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Analysis of the Influence of Social Media Marketing on Purchase Decisions in Limited Market Pharmacies with Digital Literacy as a Moderating Variable

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Abstract: This study aims to analyze the influence of social media marketing on consumer purchase decisions in pharmacies operating in limited market areas, and to evaluate the moderating role of digital literacy. The research is motivated by stagnant sales performance at Laris Farma Pharmacy in Blitar Regency, despite its promising market potential. Social media marketing is proposed as an alternative strategy to reach a wider consumer base, with consideration of the varying levels of digital literacy among the local population. A quantitative approach with an explanatory research method was employed. Data were collected through an online questionnaire distributed to 100 consumers who had made purchases and were exposed to digital promotions. The analysis used Moderated Regression Analysis (MRA). The results indicate that social media marketing has a significant and positive effect on purchase decisions. Furthermore, digital literacy strengthens the relationship between social media marketing and consumer purchasing behavior. These findings suggest that the effectiveness of digital marketing strategies in limited markets is highly dependent on consumers' readiness to access and interpret digital information. This study offers practical implications for local businesses to integrate social media promotions with efforts to improve consumer digital literacy in order to foster sustainable business growth.

Keywords: Social Media Marketing, Purchase Decision, Digital Literacy, Limited Market Area, Pharmacy

INTRODUCTION

The pharmaceutical industry is a strategic sector in Indonesia's national development that has undergone significant transformation since the COVID-19 pandemic. Growing public health awareness has drastically increased demand for medicines, vitamins, and accessible healthcare services (Kementerian Kesehatan RI, 2021). In response, the government designated pharmaceuticals and medical devices as priority sectors in the *Making Indonesia 4.0* roadmap to accelerate digitalization in technology-based industries (Kementerian Perindustrian, 2022).

Consequently, many pharmacy owners have adopted information technology–based marketing approaches, particularly through social media marketing strategies.

Social media marketing refers to the process of building customer relationships through digital platforms such as Facebook, Instagram, and WhatsApp to enhance brand awareness and influence purchase decisions (Kim & Ko, 2012). Previous studies have confirmed its positive impact on purchasing decisions, particularly in retail and lifestyle sectors (Budhiartini & Yulianthini, 2021; Prayogo & Yoestini, 2022). However, most of these studies were conducted in urban areas with high digital penetration, leaving a research gap regarding its effectiveness in less digitally prepared communities.

Chaffey (2019) emphasizes that the success of digital marketing depends on the level of technological adoption, which is closely linked to digital literacy. Digital literacy—defined as the ability to understand and use information from digital sources (Gilster, 1997)—influences consumers' capacity to interpret promotional messages, perform online transactions, and evaluate information credibility. In regions with uneven digital literacy, social media marketing may not be as effective as in urban contexts, reflecting the digital divide (van Dijk, 2006).

This study addresses this gap by focusing on Apotek Laris Farma in Blitar Regency, a semi-urban area characterized by limited market reach and diverse levels of digital literacy. While digital platform usage is rising among younger consumers, many older residents continue to face barriers in accessing or utilizing digital platforms effectively. The unique challenge of this regional context necessitates the examination of a boundary condition that affects SMM success.

Based on this context, this research aims to analyze the influence of social media marketing on consumer purchase decisions at Apotek Laris Farma and to evaluate the role of digital literacy as a moderating variable that may affect the relationship between digital marketing strategies and consumer behavior. The findings are expected to provide a theoretical contribution to the development of contextual digital marketing models and offer practical recommendations for pharmacy businesses operating in regions with heterogeneous technological readiness.

METHOD

This study adopts a quantitative approach to examine the relationships among three key variables: social media marketing (independent variable), purchase decision (dependent variable), and digital literacy (moderating variable). Social media marketing was selected because it is widely used by pharmacies to reach broader consumers and has been shown to influence purchasing behavior through entertainment, customization, interaction, trendiness, and word of mouth (Kim & Ko, 2012). Purchase decision reflects the effectiveness of marketing activities and serves as a direct indicator of consumer behavioral response. Digital literacy functions as a moderating variable, as consumers' ability to access and interpret digital information may strengthen or weaken the influence of social media marketing on purchasing decisions.

The population comprises consumers who have purchased medicines or health products from Apotek Laris Farma, either directly or through digital-based transactions influenced by online promotions. To capture variations in digital literacy, respondents of different ages, occupations, and educational backgrounds were included. Following Hair et al. (2014), a minimum of 80 respondents was required based on the number of indicators, and 100 valid responses were targeted to ensure data reliability.

A purposive sampling technique was applied to select respondents who met the criteria of having made a purchase at Apotek Laris Farma and being exposed to its social media promotions. Data were collected online using a structured questionnaire distributed via Google Forms through digital communication channels such as WhatsApp. The questionnaire items were developed based on indicators of each research variable and measured using a five-point

Likert scale, ranging from "strongly disagree" to "strongly agree," to capture respondents' levels of agreement regarding statements representing social media marketing, purchase decisions, and digital literacy.

Data were analyzed using Moderated Regression Analysis (MRA) to test whether digital literacy strengthens or weakens the relationship between social media marketing and purchase decisions. This analytical method allows for the examination of interaction effects and the assessment of the moderating role of digital literacy within the proposed research model.

RESULTS AND DISCUSSION

Data were collected through questionnaires distributed to 100 respondents who met the research criteria. The analysis focused on examining the influence of social media marketing on purchase decisions, with digital literacy as a moderating variable. Results are presented systematically through descriptions of respondent characteristics, instrument validity and reliability tests, classical assumption tests, and hypothesis testing, to provide an empirical overview of the relationships among the studied variables.

Table 1. Respondent Characteristic

Characteristic		Frequency	Percentage
Residence	Blitar Regency	71	71%
	Blitar City	16	16%
	Other Cities/Regencies	13	13%
Gender	Male	37	37%
	Female	63	63%
Age	17–24 years old	16	16%
	25–34 years old	26	26%
	35–49 years old	24	24%
	50–64 years old	26	26%
	65 years old and above	8	8%
Pekerjaan	Student	5	5%
	Farmer	28	28%
	Civil Servant	20	20%
	Private Employee	7	7%
	Entrepreneur	40	40%

Source: Processed data using IBM SPSS Statistics version 30, 2025

Based on Table 1, the majority of respondents reside in Blitar Regency (71%), while the remaining respondents are distributed across Blitar City (16%) and other regions (13%). In terms of gender, most respondents are female (63%), whereas male respondents account for 37%. Regarding age, the largest groups fall within the 25–34 years and 50–64 years ranges, each comprising 26% of the sample, followed by respondents aged 35–49 years (24%), 17–24 years (16%), and over 65 years (8%). From the perspective of occupation, the respondents are predominantly entrepreneurs (40%), followed by farmers (28%), civil servants (20%), private employees (7%), and students (5%). These findings indicate that the respondent characteristics are diverse but are generally dominated by productive-age females whose main occupation is entrepreneurship.

Validity Test Results

Table 2. Validity Test Results

Variable	Number of Items	*Pearson Correlation*	Sig.
Social Media Marketing (SMM)	10	0,606 – 0,840	0,000
Purchase Decision (PD)	4	0,665 – 0,792	0,000
Digital Literacy (DL)	4	0,754 – 0,858	0,000

Source: Processed data using IBM SPSS Statistics version 30, 2025

The validity test for the social media marketing questionnaire was conducted on 30 respondents using the Corrected Item-to-Total Correlation method. Each item score was correlated with the total score and corrected for potential overestimation of correlation coefficients. Based on the results, all items under the variables Social Media Marketing (SMM), Purchase Decision (PD), and Digital Literacy (DL) have correlation coefficients greater than the critical *r* value (0.165) and significance levels below 0.05. Therefore, all indicators are considered valid and suitable for further analysis.

Reliability Test Results

Table 3. Reliability Test Results

Variable	*Cronbach's Alpha*	Jumlah Item
Social Media Marketing (X1)	0,915	10
Purchase Decision (Y)	0,703	4
Digital Literacy (M)	0,760	4

Source: Processed data using IBM SPSS Statistics version 30, 2025

Reliability testing was assessed using Cronbach's Alpha, where values greater than 0.60 indicate acceptable reliability (Ghozali, 2016). As shown in Table 6, all variables exhibit Cronbach's Alpha values exceeding 0.60, implying that the research instrument is reliable. The Social Media Marketing variable demonstrates very high reliability (0.915), while the Purchase Decision and Digital Literacy variables also meet the reliability threshold, with alpha values of 0.703 and 0.760, respectively. These results indicate that all questionnaire items are consistent in measuring their intended constructs.

Classical Assumption Test Results

Table 4. Classical Assumption Tests

Type of Test	Result
Normality (Kolmogorov-Smirnov)	Sig. 0,200 > 0,05
Multicollinearity (Tolerance & VIF)	Tolerance SMM dan DL = 0,291(>0,10) VIF SMM dan DL = 3,433 (<10,0)
Heteroscedasticity	Sig. variabel SMM = 0,530 Sig. Variabel DL = 0,371

Source: Processed data using IBM SPSS Statistics version 30, 2025

The results indicate that the regression model satisfies the assumption of normality, as the Kolmogorov–Smirnov significance value exceeds 0.05. The multicollinearity test shows tolerance values close to the lower limit and acceptable VIF values (<10), indicating no multicollinearity issues. The heteroscedasticity test results reveal significance levels above 0.05, confirming the absence of heteroscedasticity symptoms. Hence, the regression model meets the classical assumptions and is deemed appropriate for hypothesis testing.

Coefficient of Determination

Table 5. Coefficient of Determination

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.937[a]	.878	.876	.84879

a. Predictors: (Constant), SMMXDL, TotalSMM

Source: Processed data using IBM SPSS Statistics version 30, 2025

The *R Square* value of 0.878 indicates that 87.8% of the variation in purchase decisions can be explained by social media marketing and its interaction with digital literacy. The remaining 12.2% is influenced by other variables not included in this model.

Hypothesis Test Results

This section presents the results of hypothesis testing based on the proposed research model. The study examined two main hypotheses:

H1 : Social Media Marketing has a positive effect on Purchase Decision.

H2 : Digital Literacy moderates the relationship between Social Media Marketing and Purchase Decision.

The hypotheses are developed from relevant theoretical and empirical studies, as illustrated in the research model (Figure 1).

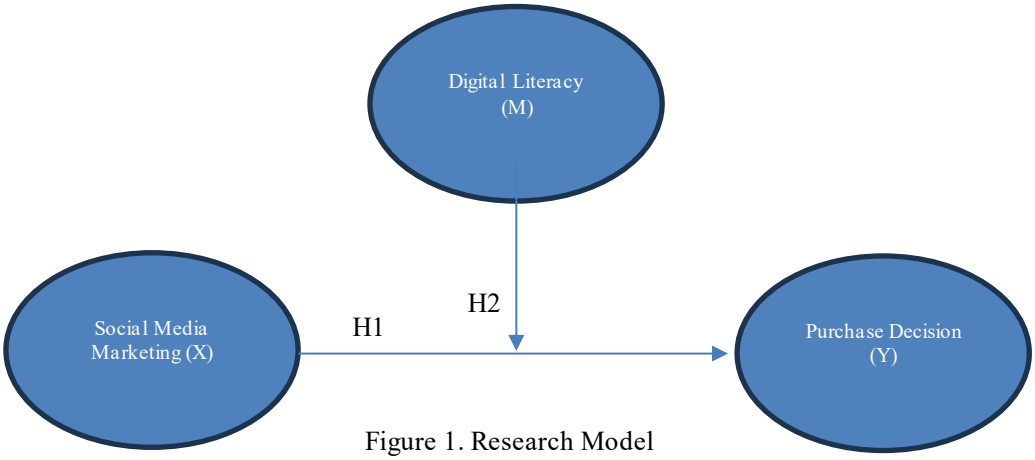


Figure 1. Research Model
Source: Researcher (2025)

Table 6. Hypothesis Testing Results

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.175	.866		3.666	.000
	TotalSMM	.252	.043	.636	5.890	.000
	SMMXDL	.004	.001	.312	2.892	.005

a. Dependent Variable: TotalPD

Source: Processed data using IBM SPSS Statistics version 30, 2025

The results of the moderated regression analysis (MRA) are expressed by the following equation:

$$Y = 3.175 + 0.252X + 0.004(X \times M)$$

The regression results show that Social Media Marketing (X) has a positive and significant effect on Purchase Decision (Y), with a regression coefficient of 0.252, t value of 5.890, and significance level of 0.000 (<0.05). This implies that the better the implementation of social media marketing, the higher the likelihood of consumer purchase decisions. Therefore, H1 is accepted.

Additionally, the interaction term SMM × Digital Literacy (X × M) also exerts a positive and significant effect on purchase decisions, with a coefficient of 0.004, t value of 2.892, and significance level of 0.005 (<0.05). This result confirms that digital literacy acts as a moderating variable, strengthening the relationship between social media marketing and purchase decisions. Therefore, H2 is accepted.

Discussion

In limited market areas such as Blitar Regency, the effectiveness of social media marketing faces distinct challenges due to the unique demographic and technological characteristics of the region. The limited market is characterized by a smaller consumer base, less diverse segments, and uneven digital adoption. Despite these constraints, the study demonstrates that social media marketing positively influences purchase decisions, indicating its potential even in semi-urban settings. Social media platforms serve not only as promotional tools but also as interactive spaces that enhance consumer trust and engagement with pharmacies. These findings align with prior studies (Alenazi et al., 2025; Felix et al., 2017; Syarif et al., 2025), emphasizing the strategic role of social media in improving business performance within the pharmaceutical retail sector.

Moreover, the study identifies digital literacy as a moderating variable that strengthens the relationship between social media marketing and purchase decisions. Consumers with higher digital literacy are more capable of interpreting, evaluating, and responding to digital marketing messages, thereby exhibiting stronger purchasing intentions. This result is consistent with findings from Israr et al. (2024), Kumar (2024), Dewi (2023), and Sianipar and Djamaluddin (2023), which highlight that digital literacy enhances consumers' confidence, comprehension, and trust in online transactions. Hence, digital literacy acts as a key factor bridging the effectiveness of social media marketing and consumer purchasing behavior.

The novelty of this research lies in positioning digital literacy as a moderating variable rather than an independent or mediating factor, thereby extending the theoretical understanding of consumer behavior in digital marketing within the pharmaceutical industry. Theoretically, these findings contribute to the literature by underlining the interaction between marketing communication strategies and consumer literacy levels in explaining purchasing behavior.

Practically, pharmacies operating in limited markets should optimize social media strategies by providing educational, relevant, and interactive content, while simultaneously promoting digital literacy through accessible online health education and simple digital engagement programs. Effective channels include commonly used platforms such as WhatsApp and local Facebook groups, supported by "phygital" initiatives like QR codes on receipts, posters at community health centers, and collaborations with trusted local figures. These actions can enhance marketing effectiveness and foster sustainable consumer engagement across varying levels of digital readiness.

CONCLUSION

The study concludes that social media marketing has a positive and significant effect on purchase decisions, indicating that digital marketing strategies through social media are effective in influencing consumer purchasing behavior. Furthermore, digital literacy was found to moderate this relationship, strengthening the impact of social media marketing on purchase decisions. This implies that even in limited or semi-urban markets, social media marketing can remain effective as long as consumers possess sufficient digital literacy to access, evaluate, and respond to promotional information.

Practically, these findings provide valuable insights for Apotek Laris Farma in Blitar Regency to optimize its digital marketing strategies to increase sales. However, this study is limited by its relatively small sample size and focus on digital literacy as the sole moderating variable. Future research is recommended to expand the research scope, include additional factors such as consumer trust, information quality, or brand image, and adopt a longitudinal approach to provide a more comprehensive understanding of consumer behavior in digital marketing contexts.

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