

The Role of Digital Marketing through Social Networks on the Sales of Agricultural Products in "Pajak Horas"

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Received: 2025-07-16

Accepted: 2025-07-25

Publication: 2025-07-27

Abstract

The agricultural and plantation business sectors face numerous challenges. Intense competition, fluctuating commodity prices, and changing government policies often hinder business actors from increasing their sales and business turnover. Every producer or seller must understand sales improvement strategies and product marketing. Business actors must be able to adapt their sales strategies in response to changing consumer behaviour. In today's digital era, **innovative** and effective marketing strategies are **crucial for** success in the agriculture and plantation businesses. With the development of digital technology, these entrepreneurs must keep up with the trend. This study **explores** whether digital marketing through social media platforms impacts agricultural product sales at the Pematangsiantar Traditional Market. The research method used was quantitative, where data were collected using questionnaires and analysed using SPSS. The data was collected by distributing questionnaires to traditional Pematangsiantar "Pajak Horas" Market traders. A simple linear regression analysis revealed that digital marketing variables, especially those through social media, contributed positively and statistically significantly to sales results. This finding suggests that increasing digital marketing efforts will **positively impact** agricultural product sales at the Pematangsiantar "Pajak Horas" Market.

Keywords: Agriculture; Digital Marketing; Social Networks; Traditional Market

Introduction

The Sustainable Development Goals (SDGs) are a set of long-term development objectives established in 2015, with a target of being achieved by 2030 (Alston & Pardey, 2014). SDGs are designed to address all existing societal problems. However, until now, the primary goals—poverty reduction and improving welfare are still far from being achieved (Munajat & Sari, 2024). Agriculture forms the backbone of Indonesias economy, with the agricultural sector serving as a primary source of livelihood for the majority of the population. In terms of employment, agriculture absorbs the highest number of workers (Adamowicz, 2022).

Understanding strategies for increasing product sales or marketing is essential for every producer or seller (Sayifullah & Emmalian, 2018). These strategies must adapt to changes in the business environment and shifts in consumer behavior in selecting, purchasing, and using products (Kembauw et al., 2015). Marketing strategy is one of the key tools or achieving business goals. Business actors must be able to change strategy or sales methods in response to these behavioral changes (Nugroho & Waluyati, 2018). The traditional market "Pajak Horas" in Pematangsiantar

serves as the primary sales hub for staple goods produced by medium, small, and microeconomic actors, most of which consist of agricultural and fisheries products (Sinulingga et al., 2023). The existence of traditional markets as outlets for farm products is highly essential, especially for the lower-middle-class communities. However, the traders in the “Pajak Horas” traditional market remain marginalized, far from the ideals of an equitable economy. Traditional markets are increasingly struggling to compete with modern markets due to limited access to technology and resources (Asir, M., Wahab et al., 2023). In today’s era of the Industrial Revolution 4.0, the use of digital technology has become a necessity (Sagita & Wijaya, 2022). Like it or not, all members of society, including traditional traders, must adapt to current consumer needs and desires (Mavilinda et al., 2021). Therefore, all business actors, including traditional market traders, must begin to change their sales approach not relying solely on walk-in consumers whose numbers are limited due to the local nature of the market but by expanding their reach through online marketing systems (Alfian et al., 2022). Using digital media for business is no longer just a supplementary marketing activity. It is now an integrated communication mechanism that enhances the impact of each function within an organization by leveraging human networks through digital platforms (Amanah et al., 2020).

This research is crucial in supporting the ultimate goals of sustainable development namely, poverty reduction and improved welfare through the role of digital marketing via social networks in the sale of agricultural products at the “Pajak Horas” traditional market in Pematangsiantar. The results of this analysis are expected to help address various challenges, particularly in marketing agrarian products through conventional markets.

Literature Review

Digital marketing refers to marketing activities that utilize electronic devices or the internet to promote products or services. According to Kotler & Keller (2016), digital marketing is the use of digital technology to create, deliver, and communicate value to customers. It leverages various platforms, including social media, websites, email, and search engines, to reach consumers more broadly.

In the context of micro and small enterprises operating in traditional markets, digital marketing enables increased customer reach and cost-effective marketing strategies (Chaffey & Ellis-Chadwick, 2019). Social media is a the primary tool in digital marketing. Kaplan & Haenlein (2010), define social media as a group of internet-based applications that build on the ideological and technological foundations of Web 2.0, enabling the creation and exchange of user-generated content. Platforms such as Facebook, Instagram, WhatsApp, and TikTok provide promotional features that are easily accessible and user-friendly for traditional business actors.

Social media functions not only as a communication tool but also as a platform for transactions and direct interactions between sellers and consumers. This can increase trust, expand market reach, and accelerate the sales process (Tuten & Solomon, 2017).

According to Sudaryanto (2019), traditional markets play a crucial role in the distribution of agricultural products, yet they still face challenges in terms of modernization and digitalization. Factors such as limited access to information, low digital literacy among traders, and conventional marketing systems contribute to the low competitiveness of traditional markets compared to modern digital platforms.

The use of digital marketing has been proven to contribute to the increased sales of agricultural products. According to Rachmawati & Wahyuni (2021), the adoption of social media as a marketing tool significantly enhances product exposure, shortens distribution chains, and provides added value to both farmers and traders. Moreover, digital marketing can foster more

personalized relationships between sellers and consumers through interactive content, customer testimonials, and direct communication via instant messaging. This helps build customer loyalty and increases purchase frequency (Hanafiah & Novani, 2020).

Traditional markets have an essential role in advancing economic growth in our country. Traditional markets for the community are fundamental, especially for local/outlying communities in trading activities (Yuni et al., 2024). To increase visitor interest, changes or innovations are needed to attract more visitors. Based on research results, the influence of social media marketing can increase product purchasing decisions in online stores (Butar-butur & Auditya, 2022). Implementation of digital marketing through social media can increase sales volume for start-up entrepreneurs and MSME products (Fadhilah, 2024). Based on previous research, researchers implemented a digital marketing concept through social networks in the traditional market "Pajak Horas" in Pematangsiantar to help increase the number of purchases.

Research Method

The research design used in this study consists of: (1) Library Research, which is conducted directly by reading, seeking information through electronic tools or browsing, and studying scholarly books, lecture notes, and other references related to The Influence of Digital Marketing through Social Networks on Agricultural Product Sales in Traditional Markets "Pajak Horas"; (2) Field Research, which is carried out through direct observation and interviews with traders at "Pajak Horas" in Pematangsiantar City. The population in this study comprises all traditional traders at "Pajak Horas" in Pematangsiantar, totaling 3,500 traders. The sample used from the population must truly represent the population being studied. The sample in this research comprises 98 respondents from the traditional traders of "Pajak Horas", Pematangsiantar. The sampling technique uses the Slovin formula. The research was conducted starting from June 2025.

The research location is at the traditional market "Pajak Horas", Pematangsiantar, Jalan Thamrin No.6c, Dwikora, Siantar Barat District, Pematangsiantar City, North Sumatra Province, Postal Code 21146. The research instruments used are questionnaires, as well as validity and reliability tests to determine whether a questionnaire is suitable for distribution to respondents. The data collection techniques commonly used in gathering quantitative information include questionnaires, structured interviews, tests, structured observations, inventories, rating scales, and standard measurements. The data analysis technique employed in this study is quantitative data analysis, which involves testing and analyzing the data using numerical calculations and drawing conclusions from these tests using formulas.

Results and Discussion

1) Description of Research Data

In this study, information was processed through a questionnaire containing five statements related to digital marketing (X) and five statements regarding sales results (Y). The questionnaire was distributed to 98 participants, namely traditional traders in Pematangsiantar, particularly those in the clothing business, who served as research subjects. A Likert scale was used to calculate the X and Y variables. The characteristics of the traders who served as respondents were described by gender, age, and sales period. The percentage of respondents' responses was calculated in a single table format.

From this classification, conclusions can be drawn about the respondents' circumstances after analyzing the results of the questionnaire administered to the 98 individuals. Thus, the descriptions and characteristics of the traders who participated as respondents are as follows:

Table 1. Respondent Characteristics Based on Gender



No.	Gender	Frequency (N)	Percentage (%)
1.	Man	38	38,72%
2.	Woman	60	61,28%
Total		98	100%

Based on the table above, it can be seen that the respondents consisted of 38 male traders or 38,72% and 60 female traders or 61,28% of the total of 98 research samples.

Table 2. Respondent Characteristics Based on Age

No.	Age	Frequency (N)	Percentage (%)
1.	< 25 Years	18	18,39%
2.	25-30 Years	16	16,32%
3.	30-40 Years	29	29,55%
4.	40-50 Years	35	35,74%
Total		98	100%

Based on the table above, it can be seen that the respondents consisted of 18 traders aged <25 years or 18,39%, 16 traders aged 25-30 years or 16,32%, 29 traders aged 30-40 years or 29,55% and 35 traders aged 40-50 years or 35,74%.

Table 3. Respondent Characteristics Based on Sales Period

No.	Selling Period	Frequency (N)	Percentage (%)
1.	< 3 Years	23	23,47%
2.	3-5 Years	29	29,59%
3.	5-10 Years	33	33,67%
4.	10-15 Years	13	13,27%
Total		98	100%

Based on the table above, it can be seen that the respondents consisted of 23 people with a sales period of <3 years or 23,47%, 29 people with a sales period of 3-5 years or 29,59%, 33 people with a sales period of 5-10 years or 33,67% and 13 people with a sales period of 10-15 years or 13,27%.

Based on the results of research conducted on 98 respondents through questionnaire distribution, the score ranges shown in the table below will be used to determine the tendency of respondents' responses to each variable.

Table 4. Responses Regarding Digital Marketing (X)

Item No.	Score					Percentage				
	SA	A	SA	DA	SD	SA	A	SA	DA	SD
1.	48	40	10	0	0	49	40,8	10,2	0	0
2.	44	32	16	4	2	44,8	32,6	16,3	4	2
3.	36	40	12	9	1	36,7	40,8	12,2	9,1	1
4.	25	41	23	9	1	25,5	41,8	23,4	9,1	1
5.	27	44	17	7	3	27,5	44,8	17,3	7,1	3
Amount	180	197	78	29	7	183,5	200,8	79,4	29,3	7
Average	36	39,4	15,6	5,8	1,3	36,7	40,1	15,8	5,8	1,4

Based on the table above, the digital marketing variable (X) in this study was measured using five statements. The total response to digital marketing was 100%, indicating good results.

Table 5. Respondents' Responses Regarding Sales Results (Y)

Item No.	Score					Percentage				
	SA	A	SA	DA	SD	SA	A	SA	DA	SD

1.	24	34	17	17	6	24.4	34,6	17,3	17,3	6,1
2.	35	31	14	13	5	35.7	31,6	14,2	13,2	5,1
3.	36	41	15	5	1	36.7	41,8	15,3	5,1	1,0
4.	49	30	14	3	2	50	30,6	14,2	3,0	2,0
5.	41	30	20	5	2	41.8	30,6	20,4	5,1	2,0
Amount	185	166	80	43	16	188,6	169,2	81,4	43,7	16,2
Average	37	33,2	16	8,6	3,2	37,7	33,8	16,2	8,7	3,2

Based on the table above, it is known that the sales results variable (Y) in this study was measured using five statements. The response to sales results received a total of 100%, which is considered good.

2) Hypothesis Testing

a. Normality Test

A normality test is performed to determine whether the independent and dependent variables in a regression model have a normal distribution. To evaluate the normality of the data in the study, we examine the Normal P-Plot of the Standardized Residual Regression of the dependent variable. The normality test requires that if the data are distributed around the diagonal line and follow the direction of the line, then the regression model is considered to meet the normality assumption. Conversely, if the data deviate significantly from the diagonal line and/or do not follow the line, then the regression model does not meet the normality assumption.

b. Heteroscedasticity Test

The heteroscedasticity test aims to determine whether the residual variances of one observation differ from another in a regression model. If the variances differ, this indicates heteroscedasticity in the regression model, indicating a poor regression model.

The method used to measure heteroscedasticity is based on a scatterplot. If a specific pattern, such as dots or points, forms a regular pattern, heteroscedasticity is present. If there is no clear pattern and the dots or points are spread above and below zero on the Y-axis, heteroscedasticity is not present.

c. Simple Linear Regression Test

This study aims to analyze the impact of digital marketing on the sales outcomes of traditional retailers. Data analysis in this study used simple regression analysis. Simple linear regression analysis was used to determine the Influence of the independent variable (X) and the dependent variable (Y), where X is digital marketing and Y is sales results. The calculation was performed using SPSS version 22 as follows:

Table 6. Results of Simple Linear Regression Analysis

Table of Results of Simple Linear Regression Analysis				
Coefficients ^a				Standardized Coefficients
		Unstandardized Coefficients		
Model		B	Std. Error	Beta
1	(Constant)	7,069	2,179	
	Digital Marketing	,623	,107	,512

$Y = 7.069 + 0.622X$, indicating a positive relationship, where changes in variable X directly impact variable Y, moving in tandem. The Sales Results variable (Y) can be influenced by the Digital Marketing variable (X) through a linear regression analysis of 0.622.

d. t-test (Partial)

The t-test is applied to analyze the impact of independent variables on the dependent variable, both separately and as a whole. To validate the results of the regression calculations, hypotheses can be tested to determine the influence of the independent variables on the dependent variable.

Table 7. t-Test Results

Coefficients ^a				
Model	T	Sig.	Collinearity Statistics	
			Tolerance	VIF
(Constant)	3,244	,002		
<i>Digital Marketing</i>	5,842	,000	1,000	1,000

a. Dependent Variable: Sales Results

From table 7, it can be seen that the results of the Digital Marketing test through Social Networks show a calculated t value of 5,842 and a t table of 1,290 where the calculated t value > t table, so H1 rejects H0, which means that digital marketing through Social Networks has a positive and significant effect on the sales results of agricultural products in the traditional market "Pajak Horas" Pematangsiantar.

e. Test of coefficient of determination (R^2)

The coefficient of determination, or R^2 , ranges between zero and one. A value close to zero indicates a minimal model's ability to explain the dependent variable. Conversely, a value close to one indicates a stronger ability of the independent variable to influence the dependent variable. The following are the results of the coefficient of determination as conducted test using SPSS Version 22.

Table 8. Determination Test Results

Model Summary			
Model	R	R Square	Adjusted R Square
1	.512a	.262	.255
a. Predictors: (Constant), Digital Marketing			
b. Dependent Variable: Sales Results			

The coefficient of determination or r square value is 0.262, which means that variable X has a 26.2% ability to translate variable Y and the remaining 73.8% is influenced by other variables not examined in this study.

Conclusion

Based on the results of statistical testing, it is clearly evident that the independent variable, Digital Marketing (X), has a partial or individual influence on the dependent variable, Sales Results (Y). The effect of the independent variable is positive, meaning that the higher the influence of digital marketing, the higher the sales results achieved by traditional traders. The testing of research variables was conducted using questionnaires for each research variable. The validity test results indicate that all statement items for each variable are valid. The reliability test results also show that all valid statement items for each research variable are proven to be reliable. Since the questionnaire has been proven valid and reliable, it can be considered a dependable tool for measuring each research variable.

This finding is consistent with the research conducted by Ramadhan et al (2023), in Denpasar City, Bali, titled The Influence of Digital Marketing, Word of Mouth, and Service Quality on Purchasing Decisions. The results of the study show that there is a positive and significant

influence of Digital Marketing on Purchasing Decisions at PT. Pegadaian (Persero) Regional Office VII Denpasar. This means that the use of Digital Marketing can increase purchasing decisions. Likewise, Word of Mouth has a positive and significant influence on purchasing decisions at the same company, meaning that effective Word of Mouth can enhance purchasing decisions. Furthermore, there is a positive and significant influence of Service Quality on purchasing decisions, indicating that improving service quality can also increase purchasing decisions. Another study by Purba (2022), titled The Effect of Digital Marketing Systems on Increasing Sales Volume of Home Industry Products, states that members of the Family Welfare Movement (PKK) experienced increased customer orders after using social media. Moreover, communication became more effective and efficient because it allowed for direct and economical interaction. They were also able to expand their businesses due to the ability to engage in direct transactions, with payments being made via bank transfers. Social media served as the most effective promotional medium, enabling them to display and share images within communities and to the public. Information could be updated at any time, and most importantly, they experienced an average increase in sales volume of 100%.

Another relevant study was conducted by Andri Suseno, titled Analysis of the Influence of Digital Marketing, Brand Image, and Beauty Vloggers on Fashion Purchasing Decisions of Cressida among Pelita Bangsa University Students. The results showed a partial influence of the independent variables Digital Marketing (X1), Brand Image (X2), and Beauty Vloggers (X3) on the dependent variable, which is the Purchasing Decision of Cressida Fashion (Y).

The research aims to influence sales revenue for traditional traders in "Pajak Horas", Pematangsiantar. This research is expected to provide information and references for stakeholders related to digital marketing through social networks, particularly regarding agricultural sales revenue. It also serves as a new discourse for further innovation in marketing. It serves as a reference for consumers to obtain information on how digital marketing through social networks can influence consumer purchasing interest.

Acknowledgements

The author would like to express his deepest gratitude to the Ministry of Education, Culture, Research, and Technology (Kemdikbudristek), through the Directorate General of Higher Education, Research, and Technology, for the financial support provided for this research. This financial assistance significantly contributed to the smooth and successful implementation of the research activities and the preparation of this scientific article.

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