

The Influence of Financial Technology and Digital Marketing on The Income of Micro, Small, and Medium Enterprises in Baubau City

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Abstract

This study aims to analyze the influence of financial technology (FinTech) and digital marketing on the income of Micro, Small, and Medium Enterprises (MSMEs) in Baubau City. The research employed a quantitative method with a sample of 100 MSME owners selected through purposive sampling. Data were collected using structured questionnaires and analyzed using multiple linear regression. The results show that FinTech has a significant positive effect on MSME income by facilitating access to digital payment systems and online financing. Similarly, digital marketing significantly influences income through broader market reach, improved customer engagement, and increased sales volume. Simultaneously, FinTech and digital marketing contribute significantly to MSME income growth in Baubau City. This research highlights the importance of technology adoption for MSME sustainability in the digital era.

Keywords: Financial_Technology; Digital_Marketing; MSMEs; Income; Baubau_City

1. Introduction

The Micro, Small, and Medium Enterprises (MSME) sector plays a central role in the Indonesian economy, both in terms of employment and contribution to the Gross Domestic Product. The large number of MSMEs makes efforts to increase their income a priority for regional and national economic policy. Official data shows the scale and importance of MSMEs in Indonesia's economic structure, making studies on the factors that influence MSME income important for policy formulation and empowerment programs [1].

In recent years, the adoption of financial technology (fintech) in Indonesia has grown rapidly, driven by investment, innovation in digital payment services, peer-to-peer lending, and financial inclusion programs, which in turn have opened up access to financing and ease of transactions for small businesses. The growth of this fintech ecosystem is considered to have the potential to accelerate business capital turnover and increase the sales capacity of MSMEs. Therefore, an empirical understanding of how fintech affects MSME income is becoming increasingly relevant [2].

Digital marketing has also seen increased adoption among MSMEs, especially after the pandemic era when offline marketing activities were restricted. Digital marketing through social media, marketplaces, and digital advertising allows MSMEs to expand their customer reach at a relatively lower cost than traditional marketing, leading to a strong assumption that digital marketing has a positive impact on sales volume and revenue. International and national empirical evidence shows a positive relationship between digital marketing strategies and the performance of small and medium-sized enterprises [3].

At the regional level, the adoption of fintech and digital marketing is not uniform. Large cities are usually quicker to adopt, while small/medium cities and island regions face obstacles in terms of infrastructure, digital literacy, and supporting ecosystems. The city of Baubau, as one of the economic centers in the province of Southeast Sulawesi, shows a growing phenomenon of digital adoption, but in-depth empirical studies on the combined impact of fintech and digital marketing on local MSME income are still limited. Licensing documents

and regional policies that begin to accommodate electronic services indicate institutional readiness, but evidence of their economic impact is relatively scarce.

Tabel 1 MSME Baubau City

No	type of business	business units
1	Micro	4.990
2	Small	3.052
3	Medium Enterprises	277
	Total	8.319

Based on data on the number of Micro, Small, and Medium Enterprises (MSMEs) in Baubau City, it can be seen that the total number of businesses reached 8,319 units. Of this number, micro businesses dominated with 4,990 units. This shows that the majority of economic actors in Baubau City are still at the micro business level, which generally has limitations in terms of capital, access to technology, and market reach.

Furthermore, there are 3,052 small businesses, which generally have a more stable business structure than micro businesses, in terms of capital, labor, and ability to reach a wider market. Meanwhile, there are 277 medium businesses. Although the number is relatively small, medium businesses contribute significantly to the regional economy because they have greater production capacity and the potential to create new jobs.

Global and national phenomena also show an acceleration in digital transformation: investors and the fintech ecosystem continue to grow, while digital marketing platforms continue to add services for MSMEs (promotional features, payments, logistics). This transformation presents new opportunities as well as risks such as data security, digital advertising costs, and market competition. This study positions fintech and digital marketing as two complementary pillars: fintech solves transaction and financing problems, while digital marketing increases demand, which has implications for revenue [4].

Previous studies have shown that financial technology plays an important role in improving access to capital and transaction efficiency. For example, research by Nur Syafira Aulia Fatihah [5] found that the adoption of fintech can improve the financial performance of MSMEs through ease of transactions and access to credit. Meanwhile, a study by Qistina Farahiyah and Bambang Haryadi [6] concluded that digital marketing has a significant effect on increasing revenue because it can expand consumer reach and strengthen customer loyalty.

In addition, previous studies generally examined financial technology and digital marketing separately, without simultaneously examining how the combination of the two can affect MSME revenue. In practice, however, these two aspects are interrelated: the ease of digital payments through fintech can support the effectiveness of digital marketing strategies. This gap forms the basis for this study to comprehensively examine the relationship between financial technology, digital marketing, and MSME income in the context of developing regions.

The conceptual framework proposed in this study combines the Technology Acceptance Model (TAM) with digital marketing theory and business income theory. Through this integration, the study aims to explain how the level of fintech adoption and the implementation of digital marketing strategies can increase the income of MSMEs at the local level. This approach not only contributes theoretically to the development of digital business and finance

management studies but also has practical implications for local governments and MSME actors in formulating technology-based empowerment policies and strategies.

Thus, the main objective of this study is to analyze the influence of financial technology and digital marketing on MSME revenue in Baubau City. Specifically, this study aims to: (1) measure the extent to which the use of financial technology affects MSME revenue, (2) analyze the influence of digital marketing on revenue growth, and (3) test the simultaneous influence of these two variables on MSME revenue performance. This study uses a quantitative approach with a survey method through questionnaires to MSME actors in Baubau City, and is processed using multiple linear regression analysis to obtain valid and reliable results.

2. Methodology

This research will be conducted in the Baubau City area, specifically targeting 100 MSME actors in Baubau City, Southeast Sulawesi Province, in 2024. The parties participating in this survey are MSME actors in Baubau City. This research uses procedures that allow testing hypotheses to reach valid conclusions about the relationship or influence between variables. This research is descriptive quantitative research. The technique used in this research is Non-Probability Sampling with Purposive Sampling. The data collection technique in this research was conducted using a survey technique, by distributing questionnaires directly to respondents. The questionnaires were distributed to 100 MSME entrepreneurs in Baubau City via Google Forms. The measurement used in creating the questionnaire items was a Likert scale. The techniques or methods used in this study included data quality testing (validity testing, reliability testing), classical assumption testing (normality testing, multicollinearity testing, and heteroscedasticity testing), multiple linear analysis, and hypothesis testing (t-test, f-test, and coefficient of determination (R^2) testing) [7].

3. Result and Discussion

3.1. Result

Research Instrument Test Results

1. Validity Test

The validity test is used to measure the validity level of the questionnaire instrument. Validity testing of the items uses product moment correlation. The validity level of the items is determined by comparing the r_{xy} value with the r_{table} value. If $r_{xy} > r_{table}$, the item is valid, and conversely, if $r_{xy} < r_{table}$, the questionnaire item is declared invalid. The following are the validity test results:

Table 2 Validity Test Results

Variable	Statement	r_{count} Value	r_{table} Value
Financial Technology	X1.1	0,573	0,1966
	X1.2	0,640	0,1966
	X1.3	0,685	0,1966
	X1.4	0,850	0,1966
	X1.5	0,784	0,1966
Digital marketing	X1.6	0,839	0,1966
	X2.1	0,598	0,1966
	X2.2	0,554	0,1966
	X2.3	0,855	0,1966
	X2.4	0,797	0,1966

	X2.5	0,614	0,1966
	X2.6	0,618	0,1966
	X2.7	0,855	0,1966
	X2.8	0,797	0,1966
	X2.9	0,614	0,1966
	X2.10	0,618	0,1966
Income	X3.1	0,493	0,1966
	X3.2	0,813	0,1966
	X3.3	0,777	0,1966
	X3.4	0,564	0,1966
	X3.5	0,748	0,1966
	X3.6	0,752	0,1966

Source: Data Processed in 2025

It can be seen that the questionnaire statements on the financial technology variable (X1), digital marketing variable (X2), and income increase variable (Y) can be considered valid because the calculated R is greater than the table R value.

2. Reliability Test

Reliability testing using Cronbach's Alpha method for each instrument in a variable. The results of testing an instrument are considered reliable if the test results produce a Cronbach's Alpha (α) > 0.60 , then the instrument is reliable [8]. The reliability test results for each instrument in the research variable are as follows:

Tabel 3 Reliability Test Results

No	Variable Name	Alpha Cronbach	Normally	Status
1	Financial Technology	0,753	$\geq 0,60$	Reliabel
2	Digital marketing	0,866	$\geq 0,60$	Reliabel
3	Income	0,781	$\geq 0,60$	Reliabel

Source: Primary data processed, 2025

The table above shows that all variables such as Financial Technology (X1), Digital Marketing (X2), and Income (Y) are reliable because they have a Cronbach's alpha value > 0.60 , so they can be used to process further data.

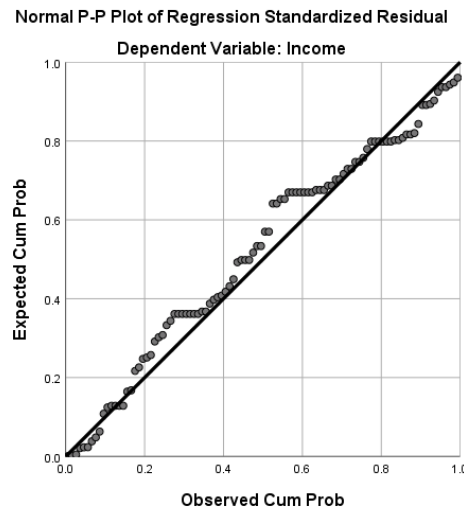
Classical Assumption Test Results

1. Normality

There are two ways to detect whether the residuals are normally distributed or not, according to Ghozali [8] namely through graphical analysis and statistical testing. If using a graph, you can look at the normal probability plot. In addition to graphical testing, it is recommended to supplement with statistical testing, one of which is the Kolmogorov-Smirnov (K-S) non-parametric statistical test.

a. P-Plot Test

Graph 1 P-Plot Test Results



From the Normal P-P Plot graph above, it can be seen that the points follow a straight line or are not far from the diagonal line. Thus, it can be concluded that the residuals used in this study follow a normal distribution (normal data distribution).

b. Nonparametric Kolmogorov-Smirnov (K-S).

Table 4 Kolmogorov-Smirnov Test Results

One-Sample Kolmogorov-Smirnov Test		
		Unstandardize d Residual
N		100
Normal Parameters ^{a,b}	.0000000	.0000000
	2.49157081	3.065222
		04
Most Extreme Differences	.123	.080
	.067	.080
	-.123	-.072
Test Statistic		.123
Asymp. Sig. (2-tailed)		.200 ^c

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

d. This is a lower bound of the true significance.

Source: Processed primary data, 2025

Based on the table above, the significance value is 0.200, which means that the significance value is greater than 0.05. Therefore, the data distribution is declared to meet the assumption of normality, so it can be concluded that the tested data is normally distributed.

2. Multicollinearity

Multicollinearity is a test to determine whether there is correlation between independent variables in a regression model. If there is correlation, then there is a problem of multicollinearity. A good regression model does not have correlation between variables. Multicollinearity is tested by looking at the Tolerance Value or Variance Inflation Factor (VIF). A regression model free of multicollinearity has a VIF around 1, while the VIF limit is 10 and

has a tolerance value close to 1. The results of the multicollinearity test using SPSS 21.0 are as follows:

Table 5 Multicollinearity Test Results

No	Variable	Tolerance	VIF	Information
1	Financial Technology	0,887	1,128	Tidak terjadi multikolinearitas
2	Digital Marketing	0,887	1,128	Tidak terjadi multikolinearitas

Source: Primary data processed, 2025

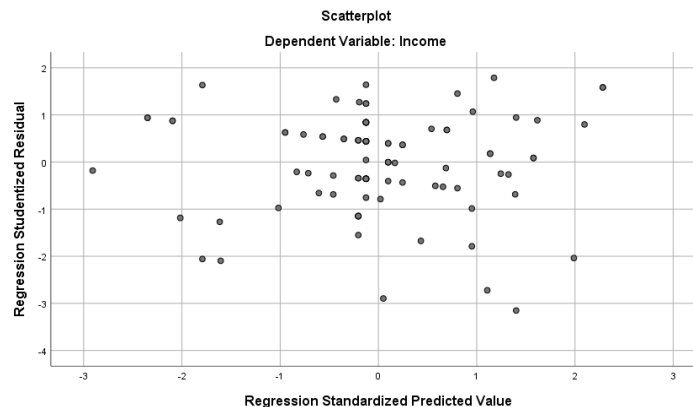
Based on the results of the multicollinearity test above, it is known that none of the variables have a Tolerance value ≤ 0.1 or a VIF value ≥ 10 . This means that the research variables do not show any symptoms of multicollinearity in the regression model.

3. Heteroscedasticity

A good regression model is one that is homoscedastic or does not exhibit heteroscedasticity. The heteroscedasticity test can be seen from the plot graph where the distribution of points is random, does not form a specific pattern, and the direction of the distribution is above or below the number 0 on the Y axis. Thus, there is no heteroscedasticity in this regression model, so it is suitable for use.

a. Scatterplot Test

Graph 2 Heteroscedasticity Test Results



From graph 2, it can be seen that the points are scattered randomly and spread above and below the number 0 and the Y-axis. This can be concluded that there is no heteroscedasticity in the regression model, so the regression model is suitable for use in testing.

Multiple Linear Regression Coefficients

Multiple regression coefficients are used to determine the effect of the variables of financial technology, digital marketing, budget target clarity, and performance audit on the dependent variable of income. The following are the calculation results.

Table 6 Multiple Regression Test Results

Model	Coefficients ^a				
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	18.963	3.148		6.025	.000
Financial Technology	.077	.116	.070	5.663	.001
Digital Marketing	.098	.060	.172	3.628	.007

a. Dependent Variable: Income

Source: Primary data processed, 2025

Linear Regression Coefficients

$$Y = a + b_1x_1 + b_2x_2 + e$$

$$Y = 18.963 + 0.077X_1 + 0.098X_2 + e$$

Description:

Y = Income

X₁ = Financial Technology

X₂ = Digital marketing

a = Constant

b₁, b₂ = Regression Coefficients

e = error

From the above equation, it can be explained that:

- The constant value (a) obtained is 18.963, indicating that if the independent variables of Financial Technology, digital marketing, budget target clarity, and performance audit are zero, then the Revenue value is 18.963.
- The regression coefficient value of variable X₁, namely Financial Technology (b₁), is positive at 0.077, which means that every 1 increase in Financial Technology will increase Financial Technology by 0.077, assuming that the values of other independent variables remain constant.
- The regression coefficient value of variable X₂, namely digital marketing (b₂), is positive at 0.098. This can be interpreted as meaning that every 1 increase in digital marketing will increase revenue by 0.098, assuming that the values of other independent variables remain constant.

Hypothesis Test Results

1. T-test Results

The t-test was conducted to test whether the independent variables, namely Financial Technology and digital marketing, partially influence the dependent variable, namely income. H₀ is accepted if t_{count} < t_{table} and H₀ is rejected if t_{count} > t_{table}.

Table 7 T-test

No	Variable	Tcount	Sign	Conclusion
1	Financial Technology	5,663	0,001	H1 is accepted
2	Digital marketing	3,628	0,007	H2 is accepted

Source: Primary data processed, 2025

a. Financial Technology

Based on the table of processed data for the financial technology variable, a t-value of 5.663 was obtained. Therefore, the t-value is greater than the t-table ($5.663 < 1.984$) with a probability of $0.001 > 0.05$, so H_0 is rejected and H_1 is accepted, which means that the Financial Technology variable has a significant effect on income.

b. Digital marketing

Based on the table of data processing results for the digital marketing variable, a t-value of 3.628 was obtained. Therefore, the t-value is smaller than the t-table ($3.628 > 1.984$) with a probability of $0.007 < 0.05$, so H_0 is rejected and H_2 is accepted, which means that the digital marketing variable has a significant effect on income.

2. Simultaneous Regression Coefficient Test (F Test)

The F test was conducted to test whether the independent variables, namely Financial Technology and digital marketing, simultaneously affect the dependent variable, namely income. H_0 is accepted if $F_{count} \leq F_{table}$ and H_0 is rejected if $F_{count} \geq F_{table}$.

Table 8 F Test
ANOVA^a

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	27.255	2	13.628	12.151	.002 ^b
Residual	614.585	97	6.336		
Total	641.840	99			

a. Dependent Variable: Income

b. Predictors: (Constant), Digital Marketing, Financial Technology

Source: Processed primary data, 2025

Based on the F test results, it shows that $F_{count} \geq F_{table}$, namely $12.151 \geq 3.089$ with a probability of $0.002 < 0.05$, therefore H_0 is rejected and H_3 is accepted, meaning that simultaneously, financial technology and digital marketing have a significant effect on income.

3. Coefficient of Determination (R square)

The determination coefficient (R^2) test essentially measures the extent to which the model can explain the variation in the dependent variable. The closer the R^2 value is to one, the more the independent variables provide almost all the information needed to predict the variation in the dependent variable. Conversely, if the R^2 value is smaller, the ability of the independent variables to explain the dependent variation is very limited (Ghozali, 2021).

Table 9 R-Square Test Results

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.606 ^a	.442	.423	2.517

a. Predictors: (Constant), Digital marketing, Financial Technology

b. Dependent Variable: Income

Source: Processed primary data, 2025

Table 10 of the data analysis results in the Model Summary shows that the R Square value is 0.442. This indicates that the contribution of the Financial Technology and digital marketing

variables to the dependent variable, namely income, is 44.2%, while 55.8% is influenced by other variables not included in this model.

3.2. Discussion

The Effect of Financial Technology on Income

Based on the table of data processing results for the financial technology variable, a t-value of 5.663 was obtained. Therefore, the t-value is greater than the t-table ($5.663 < 1.984$) with a probability of $0.001 > 0.05$. The comparison results show that the t-value is smaller than the t-table and the sign is greater than α , so H_0 is accepted and H_1 is rejected. Thus, there is a significant effect between financial technology and income. Therefore, it can be concluded that financial technology does not have a significant effect on income. This means that fintech is not just technology, but actually helps MSMEs in Baubau increase sales and profits.

Thus, it can be concluded that financial technology has a significant effect on the income of MSMEs in Baubau City. This means that the higher the use of financial technology, such as e-wallets, mobile banking, payment gateways, and digital-based loans, the greater its contribution to increasing business income. This happens because financial technology facilitates transaction processes, increases time efficiency, and expands access to capital for MSMEs, thereby having a positive impact on sales and income growth.

The Effect of Digital Marketing on Revenue

Based on the table of data processing results for the digital marketing variable, a t-value of 3.628 was obtained. Therefore, the t-value is smaller than the t-table ($3.628 > 1.984$) with a probability of $0.007 < 0.05$. The comparison results show that the t-value is greater than the t-table and the sign is smaller than α , so H_0 is rejected and H_2 is accepted. Thus, there is a significant effect of digital marketing on revenue.

These results illustrate that the more actively MSMEs use digital marketing through social media, marketplaces, websites, and online advertising platforms, the greater the opportunity for increased sales and revenue. This is because digital marketing can expand market reach, reach a wider range of consumers without geographical limitations, and is more cost-effective than conventional promotion.

The Effect of Financial Technology, Digital Marketing, and Budget Clarity on Revenue

Based on the F test results, $F_{count} \geq F_{table}$, namely $26.978 \geq 3.140$ with a probability of $0.000 < 0.05$, so H_0 is rejected and H_4 is accepted, meaning that Financial Technology and digital marketing simultaneously affect revenue.

The results of this simultaneous test prove that the use of Financial Technology and Digital Marketing is an effective strategy to increase the income of MSMEs in Baubau City. By utilizing financial technology that facilitates transactions and digital marketing strategies that reach a wider range of consumers, MSMEs can increase business efficiency while expanding sales opportunities, which ultimately has a positive impact on income growth.

4. Conclusion

Based on the analysis conducted in the previous section, the following conclusions can be drawn:

1. Financial technology has a significant effect on the income of MSMEs in Baubau City.

2. Digital marketing has a significant effect on the income of MSMEs in Baubau City.
3. Financial technology and digital marketing have a significant effect on the income of MSMEs in Baubau City.

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