 2 billion rupiah. Initially, MSMEs in the city of Bandung were formed during the Dutch colonial era, when it was a center of trade and small industry. After Indonesian independence until the 1970s, MSMEs in the city of Bandung experienced rapid development with the emergence of various creative and innovative industries, thus becoming one of the backbones of the city's economy. Entering the 2000s, the Bandung city government began to pay attention to MSMEs actors by providing training, funding, and infrastructure, which made MSMEs in the city of Bandung continue to grow and remain an important driver of the city's economy. Until now, MSMEs in the city of Bandung are not only engaged in fashion, food, and handicrafts, but now with the development of technology, MSMEs in the city of Bandung have become a popular shopping destination with many unique and high-quality local products. This research focuses on the city of Bandung because this city has great economic potential, especially in the MSMEs sector, which has a major role in driving regional economic development and creating job opportunities. In addition, the city of Bandung's reputation as an innovative and creative city makes it an ideal location to study how MSMEs actors can adapt to technological and market changes.

Based on previous research conducted by Cici Novita and Abdul Malik, the final result is that this study proves that the use of digital marketing plays a role in improving the sustainability of MSMEs. The results of a simple linear regression test show a positive regression coefficient, indicating that increased digital marketing is correlated with increased MSMEs sustainability. (Novita & Malik, 2021).

The purpose of this study is to examine the influence of digital technology utilization on the sustainability of MSMEs businesses. The digital technology variable (X) is operationalized through indicators encompassing the use of online sales platforms, the utilization of social media for marketing and communication purposes, and the adoption of digital innovations. In contrast, the business sustainability

variable (Y) is measured through indicators that include the ability to innovate, market expansion, and the consistency in maintaining business operations over time. in Bandung City and also to examine how the adoption of digital innovation through research and development of products or services by MSMEs in Bandung City contributes to increasing their business competitiveness and business adaptability.

Framework of thinking



The comprehensive use of digital technology (X) will encourage MSMEs to become more adaptive, efficient, and have a broader market reach. This will then cumulatively improve their ability to innovate, expand their businesses, and maintain operational consistency, ultimately strengthening the sustainability of MSMEs businesses (Y). A conceptual framework is a brief overview explaining the relationships between variables based on theory or previous research. This framework is structured logically to clarify the research direction, help formulate hypotheses, and serve as a basis for data collection and analysis. In this way, the conceptual framework connects theory to the research problem. (Anshori & Iswati, 2019).

RESEARCH METHODS

This research was conducted on MSMEs in Bandung City, including the areas of Buahbatu, Gatot Subroto, Batununggal, Antapani, Lengkong, Kiara Condong, Gede Bage, Sukasari, Sukajadi, and Arcamanik. This research is based on considering the influence of digital technology on MSMEs in using social media to improve their innovation capabilities. The research period lasted for 3 months from June to August 2025. The method used in this research was carried out quantitatively with the aim of describing the variables studied in detail and measurably by collecting numerical data for statistical analysis.

Population and Sample

The population in this research refers to all targets and topics determined by the researcher based on their specific qualities and characteristics, with the aim of studying them and drawing conclusions. (Pramanik, 2019) This study examined all MSMEs in Bandung City, encompassing various business sectors such as culinary, fashion, handicrafts, and services. The sampling technique used is simple random, meaning that all members of the population have the same chance of becoming (Veeck & Burns, 2020) research (Veeck & Burns, 2020). This research adopts technology where

MSMEs have used various digital platforms to develop their businesses and reach a wider market.

Data Types and Sources

Based on the data processing process carried out during the research, the final results were obtained by considering how the data was obtained, namely:

1. Primary data is information collected directly from respondents or research subjects by researchers. (Sugiyono, 2019). The primary data sources in this study come from the results of direct interactions with respondents through filling out questionnaires, observations, and interviews.
2. Secondary data is data that is collected, processed, and published or not published which is related to the use of digital technology for the sustainability of MSMEs.

Data Collection Techniques

This study relied on a closed-ended questionnaire as the primary data collection tool, with questions structured based on variable indicators and a Likert scale of 1-5 to measure digital technology utilization and business sustainability variables, which were distributed directly to the sample. Observational data collection was also used in this study, namely direct observation of MSMEs activities and the application of digital technology to MSMEs actors in the city of Bandung.

Research Hypothesis

This study measures the influence of the use of digital technology on the sustainability of MSMEs businesses in the city of Bandung. This hypothesis testing uses special software, namely SPSS 30. The hypothesis used in this study is as follows:

1. Alternative Hypothesis (H1): There is a significant impact between the use of digital technology on the sustainability of MSMEs businesses in the city of Bandung.
2. Zero Hypothesis (H0): There is no significant influence between the use of digital technology on the sustainability of MSMEs businesses.

RESULTS AND DISCUSSION

Validity Test

Table 3.1 Validity Test

Variables	Statement	r count	r table 5%	Information
Digital Technology (X)	X1	0.954	0.278	VALID
	X2	0.349	0.278	VALID
	X3	0.931	0.278	VALID
	X4	0.530	0.278	VALID
	X5	0.861	0.278	VALID
	X6	0.973	0.278	VALID
	X7	0.831	0.278	VALID
	X8	0.875	0.278	VALID
	X9	0.973	0.278	VALID
	X10	0.440	0.278	VALID
	X11	0.883	0.278	VALID
	X12	0.961	0.278	VALID
	X13	0.881	0.278	VALID
	X14	0.776	0.278	VALID

	X15	0.832	0.278	VALID
Sustainability of MSMEs (Y)	Y1	0.930	0.278	VALID
	Y2	0.930	0.278	VALID
	Y3	0.930	0.278	VALID
	Y4	0.896	0.278	VALID
	Y5	0.710	0.278	VALID
	Y6	0.925	0.278	VALID
	Y7	0.280	0.278	VALID
	Y8	0.892	0.278	VALID
	Y9	0.668	0.278	VALID
	Y10	0.875	0.278	VALID
	Y11	0.925	0.278	VALID
	Y12	0.741	0.278	VALID
	Y13	0.712	0.278	VALID
	Y14	0.629	0.278	VALID
	Y15	0.842	0.278	VALID

Source: SPSS 30 data processing

From the validity test table, it is known that all items in variables X and Y meet the validity criteria, indicated by $r \text{ count} > r \text{ table } 0.278$.

Reliability Test

Table 3.2 Reliability Test

Variables	Cronbach's Alpha	Alpha 0.60	Information
Digital Technology	0.963	0.60	Reliable
Sustainability of MSMEs	0.948	0.60	Reliable

Source: Data processed by SPSS 30

From the reliability test results in the table above, the instrument reliability measurement used the Cronbach's Alpha approach, which obtained a coefficient value for variable X of 0.963 and variable Y of 0.948. So it can be said that the value in the table above has exceeded Alpha or the minimum limit of 0.60 which means that each element can be declared tested.

T-test

Table 3.3 Hypothesis Testing in Perspective

Model		Coefficients ^a		Standardized Coefficients	t	Sig.
		Unstandardized Coefficients	Std. Error			
	B			Beta		
1	(Constant)	-10,066	2,685		-3,748	<,001
	Digital Technology	1,145	.044	.967	26,266	<,001

a. Dependent Variable: Sustainability of MSMEs

Source: Data processed by SPSS 30

Based on the results of the regression test, the Digital Technology has a positive and significant effect on the sustainability of MSMEs variable, with a calculated t value of $26.266 > t$ table 1.677 and a significance of <0.001 . So the higher the level of MSMEs sustainability, the greater the influence of digital technology, besides that the constant is not significant because the calculated $t -3.748 < t$ table 1.677 and a significance of $0.001 < 0.05$.

F test

Table 3.4 Simultaneous Test

		ANOVA				
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3168,536	1	3168,536	689,924	<,001b
	Residual	220,444	48	4,593		
	Total	3388.980	49			

a. Dependent Variable: Digital Technology

b. Predictors: (Constant), Sustainability of MSMEs

Source: Data processed by SPSS 30

The ANOVA test results showed a calculated f-value of $689,924 > f$ -table 4.05 with a significance level of <0.001 . This indicates that the regression model is significant, meaning that digital technology variables simultaneously have a significant effect on the sustainability of MSMEs. Therefore, a regression model linking digital technology variables is highly suitable for use in the sustainability of MSMEs.

Coefficient of Determination Test

Table 3.5 Determination Coefficient Test

Model Summary					
Model	R	R Square	Adjusted R Square	Standard Error of the Estimate	
1	.967a	.935	.934	2.14303	

a. Predictors: (Constant), MSME Sustainability

Source: Data processed by SPSS 30

Based on the model summary results, the R-square value of 0.935 indicates that digital technology contributes 93.5% to the sustainability of MSMEs, while the remaining 6.5% is influenced by other factors. The R-value of 0.967 indicates a very high correlation between the two variables.

CONCLUSION AND SUGGESTIONS

Data analysis shows that the use of digital technology plays a significant role in supporting the sustainability of MSMEs in Bandung. This technology utilization includes the use of online sales platforms and social media promotions, which have significantly impacted MSMEs sustainability.

Further research is needed to examine factors that also influence the sustainability of MSMEs. Some suggestions are as follows:

1. For MSMEs

It is recommended to be more active and maximize the use of digital technology, especially in managing e-commerce and social media accounts professionally, implementing digital innovations such as automation, customer data analysis, and content-based digital marketing, and participating in technology training to improve understanding of digital features that support business.

2. For Future Researchers

It is recommended to deepen the research study by adding other variables such as: the quality of human resources of MSMEs actors, business capital or access to financing, the role of the community and digital business networks.

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