

Exploring the Use of Digital Marketing as a Basis for Financial Decisions for MSMEs in Serdang Bedagai Regency

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Digital transformation has shifted the role of digital marketing from merely a promotional tool to a strategic source of information that supports business decision-making in Micro, Small, and Medium Enterprises (MSMEs). However, the effective utilization of digital data remains constrained by several factors, including customer data relevance, digital literacy, and technology implementation. This study aims to examine the effects of customer data relevance, digital literacy, and technology implementation on the quality of MSME financial decisions in Serdang Bedagai Regency. A quantitative approach employing multiple linear regression analysis was used. Data were collected through questionnaires administered to 100 MSMEs that actively utilize digital media in their business operations. The analysis included validity and reliability tests, classical assumption tests, t-tests, F-tests, and the coefficient of determination. The findings reveal that digital literacy is the only variable that has a positive and statistically significant effect on the quality of MSME financial decisions, the calculated t-value of the digital literacy variable is 8.993, this value is greater than the t-table value of 1.661, the Sig value of 0.003 is greater than 0.05, meanwhile customer data relevance and technology implementation do not have significant partial effects. Nevertheless, the three independent variables jointly have a significant influence on the quality of MSME financial decisions. These findings suggest that the success of digital transformation in supporting financial decision-making depends primarily on the digital competencies of MSME owners rather than solely on the availability of relevant customer data or technological support. This study contributes to the literature on digital transformation by highlighting the critical role of digital literacy in enabling data-driven financial decision-making among MSMEs.

Keywords: Customer Data Relevance, Digital Literacy, Digital Marketing Technology Support, MSME Business Decisions.

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1. Introduction

The development of digitalization in Indonesia shows a very significant trend, particularly in the Micro, Small, and Medium Enterprises (MSMEs) sector. By 2024, approximately 25.5 million MSMEs have entered the digital ecosystem, with a target of reaching 30 million business actors [1]. In Serdang Bedagai Regency, the number of MSMEs in this area reaches around 139,155 business actors from various sectors, of which only 41 small and medium enterprises (SMEs) have explored utilizing digital marketing systems through customer data analysis [2], where many MSMEs in this area have not been able to translate relevant customer data, so that there is no ability for MSMEs to understand customer behavior which makes MSMEs in Serdang Bedagai Regency unable to carry out the process of making business decisions appropriately [3]. The low ability to understand the digitalization process or digital literacy of MSME owners in Serdang Bedagai Regency hinders the lack of customer data analysis capabilities, so that business decision making becomes unclear [4]. In addition, the low quality of technology implementation support factors influence the low analysis of customer data which creates the wrong business decision-making process, such as

decisions on the number of products sold that do not reach the target which causes MSMEs not to get maximum profits [5].

From the problems that have been expressed, this research is very important, where digital marketing is still positioned as a promotional tool, not as a strategic instrument in making appropriate decisions, in running their businesses. Many MSMEs do not have an integrated information system that connects marketing data with financial data systematically, because MSMEs in Serdang Regency have not been able to translate relevant customer data, have not been able to understand the digitalization process or digital literacy, as well as the low application of technology from some MSMEs in Serdang Regency. This has an impact on the frequency of MSMEs in Serdang Bedagai Regency making inappropriate business decision-making processes. This situation is in line with a study that explains that business decisions are increasingly dependent on customer data analysis, where the use of appropriate customer data can improve the quality of MSME business decisions [6]. Other research states that digital literacy reflects technological competence and information analysis skills which are very important in decision-making efforts regarding MSME business transformation [7].

To ensure the research is not too broad, the scope of the study is limited to the research subjects of MSMEs in Serdang Bedagai Regency. The object of study relates to the use of digital marketing data in an effort to create an accurate business decision-making process. The research approach is quantitative, exploratory, focusing on the cause-and-effect relationship between variables. The research limitations specifically discuss the influence of customer data relevance, digital literacy, and technology implementation on the quality of MSME business decisions in Serdang Bedagai Regency.

The purpose of this study is to analyze the influence of customer data relevance variables, digital literacy and technology implementation on the quality of MSME business decisions in Serdang Bedagai Regency, both partially and simultaneously.

Customer data relevance is defined as the degree to which customer data are accurate, timely, reliable, and meaningful for supporting strategic and financial decision-making within an organization. Digital literacy is the ability of MSME owners to effectively access, evaluate, interpret, and utilize digital information and technologies to support strategic and financial business decision-making. Technology implementation is the adoption and effective use of digital technologies, such as digital marketing platforms, information systems, and business applications, to support operational activities and strategic decision-making in MSMEs.

2. Literature Review And Problem Statement

The use of digital marketing in MSMEs has evolved from a mere promotional tool to a strategic data source that can support informed decision-making. A study explains that some large companies are undergoing digital transformation in marketing not only related to technology adoption, but also encompassing fundamental changes in business strategy, customer interactions, and data utilization. The research method used is a systematic and thematic literature review [8]. Other research explains that digital literacy plays a significant role in improving the ability of business actors to access, understand, and interpret digital data for decision making, through the systematic literature review method [9]. Other research describes the relevance of customer data in playing a significant role in increasing the effectiveness of business decisions, where the integration of data-driven marketing allows business actors to utilize customer data to understand consumer behavior and increase the effectiveness of business decisions, where the research method uses a systematic literature review [10].

Existing studies reveal a research gap, particularly in the context of MSMEs. Most research still focuses on large companies and marketing aspects, while the integration of digital marketing and data-driven financial decision-making remains underexplored. Furthermore, although the concept of data-driven marketing has developed, customer data utilization is often suboptimal due to limited digital literacy and technological support. Furthermore, existing studies still largely use systematic literature reviews, whereas this study, focusing on MSMEs, employed exploratory quantitative descriptive research methods that focus on causal relationships between variables. This study analyzes the influence of customer data relevance, digital literacy, and technology implementation on the quality of MSME business decisions in Serdang Bedagai Regency.

Based on the literature review above, it can be identified that although digital marketing has generated a large amount of customer data, its utilization as a basis for financial decision-making by MSMEs is still not optimal. The main gap lies in the low ability to identify and utilize relevant customer data, as well as limited digital literacy and technological support that supports the process. Thus, the research problem is formulated as follows: how do customer data relevance, digital literacy and technology implementation influence the quality of MSME business decisions in Serdang Bedagai Regency, both partially and simultaneously?.

3. Method

In this study, the existing research method uses an exploratory quantitative approach with the aim of testing causal relationships or influences or cause-effect relationships between variables [11]. This method was chosen because it can provide objective, measurable, and generalizable results, and is suitable for testing the influence of variables such as digital marketing, customer data relevance, digital literacy, and technology support on MSME business decisions. To accommodate the complexity of the relationship between variables, this study uses a multiple linear regression approach, where the multiple linear regression approach has the advantage of testing the relationship between one dependent variable and two or more independent variables [12]. This approach has several advantages that make it relevant in quantitative research, particularly in examining economic and business phenomena such as MSME business decision-making in Serdang Bedagai Regency. Data collection techniques used questionnaires and documentation studies. Data processing stages included data cleaning by identifying outliers and handling missing values, as well as testing for normality and multicollinearity. Instrument of research method use 1-5 Likert Scale used for the variables X1, X2, X3 and Y Please add this information. 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree [13].

The population in this study was 139,155 MSMEs in Serdang Bedagai Regency, where the sampling technique used was purposive sampling [14]. The criteria are that MSMEs actively use digital media and have digital-based sales activities. The sample size can be calculated using the Slovin formula, where the sample calculation results are:

$$n = N / (1 + (N \times e^2)) = 139.155 / (1 + (139.155 \times 0.1^2)) = 99.93 = 100 \text{ samples.}$$
 Therefore, the sample size for this study was 100 MSMEs in Serdang Bedagai Regency that actively use digital media and have digital-based sales activities. Data analysis was conducted using multiple linear regression through validity and reliability tests, normality tests, multicollinearity tests, heteroscedasticity tests, multiple linear regression equations, and hypothesis tests.

4. Results And Discussion

Results

Validity Test

The results of the validity test can be seen in the following table:

Table 1. Validity Test of Customer Data Relevance Variables

Question Items	Calculate r value (<i>Corrected Total Item Correlations</i>)	Table r Value	Information
Q1	0.590	0,195	Valid
Q2	0.675	0,195	Valid
Q3	0.643	0,195	Valid
Q4	0.564	0,195	Valid
Q5	0.633	0,195	Valid
Q6	0.539	0,195	Valid
Q7	0.354	0,195	Valid
Q8	0.544	0,195	Valid

Source: SPSS Data Processing Results. 2026

From the table above, the Corrected Item-Total Correlation value for all customer data relevance variable items is greater than 0.195. Thus, all questionnaire items are declared valid.

Table 2. Validity Test of Digital Literacy Variables

Question Items	Calculate r value (<i>Corrected Total Item Correlations</i>)	Table r Value	Information
Q1	0.396	0,195	Valid
Q2	0.664	0,195	Valid
Q3	0.643	0,195	Valid
Q4	0.563	0,195	Valid
Q5	0.776	0,195	Valid
Q6	0.363	0,195	Valid
Q7	0.573	0,195	Valid
Q8	0.242	0,195	Valid

Source: SPSS Results. 2026

From the existing table, the Corrected Item-Total Correlation value of the question items from the digital literacy variable is more than 0.195, which means that all items have met the assumption of data validity.

Table 3. Validity Test of Technology Implementation Variables

Question Items	Calculate r value (<i>Corrected Total Item Correlations</i>)	Table r Value	Information
Q1	0.513	0,195	Valid
Q2	0.787	0,195	Valid
Q3	0.636	0,195	Valid
Q4	0.465	0,195	Valid
Q5	0.791	0,195	Valid
Q6	0.576	0,195	Valid
Q7	0.229	0,195	Valid
Q8	0.599	0,195	Valid

Source: Data Processed Using SPSS. 2026

Based on the data analysis results in Table 3 above, it is known that the eight question items from the technology implementation variable have Corrected Item-Total Correlation values above 0.195. This indicates that all answer distribution values for this variable are valid.

Table 4. Validity Test of Business Decision Quality Variables

Question Items	Calculate r value (<i>Corrected Total Item Correlations</i>)	Table r Value	Information
Q1	0.513	0,195	Valid
Q2	0.787	0,195	Valid
Q3	0.636	0,195	Valid
Q4	0.465	0,195	Valid
Q5	0.791	0,195	Valid
Q6	0.576	0,195	Valid
Q7	0.229	0,195	Valid
Q8	0.599	0,195	Valid

Source: Data Processing Results. 2026

The table above explains that all question items for the business decision quality variable have a value distribution above 0.195, which indicates that the value distribution for the question items is valid.

Reliability Test

The results of the reliability test can be seen in the following table:

Table 5. Reliability Test

Variable	Cronbach Alpha	N of Items	Information
Customer Data Relevance (X_1)	0,778	8	Reliabel
Digital Literacy (X_2)	0,740	8	Reliabel
Application of Technology (X_3)	0,837	8	Reliabel
Quality of Business Decisions (Y)	0,752	8	Reliabel

Source: Data Processing Results. 2026

From the explanation of the existing table, it can be concluded that the Cronbach Alpha value of all variables has a value greater than 0.70, where all the existing answer items are appropriate or reliable.

Normality Test

The normality test in this study uses a normality test via a p-plot diagram, the output of which is as follows:

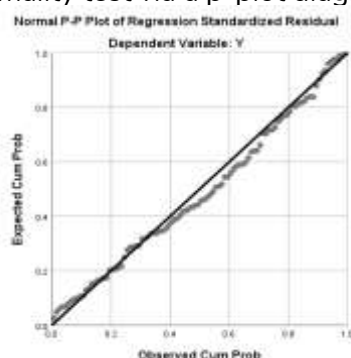


Figure 1. P-Plot Normality Test

Source: Data Processing Results. 2026

Based on the results of the normality test, the data distribution shows a pattern that follows a diagonal line and does not form extreme deviations. This indicates that the residual data in the regression model is

normally distributed. By meeting the normality assumption, the regression model is suitable for hypothesis testing.

Test of Multikollinearity

The results of the multicollinearity test are as follows:

Table 6. Test of Multikollinearity

Model	Unstandardized Coefficients		Standardized Coefficients		Collinearity Statistics		
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1 (Constant)	28.903	5.651		5.115	.000		
X1	-.057	.110	-.054	-.520	.604	.956	1.046
X2	.111	.112	.102	8.993	.003	.962	1.340
X3	-.070	.099	-.072	-.700	.485	.970	1.131

Source: Data Processing Results. 2026

The test results show a Tolerance value of more than 0.10 and a VIF value of less than 10, so it can be concluded that there is no multicollinearity between the independent variables.

Test of Heteroscedasticity

Heteroscedasticity test using a scatterplot diagram as shown in the following image:

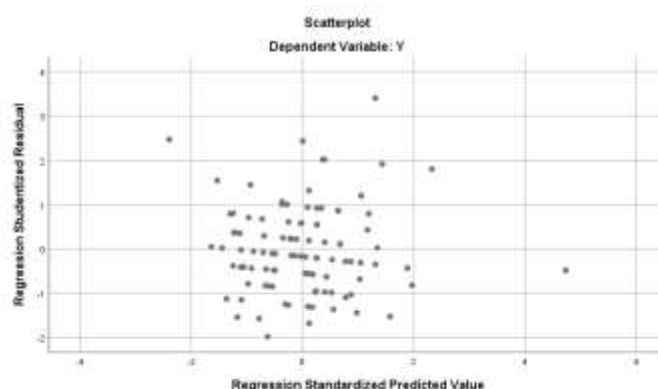


Figure 2. Scatterplot Diagram

Source: Data Processing Results. 2026

The results of the heteroscedasticity test show that the points on the scatterplot are randomly distributed and do not form a specific pattern, either conical or wavy. This condition indicates that there is no heteroscedasticity between the regression models of each variable.

Multiple Linear Regression Equation

Table 7. Multiple Linear Regression Equation

Model	Unstandardized Coefficients		Standardized Coefficients		Collinearity Statistics		
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1 (Constant)	28.903	5.651		5.115	.000		
X1	-.057	.110	-.054	-.520	.604	.956	1.046
X2	.111	.112	.102	8.993	.003	.962	1.340
X3	-.070	.099	-.072	-.700	.485	.970	1.131

a. Dependent Variable: Y

Source: Data Processing Results. 2026

Based on the analysis results, the regression equation was obtained:

$$Y = 28.903 - 0.057X_1 + 0.111X_2 - 0.070X_3$$

It means:

1. The constant of 28.903 indicates that if all the variables of customer data relevance, digital literacy and technology implementation are zero, then the value of the variable of quality of MSME business decisions in Serdang Bedagai Regency increases by 28.903.
2. The X_1 coefficient of -0.057 indicates a negative relationship between the customer data relevance variable and the quality of MSME business decisions in Serdang Bedagai Regency, which decreased by 0.057.
3. The X_2 coefficient of 0.111 indicates a positive relationship between the digital literacy variable and the quality of MSME business decisions in Serdang Bedagai Regency, which increased by 0.111.
4. The X_3 coefficient of -0.070 indicates a negative relationship between the technology application variable and the quality of MSME business decisions in Serdang Bedagai Regency, which decreased by 0.070.

Test of t

The results of the t-test (partial test) can be seen in the table below:

Table 8. Test of t

Model	Unstandardized Coefficients		Standardized Coefficients		Collinearity Statistics		
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1 (Constant)	28.903	5.651		5.115	.000		
X1	-.057	.110	-.054	-.520	.604	.956	1.046
X2	.111	.112	.102	8.993	.003	.962	1.340
X3	-.070	.099	-.072	-.700	.485	.970	1.131

a. Dependent Variable: Y

Source: Data Processing Results. 2026

The calculated t value is -0.520, the value is more than the t table value ($n-k-1 = 100-3-1 = 96$) 1.661, while the Sig value of 0.604 is more than 0.05, which explains that the customer data relevance variable has a negative effect on the quality variable of MSME business decisions in Serdang Bedagai Regency. The calculated t value of the digital literacy variable is 8.993, the value is greater than the t table value ($n-k-1 = 100-3-1 = 96$) 1.661, the Sig value of 0.003 is more than 0.05, so the digital literacy variable has a positive and significant effect on the quality variable of MSME business decisions in Serdang Bedagai Regency. The technology application variable has a negative effect on the quality variable of MSME business decisions in Serdang Bedagai Regency. This can be seen from the calculated t value of -0.700 which is greater than the t table value ($n-k-1 = 100-3-1 = 96$) 1.661, while the Sig value of 0.485 is greater than 0.05.

Empirically the customer data relevance variable has a negative effect on the quality variable of MSME business decisions, because customer information is not enough; business owners must be able to interpret and transform the data into actionable insights. Without adequate analytical capability, customer data provides little value for strategic decisions [15]. Theoretically, customer data relevant is ineffective when MSMEs business decisions, because data does not automatically generate value. According to the Knowledge-Based View (KBV), organizational knowledge and the capability to transform information into actionable insights are the primary sources of competitive advantage [16].

Empirically, technology application variable has a negative effect on the quality variable of MSME business decisions, because many MSMEs lacked the capabilities required to utilize digital technologies effectively. Technology adoption alone did not immediately improve business outcomes, and the benefits appeared only after firms developed sufficient organizational capabilities [17]. Theoretically, technology application variable ineffective when MSMEs business decisions, because technology itself is not a strategic resource capable of improving organizational outcomes unless it is combined with complementary capabilities, such as digital literacy, managerial competence, and data analytics capability [18].

Test of F

The results of the F test (simultaneous test) can be seen in the table below:

Table 9. Test of F

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	12.524	3	4.175	8.571	.006 ^b
Residual	702.316	96	7.316		
Total	714.840	99			

Source: SPSS Data Processing Results. 2026

The table above shows that customer data relevance, digital literacy, and technology adoption simultaneously significantly influence the quality of MSME business decisions in Serdang Bedagai Regency. This is evident from the F-test result of 8.571, exceeding the F-table value of 2.70.

Coefficient of Determination Test

The output of the coefficient of determination test can be seen in the table below:

Table 10. Coefficient of Determination Test

Model	R	Change Statistics								
		R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.532 ^a	.638	.613	2.70477	.638	8.571	3	96	7.636	2.055

Source: SPSS Data Processing Results. 2026

From the table above, the Adjusted R Square value of 0.613 indicates that 61.3% of the variation in the quality of MSME business decisions in Serdang Bedagai Regency can be explained by the variables of customer data relevance, digital literacy, and technology implementation. The remaining 38.7% is influenced by other variables outside the research model.

Discussion

To strengthen the validity of the research results, the findings of this study were compared with several relevant studies that discussed digital marketing, customer data relevance, and business decision-making in MSMEs. The results of this study indicate that the variable of customer data relevance has a significant influence on the effectiveness of MSME financial decisions. This finding is consistent with a study explaining that a data-driven marketing approach enables MSMEs to utilize customer data to improve the quality of business decisions and operational efficiency. Furthermore, this study also found that the ability to utilize customer information through digital marketing can improve business performance and the accuracy of business strategies. These similar results indicate that relevant customer data is a crucial factor in supporting the information-based decision-making process in MSMEs [13]. However, this study also found several differences compared to previous studies, where a study showed that many MSMEs still experience limitations in integrating digital data into the strategic decision-making process due to low digital literacy and technological support [9].

The phenomenon emerging from the analysis results indicates that not all independent variables have a significant influence on MSME financial decisions. Based on partial test results, only the digital literacy variable was proven to have a positive and significant influence on the quality of MSME business decisions in Serdang Bedagai Regency, while the customer data relevance and technology implementation variables did not show a significant influence. This pattern is generally consistent with the data-driven decision-making theory and the research conceptual framework, which emphasizes that the quality and relevance of information are key factors in increasing the effectiveness of business decisions. The significance of the digital literacy variable indicates that MSMEs that are able to utilize relevant information or data tend to have better quality financial decisions. This finding also supports the theory that modern decision-making is no longer solely based on intuition, but is influenced by the ability to process strategically valuable information.

Based on the analysis and interpretation, it can be tentatively concluded that the use of digital marketing in MSMEs cannot directly improve the quality of financial decisions if it is not supported by the ability to manage and utilize relevant data. The results of the study indicate that only variables related to the quality or relevance of information have a significant influence on financial decisions, while other variables such as digital marketing activities and technological support have not shown a significant influence at all. This finding indicates that the success of digital transformation in MSMEs is not solely determined by the use of technology or digital platforms, but is more influenced by the ability of business actors to transform digital data into strategically valuable information to support business decision-making. Furthermore, the results also show that all independent variables simultaneously still have a significant influence on MSME financial decisions. This demonstrates a collective relationship between variables in shaping the data-driven decision-making process. This phenomenon indicates that digital marketing, digital literacy, customer data relevance, and technology support are interrelated in supporting the transformation of MSME businesses toward a more information-driven approach. This initial conclusion also opens up opportunities for further analysis and the development of a more comprehensive research model. The insignificance of several variables suggests the possibility of indirect relationships, mediation effects, or moderation that have not been fully accommodated in the multiple linear regression model. Therefore, further research is recommended to use more complex analytical approaches, such as SEM-PLS.

5. Conclusion

This study aims to analyze the influence of digital marketing, customer data relevance, and technology support on the financial decisions of MSMEs. Based on the results of multiple linear regression analysis, it was found that partially only variables related to the quality or relevance of information had a significant influence on financial decisions, while the other variables did not show a significant influence individually. However, simultaneously, all independent variables were proven to have a significant influence on the financial decisions of MSMEs. These results indicate that financial decision-making in MSMEs in the digital era is not only influenced by the existence of technology or digital marketing activities alone, but is more determined by the ability of business actors to utilize relevant and strategically valuable information. The findings of this study align with the theory of data-driven decision-making, which emphasizes that the quality of business decisions is significantly influenced by an organization's ability to effectively manage and utilize data. These findings also support previous research showing that customer data and digital capabilities play a critical role in improving the effectiveness of business decisions [19]. However, this research differs from several previous studies that stated that digital marketing and technology directly and significantly influence business decisions. In general, the findings indicate that digital transformation in MSMEs has not yet fully reached the stage of data-driven decision-making, but rather still focuses on

utilizing technology as a marketing medium. This condition explains that the success of MSME digitalization is highly dependent on the ability to integrate customer data, technology, and information analysis processes into the business decision-making system. The recommendation for future research using the SEM-PLS method to use analysis the influence of digital marketing, customer data relevance, and technology support on the financial decisions of MSMEs.

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