

Leveraging Digital and Semiotic Strategies to Enhance Consumer Decisions on Agricultural MSME Products

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Abstract: This study aims to analyze the influence of digital transformation and marketing strategies on the purchase decisions of products from micro, small, and medium enterprises (MSMEs). Independent variables examined include e-service quality, social media promotion, online payment systems, product quality, and semiotics. A quantitative approach was used with multiple linear regression analysis on data collected via questionnaires. The results show that e-service quality, online payment systems, and semiotics significantly influence agricultural MSME product purchase decisions. Meanwhile, social media promotion and product quality do not show a significant effect. These findings indicate that agricultural MSME product consumers are more influenced by efficient digital experiences, ease in payment systems, and the visual and symbolic elements of products. The insignificance of social media promotion may be due to the still-dominant role of word-of-mouth, while product quality may be assumed to be inherent in the perceived authenticity and trust in local MSMEs. These findings underscore the importance of digital efficiency and visual communication in building emotional consumer experiences. MSMEs need to strengthen their digital service systems, enhance symbolic strategies through semiotics, and obtain policy support for training, mentoring, and brand development in order to remain competitive in the dynamic digital economy era.

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INTRODUCTION

In recent years, the acceleration of digital transformation has become a national strategic agenda aimed at strengthening the competitiveness of micro, small, and medium enterprises (MSMEs) amid economic disruption and shifting consumer behavior. Digitalization is considered a key solution for MSMEs to survive and grow, particularly in the post-pandemic era, which has rapidly shifted shopping activities into the online domain. However, not all MSMEs have been able to fully leverage digital transformation to convert digital presence into actual sales. Many small business owners face a dilemma: despite adopting digital platforms, they have not seen a significant increase in consumer purchase decisions. This indicates a gap between technological adoption and a deeper understanding of the strategic factors that truly influence consumer behavior in a digital context.

This situation highlights the importance of research that goes beyond the technical aspects of digital transformation and instead links it to a comprehensive consumer behavior approach—including the roles of visual communication, product quality, and symbolic marketing strategies that shape consumer perception. This study is particularly relevant due to the limited existing literature that integrates variables such as e-service quality, social media promotion, online payment systems, product quality, and semiotics into a single analytical framework to explain MSME product purchase decisions. Considering that today's digital consumers are both rational and emotional, this research aims to fill a literature gap and offer practical contributions for formulating more effective and sustainable digital marketing strategies for MSMEs.

In a continuously evolving digital economy, many MSMEs still struggle to identify the key factors that truly influence consumer purchasing decisions. As such, the ability to adopt and optimize digital tools becomes increasingly crucial for their survival and growth. Digital transformation has become a crucial pillar in supporting the competitiveness of MSMEs in Indonesia. According to the Ministry of Cooperatives and MSMEs of the Republic of Indonesia, as of March 2024, 22.9 million MSMEs have entered the digital ecosystem—approximately 76.3% of the government's target of 30 million digitally-enabled MSMEs by 2024 (KemenkopUKM, 2024)—indicating a significant gap in the digitalization process, particularly in aspects such as e-service quality, online payment systems, and digital-platform promotion (Hafeez et al., 2025). This transformation contributes significantly to changing consumer behavior, where speed, convenience, and accessibility are prioritized (Skare et al., 2023).

Nevertheless, digital adoption must be complemented by other strategic elements to ensure its actual impact on consumer behavior, as in an increasingly saturated digital market, emotional and symbolic aspects have become key in building trust and creating a sense of closeness between consumers and products. (Silva et al., 2025). Previous research found that product quality and strong branding significantly influence purchase decisions of MSME products on digital platforms (Firmansyah and Susanto, 2021). Consistent product quality enhances consumer trust, while a positive brand image fosters long-term loyalty. For local brands, reinforcing cultural identity and emotional values becomes a key differentiator in a homogeneous digital marketplace.

Social media promotion also plays a critical role in driving purchase decisions. According to the We Are Social & Meltwater report (2024), there are over 139 million active social media users in Indonesia, and 79.4% of them have made purchases after seeing products online. This is supported by Indriani et al. (2022), who found that the intensity of MSME promotion on Instagram and TikTok significantly increased consumer purchase interest. This demonstrates that social media serves not only as a communication tool but also as a highly strategic marketing channel for MSMEs (Wu et al., 2024).

The purchase decision results from consumers evaluating various rational and emotional factors. Schiffman and Kanuk (2020) describe this process as five stages: need recognition, information search, alternative evaluation, purchase decision, and post-purchase behavior. Factors like service quality, brand image, and symbolic value affect these stages. In the digital era, purchase decisions are more complex due to the overwhelming number of options and information. Lestari et al. (2022) found that integrating good digital services with engaging promotional content shortens the decision-making process. Consumers are likely to make impulsive decisions if they feel confident, comfortable, and emotionally connected to brand values.

Purchase decisions are also heavily influenced by digital reviews and recommendations. MSMEs with a strong positive digital footprint are more readily trusted and chosen by new consumers. Therefore, online reputation is a critical factor in influencing purchase decisions. Purchase decisions not only occur once but also open opportunities for repeat purchases and brand advocacy. Thus, all MSME strategies—from digital services and product quality to symbolic approaches—must be aimed at creating meaningful and memorable consumer experiences (Valdez-Juarez et al., 2025).

Furthermore, the semiotic approach in marketing has been shown to strengthen brand image and influence consumer perceptions of products. Novitasari and Prabowo (2023) found that visual elements such as colors, symbols, and consistent slogans can create specific meaning associations in consumers' minds. This is important for MSMEs seeking to differentiate their products amid a flood of digital information (Wang and Zhang, 2025). By integrating digital transformation strategies with a semiotic approach, MSMEs can not only increase visibility but also build emotional engagement that drives stronger purchase decisions (Maycotte et al., 2025).

METHOD

Research Design

This study employs a quantitative approach, aiming to measure and analyze the influence of various independent variables—e-service quality, social media promotion, online payment system, product quality, and semiotics—on the dependent variable: MSME product purchase decision. The research is causal associative, designed to examine cause-and-effect relationships among two or more variables. The research model employed in this study is based on the Consumer Behavior Model by Kotler & Keller (2021) and the Technology Acceptance Model (TAM) developed by Davis (1989). Operationally, the consumer behavior model is used to understand how the purchase decision process for MSME products is formed—from initial awareness of the product to the final decision to purchase. This model explains that purchase decisions are influenced by marketing stimuli such as social media promotion and product quality, as well as by psychological and social factors including perception, attitude, motivation, and emotional responses, particularly the symbolic meanings constructed through semiotics.

Meanwhile, TAM is applied to analyze how consumers accept and use digital technologies during the purchasing process. Its two core components—perceived usefulness and perceived ease of use—are operationalized in this study through the variables of e-service quality and online payment systems, representing consumers' perceptions of digital service quality and transaction convenience in MSMEs.

By integrating these two models, this study seeks to comprehensively capture the dynamics of consumer behavior—both from the perspective of digital technology acceptance (through e-service quality and online payment systems), and from the marketing and communication aspects that shape consumers' emotional and symbolic perceptions (through promotion, product quality, and semiotics).

The sequence of research stages applied in this study is presented structurally in Figure 1 to provide a clear overview of the methodological framework.

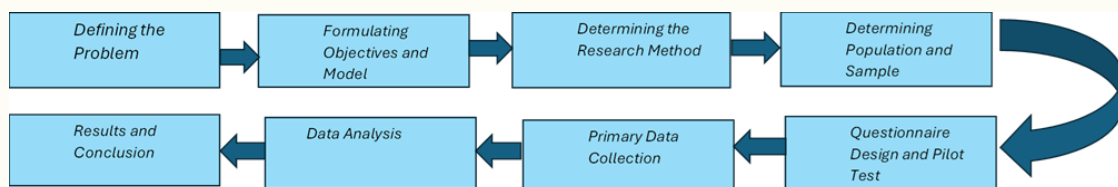


Figure 1. Methodological Framework

Population and Sample

The population consists of all consumers in Indonesia who have purchased MSME products through digital platforms (e.g., marketplaces, social media, or official websites). Since the exact population size is unknown, the study uses non-probability purposive sampling. Inclusion criteria

were: consumers who have made at least one online MSME purchase, are at least 17 years old, and active digital users. The sample size was determined using Slovin's formula with a 5% margin of error, or the standard of 5–10 respondents per independent variable for multiple regression. With five independent variables, the minimum required is $5 \times 10 = 50$ respondents. In this study, 257 respondents were surveyed, exceeding the minimum requirement.

Questionnaire Development and Pilot Testing

The questionnaire in this study was developed by referring to indicators previously used in relevant theoretical and empirical research, with contextual adjustments to suit the characteristics of MSMEs in the digital era. Each variable—namely e-service quality, social media promotion, online payment systems, product quality, semiotics, and purchase decision—was operationalized into a set of items based on conceptual definitions and validated indicators from prior studies. This approach was intended to ensure that the instrument aligned with the theoretical framework and accurately captured the intended dimensions.

The questionnaire used a five-point Likert scale, ranging from "strongly disagree" to "strongly agree," to facilitate quantitative measurement of respondents' perceptions.

Before being deployed in the main study, the questionnaire was pilot-tested with a group of respondents through validity and reliability procedures. The **validity test** was conducted to measure the extent to which each questionnaire item represented the theoretical construct being assessed. Validity was tested using the Pearson Product Moment correlation, with an item considered valid if the significance value (p-value) was less than 0.05 and the correlation coefficient was positive. Meanwhile, the **reliability test** aimed to assess the internal consistency among items within each variable, using **Cronbach's Alpha**. A variable was deemed reliable if its Cronbach's Alpha value exceeded 0.7.

Data Collection Technique

Data were collected via an online questionnaire (Google Form), distributed through social media. Purposive sampling ensured only respondents meeting the criteria could participate. A pre-test was conducted with 30 respondents to ensure clarity of the questions and reliability of the instrument before wide distribution.

Research Instrument

The instrument is a closed-ended questionnaire using a 5-point Likert scale, tested for validity (Pearson correlation) and reliability (Cronbach's Alpha). It covers several indicators per variable:

Table 1. Indicator Table

Variable	Indicators
E-Service Quality (X1)	efficiency, reliability, security, convenience (Zeithaml et al., 2002)
Social Media Promotion (X2)	promotion frequency, content appeal, interaction, accessibility (Indriani, 2022)
Online Payment System (X3)	ease, speed, security, payment options (Handayani et al., 2021)
Product Quality (X4)	durability, functionality, uniqueness, expectation conformity (Kotler & Keller, 2021)
Semiotics (X5)	visual elements, symbols, colors, emotional impression (Novitasari and Prabowo, 2023)
Purchase Decision (Y)	purchase intention, post-purchase satisfaction, repeat purchase, recommendation (Schiffman & Kanuk, 2020)

Data Analysis Techniques

Data analysis was conducted using multiple linear regression to determine both simultaneous and partial effects of independent variables on the dependent variable. The analysis included:

1. Validity and reliability testing of the instrument

2. Classical assumption tests
3. Multiple linear regression analysis
4. Coefficient of determination (R^2)

RESULTS AND DISCUSSIONS

Validity and Reliability

All questionnaire items were deemed valid, with significance values $p < 0.05$ and correlation coefficients exceeding 0.195 (the critical value), confirming their suitability for the study. Questionnaire reliability was also strong, as all variables had Cronbach's Alpha values > 0.60 , indicating high internal consistency.

The classical assumption tests also showed that the data meet the necessary criteria:

- **Normal distribution:** Kolmogorov–Smirnov test results indicate $p > 0.05$, meaning the data distribution is normal.
- **No multicollinearity:** Variance Inflation Factor (VIF) values are < 10 and Tolerance values are > 0.10 , indicating no multicollinearity issues.
- **No heteroskedasticity:** Glejser test results show $p > 0.05$, indicating the absence of heteroskedasticity.

Therefore, the data meet the requirements for conducting multiple linear regression analysis. Subsequently, a multiple linear regression analysis was performed to determine the extent to which the independent variables influence the dependent variable, as presented in Table 2.

Table 2. Partial Test Result

Model	Coefficients ^a				
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1	(Constant)	9.720	1.187	8.186	.001
	E-Service Quality	.120	.059	.146	.042
	Social Media Promotion	-.128	.081	-.145	.116
	Online Payment System	.229	.063	.274	.001
	Product Quality	.058	.096	.049	.549
	Semiotics	.159	.069	.229	.005

a. Dependent Variable: Purchase Decision for MSME Product

Based on the results in Table 1, the t-values and significance levels reveal that **e-service quality**, **online payment systems**, and **semiotics** exert a statistically significant influence on the **purchase decision for MSME products**, whereas **social media promotion** and **product quality** do not show a significant effect. Table 1 also presents the regression equation, derived from the unstandardized coefficients (B values), as follows:

Purchase Decision for MSME Products (Y)

$$= 9.720 + 0.120 (\text{E-Service Quality}) - 0.128 (\text{Social Media Promotion}) + 0.229 (\text{Online Payment System}) + 0.058 (\text{Product Quality}) + 0.159 (\text{Semiotics})$$

Interpreting these coefficients:

- A one-unit increase in e-service quality is associated with a 0.120-unit increase in purchase decision, holding other variables constant.
- Social media promotion, though negatively signed (-0.128), is not statistically significant and therefore not inferred to have a systematic effect.
- A one-unit increase in online payment system corresponds to a 0.229 emerges as the most dominant predictor, exerting the strongest positive influence relative to other variables.

- A one-unit increase in product quality predicts a 0.058-unit increase in purchase decision (non-significant).
- Semiotics, with a coefficient of 0.159-unit increase in purchase decision.

These findings indicate that improvements in e-service quality, online payment systems, and semiotic elements are associated with enhanced consumer purchase decisions for MSME products. The simultaneous test results are further detailed in Table 3.

Table 3. Simultaneous Test Result

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	102.266	5	20.453	11.646	.001 ^b
	Residual	440.824	251	1.756		
	Total	543.089	256			

a. Dependent Variable: Purchase Decision of MSME Products

b. Predictors: (Constant), Semiotics, Online Payment System, E-Service Quality, Product Quality, Social Media Promotion

Simultaneously, the five independent variables—e-service quality, social media promotion, online payment system, product quality, and semiotics—exert a statistically significant collective influence on the purchase decision of MSME products. This demonstrates that the decision to purchase MSME products is strongly influenced by the combined integration of digital transformation and semiotic elements.

After establishing that e-service quality, online payment system, and semiotics significantly affect purchase decisions—while social media promotion and product quality do not—the strength of these variables' effects was assessed. The coefficient of determination (R^2) was used to evaluate how much of the variance in the dependent variable (purchase decision) could be explained by the independent variables (e-service quality, social media promotion, online payment system, product quality, and semiotics), as presented in Table 4.

Table 4. Determinant Test Result

Model Summary ^b				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.434 ^a	.188	.172	1.325

a. Predictors: (Constant), Semiotics, Online Payment System, E-Service Quality, Product Quality, Social Media Promotion

b. Dependent Variable: Purchase Decision of MSME Products

The coefficient of determination is 18.8%, indicating that only a small portion of the variation in purchase decisions for MSME products can be explained by the variables e-service quality, social media promotion, online payment system, product quality, and semiotics. This result suggests that many other variables may influence consumers' decisions to purchase agricultural MSME products.

Discussion

The Influence of E-Service Quality on Purchase Decisions of Agricultural MSME Products

E-service quality has been shown to significantly influence the purchase decision of MSME products. In today's digital era, consumers increasingly rely on convenience and ease when shopping online. Fast, accurate, and responsive service systems are crucial in creating consumer satisfaction. As Pradana et al. (2021) emphasize, an efficient shopping experience encourages consumers to complete transactions. Easy navigation of websites or apps, along with clear product information, instills

consumer confidence (Panchal et al., 2024). When customers face no obstacles in browsing and ordering, trust in the seller increases, accelerating and solidifying purchase decisions.

Reliability is equally critical. Consumers trust platforms that consistently meet expectations—for example, timely delivery, automatic confirmations, and order status updates, all of which demonstrate MSME professionalism in managing digital operations. Security in digital services is essential for building trust. Implementing encryption systems, security certifications, or secure payment methods reassures customers regarding the protection of personal data, thereby supporting their comfort in transacting online. Flexibility in service also enhances user experience. MSMEs offering various service options—such as live chat, WhatsApp integration, or product consultation—are preferred by consumers for being adaptable and communicative.

Digital service quality, or e-service quality, is a key component of successful customer interactions in the digital era. Zeithaml et al. (2002) define e-service quality as encompassing efficiency, reliability, privacy, and responsiveness. In the MSME context, e-service quality becomes a crucial differentiator that influences whether customers feel comfortable and satisfied throughout the online product search to purchase process. Numerous studies have found that digital service quality is directly correlated with purchase decisions. According to Pradana et al. (2021), customers tend to complete transactions if the platform provides easy navigation, an appealing interface, and a seamless checkout process (Panchal et al., 2024). This is especially important for MSMEs that often use third-party marketplaces like Shopee or Tokopedia.

Personalized technology-based services, such as recommendation systems or order history, further improve consumer comfort and satisfaction. Customers feel understood and valued when systems suggest products relevant to their shopping habits. Quality service plays a vital role in fostering customer loyalty. Satisfied consumers not only make repeat purchases but are also likely to recommend products to others, creating a positive viral effect for MSMEs. Thus, e-service quality forms the foundational basis for building long-term relationships between MSMEs and digital consumers. MSMEs that optimize this aspect will gain a competitive edge in the digital transformation era (Muhammad et al., 2025).

E-service quality also reflects the professionalism and credibility of a digital business. When customer service teams can respond quickly to queries via chat or email, consumers feel more secure and confident in their chosen products. Rachman & Suharto (2022) found that fast response times and accurate digital service information significantly impact consumers' decisions to complete purchases. System reliability—especially during technical glitches—serves as a benchmark of digital service quality. MSMEs that deliver consistent, disruption-free customer experiences can more easily build customer loyalty. Therefore, optimizing e-services should be a primary focus in MSME digital transformation strategies (Muhammad et al., 2025).

The Influence of Social Media Promotion on Purchase Decisions of Agricultural MSME Products

The study found that social media promotion does not significantly influence the purchase decision of agricultural MSME products. This finding is intriguing, as it contradicts much of the literature that identifies social media as an effective channel for influencing digital consumers. One possible explanation is that consumers trust personal interactions—such as recommendations from friends or family—more than direct advertisements or promotional content from businesses. MSME consumers tend to develop more personal and local relationships; thus, informal channels like word of mouth hold more influence. Endorsements from prior customers, direct testimonials, or personal experiences from traditional markets may be seen as more trustworthy than social media promotions, which might be perceived as biased marketing efforts.

Moreover, the effectiveness of digital promotion heavily depends on content quality, frequency, and interaction between businesses and followers. Many MSMEs lack strong content strategies or the dedicated resources needed to manage social media professionally and consistently, making their promotions less effective or failing to reach the intended audience. Social media algorithms that limit content visibility further compound this challenge: without paid advertising or optimization strategies,

MSME posts risk being buried in the information flow. These factors may explain why social media promotion appears to have no significant impact in this study.

Promotion via social media is a highly effective digital marketing strategy for reaching consumers both broadly and personally. Platforms like Instagram, TikTok, and Facebook allow MSMEs to convey marketing messages through images, videos, and direct interaction (Gunawan et al., 2024). Engaging and informative promotional content drives consumer interest in exploring products further (Retnawati et al., 2024). Indriani et al. (2022) state that visual elements and storytelling on social media foster emotional connections with consumers, making them feel closer to the brand and its products. This is vital for MSMEs seeking to stand out in a crowded competitive environment (Jia et al., 2024).

However, social media shouldn't be disregarded entirely. It still functions as a tool for building awareness and brand identity. Over the long term, a consistent and authentic digital presence can strengthen customer relationships and broaden communication channels, especially among younger consumers. Social media also serves as a platform for customer service and feedback. Comments, reviews, and direct messages facilitate communication between MSMEs and consumers, enabling clarification about products, making offers, or resolving complaints (Jia et al., 2024). Although these interactions do not directly influence purchases, they can enhance consumer loyalty.

Social media also serves as a reputation-building tool. Customer reviews, testimonials, and two-way interactions create an environment that reinforces consumer trust. Wahyuni & Nugroho (2023) showed that high engagement rates on social media correlate positively with increased purchase decisions. Effective social media promotion does more than showcase products—it also introduces brand values, product backstories, and the uniqueness of the MSME. Thus, using social media strategically and consistently is essential to support consumer decision-making (Zahoor et al., 2023).

These findings indicate that community- or socially based marketing approaches—such as local events, customer testimonials, and partnerships with local figures—remain stronger influences on purchase decisions than social media promotion alone. MSMEs should therefore balance digital strategies with traditional personal approaches. Even though social media promotion may not show a statistically significant effect, MSMEs are recommended to continually enhance their social media management skills—particularly in delivering relevant messaging, compelling visuals, and narratives that emphasize authenticity and local product value (Zahoor et al., 2023).

The Influence of Online Payment Systems on Purchase Decisions of Agricultural MSME Products

This study shows that the availability and quality of online payment systems positively influence agricultural MSME product purchase decisions. Handayani et al. (2021) support this finding, highlighting that consumers are more inclined to transact when the payment system is fast, easy, and secure. Modern consumers expect flexibility in payment methods. Options such as e-wallets (ShopeePay, OVO, DANA), auto bank transfers, and QRIS offer convenience tailored to individual preferences, reducing checkout friction and increasing conversion rates.

Online payment systems are a crucial element in supporting consumer comfort and trust in digital shopping. Payment methods have rapidly evolved from bank transfers to e-wallets like OVO, GoPay, and QRIS. These systems are practical, fast, and support a seamless shopping experience—especially for MSMEs utilizing digital platforms. Handayani et al. (2021) reported that the availability of varied digital payment options can increase consumer purchase intention. MSMEs that offer flexible payment options demonstrate their commitment to adapting to consumer needs (Dutta and Kumar, 2024). Moreover, secure payment systems are important trust indicators.

Transaction speed is viewed as a marker of professionalism. Instant verification and clear notifications create a positive experience, whereas delays in payment confirmation can generate doubt or lead to order cancellations. Security is another dominant factor: consumers avoid risks like data theft or fraud, preferring MSMEs that use trusted payment platforms or third-party certifications, which reinforce trust. Integration between payment systems and sales platforms enhances convenience—for example, marketplaces that present payment options and store transaction histories simplify customer management (Dutta and Kumar, 2024).

Payment security is a deciding factor for consumers concerned about digital risks (Tajuddin et al, 2024). If they doubt data protection or fear fraud, they may abort the transaction. Hence, using systems with strong encryption or partnerships with trusted third parties is vital for MSMEs. Equally important is integrating fast, glitch-free payment systems (e.g., avoiding delays in payment confirmations), which creates consumer satisfaction (Secka and Szopik-Depczynska, 2024). When payments are efficient, purchase decisions are smoother and more likely to be repeated.

In addition, the availability of refund features or transaction guarantees boosts consumer confidence. MSMEs that offer fair return policies are seen as more professional and responsible. Adopting the latest payment technologies also reflects adaptability; consumers appreciate businesses that embrace innovation, including in digital payments (Secka and Szopik-Depczynska, 2024). Ultimately, fast, secure, and convenient payment systems not only facilitate transactions but also create a positive, repeatable experience, which influences loyalty and potential repurchase.

The Influence of Product Quality on Purchase Decisions of Agricultural MSME Products

This study found that product quality does not significantly influence the agricultural MSME product purchase decision. This appears to contradict classical marketing theory, which positions quality as a primary decision criterion. However, in the MSME context, another factor may explain this finding: consumer trust in local product quality is already high. MSME products are often associated with natural ingredients, handmade production, and preservative-free formulation. This perception has become deeply ingrained, making product quality a non-negotiable assumption for consumers. Future studies may further explore this issue by comparing consumer responses to new versus established MSME brands, or by categorizing products based on type. They purchase with the belief that MSME food products, in particular, are authentic, fresh, and made traditionally.

Product quality is the foundational driver of purchase decisions. Consumers seek not only visually appealing products but also functional advantages and durability. Kotler & Keller (2016) define product quality as the ability of a product to perform its promised function. MSMEs that consistently maintain product quality earn market trust. Firmansyah and Susanto (2021) showed that product quality significantly affects consumer loyalty, ultimately supporting repeat purchases. Quality, therefore, influences both initial purchase and long-term customer relationships.

The perception of quality is also shaped by product packaging and presentation. For example, food MSMEs that ensure clean packaging and aesthetic presentation often receive positive reviews. Product quality also underpins long-term reputation. Furthermore, perceptions of quality are influenced by consumer testimonials, whether word-of-mouth or digital reviews. Therefore, maintaining quality is both a production responsibility and a strong marketing strategy (Kraus et al., 2023).

Moreover, purchase decisions for MSME products are often driven by emotional factors, such as childhood memories, emotional closeness, or a desire to support local businesses. In this context, emotional and social considerations may outweigh rational assessments of product quality. This suggests that symbolic and affective dimensions play a more significant role in MSME purchases. Perceived quality may be considered a given—especially for well-known or previously experienced products. Loyal consumers may no longer scrutinize quality, trusting the product and its producer implicitly.

However, it is important to note that product quality remains the foundation of business sustainability (Avelar et al., 2024). Trusted consumers will remain only if quality is maintained. Thus, even though product quality may not directly influence the initial purchase decision, it plays a pivotal role in repeat purchases and loyalty formation.

The insignificance of product quality may also relate to the specific types of MSME products examined. If most products are food or handicrafts, consumers may focus more on visual appeal, product story, or recommendations from close connections rather than technical quality attributes such as durability or material composition. In digital marketing, product quality is not always easily communicated visually—product images may not fully convey taste, aroma, or texture, particularly for

food products. Therefore, although product quality does not directly affect purchase decisions in this study, MSMEs should not neglect it. Quality remains essential for long-term reputation and trust, which are crucial for business sustainability (Kraus et al., 2023).

The Influence of Semiotics on Purchase Decisions of Agricultural MSME Products

In the context of agricultural MSME marketing, semiotics encompasses visual symbols, colors, language style, and design elements used to communicate specific messages. This study's findings show that semiotic elements significantly influence consumer perception and purchase decisions. This is reinforced by Novitasari & Prabowo (2023), who highlighted the importance of visual branding in capturing consumer attention. MSME product packaging, for example, is not merely a physical protector but also a communication medium. Colors, typography, and illustrations convey quality, target segment, and brand values. Consumers tend to associate certain visuals with perceptions of premium, traditional, or modern offerings.

In marketing, semiotics refers to the use of symbols, signs, and visual elements to convey meanings associated with a product or brand. Semiotics allows products to convey messages beyond their utilitarian function through visual, verbal, and contextual signs perceived by consumers. In MSMEs, semiotic use often appears in packaging design, logos, and product storytelling. Novitasari and Prabowo (2023) demonstrated that symbolic elements such as colors and local motifs can create cultural value that enhances emotional closeness between consumers and products. Products that convey a "story" or value through visual symbols are more easily remembered and liked (Wang and Zhang, 2025).

Semiotics is also important for brand differentiation. When many products share similar functions, the power of symbols and narratives can tip purchase decisions. Yuliana et al. (2021) confirmed that consumers prefer products with strong, meaningful visual identities. Implementing semiotics in communication strategies must account for the cultural and psychological context of the target consumer. Relevant and easily interpreted symbols are more effective in shaping positive perceptions. At the denotative level, consumers recognize literal features of the product design (e.g., colors, shapes, icons). At the connotative level, these features trigger emotional associations (e.g., red evokes tradition or bravery in local cultural contexts). At the mythological level, semiotic elements reinforce deeper cultural narratives—such as nationalism through batik motifs or environmental awareness via green packaging. Understanding this layered communication enables MSMEs to embed meaning that resonates across cognitive and affective dimensions. Thus, a semiotic approach can strengthen the emotional appeal of MSME products in increasingly competitive markets (Maycotte et al., 2025).

Symbols—such as logos, mascots, or other visual icons—carry inherent meanings. Well-designed symbols become strong brand identifiers that are easily remembered, enhancing brand recall. Cultural values expressed through local motifs—such as batik patterns or regional scripts—attract attention and foster emotional attachment among customers who share that cultural affiliation. Semiotics also plays a role in visual storytelling. Narratives about business history, local ingredients, or product philosophy can be communicated through packaging and design. Consumers connect more deeply with products that tell a compelling "story."

The aesthetic elements conveyed through semiotics influence perceived value. Attractive packaging leads consumers to evaluate a product as more valuable and worth a higher price, even if contents are comparable. In digital contexts, semiotic elements span social media, websites, and online catalogs (Wang and Zhang, 2025). Consistent visual presentation across communication channels strengthens brand identity and aids recognition and recall (Maycotte et al., 2025). Semiotics thus acts as a bridge between product and consumer. With strong visual elements, MSME products can communicate messages, evoke emotions, and prompt faster, more meaningful purchase decisions.

Semiotics encompasses not only packaging and visual cues, but also cultural codes and archetypes—signifiers deeply embedded within collective memory that carry subconscious associations (e.g., local motifs, heritage colors). These elements form coherent sign systems—from logo and

typography to design language—that communicate complex brand values and identity to consumers instantly. Moreover, by reinforcing consistent visual elements, brands enhance visual fluency, where familiarity breeds preference and perceived trustworthiness.

Semiotics also transcends visual communication into multisensory sensory branding, as tactile textures, scent-infused packaging, or auditory signals can embed brand meaning in consumers' subconscious memory. According to Saussure's theory of signifier and signified, each design element carries not just form but deep meaning—shaped by cultural conventions—which guides consumer interpretation of brand personality, premium quality, or cultural authenticity. This complex semiotic interplay helps MSMEs bridge utilitarian function and emotional appeal, making products not only recognized—but deeply remembered.

To illustrate how semiotic strategies affect consumer decisions, we can examine specific product elements used by MSMEs:

- **Packaging Colors:** Many food-based MSMEs use green to communicate freshness or natural ingredients, while red or yellow packaging often signals warmth, boldness, or familiarity—particularly effective in traditional snacks or spice-based products. These colors do more than catch the eye; they carry emotional associations that influence consumer expectations.
- **Typography and Font Style:** Handwritten or calligraphy-style fonts often appear on packaging for traditional or artisan products, reinforcing the perception of homemade or handcrafted quality. Meanwhile, clean sans-serif fonts are more common in health or modern lifestyle products, conveying minimalism, hygiene, and modernity.
- **Symbolic Motifs:** Several MSME brands integrate local visual culture—such as batik patterns, flora-fauna illustrations, or traditional scripts (e.g., Javanese hanacaraka)—into their label design. These motifs are not just decorative; they act as cultural anchors, signaling identity, locality, and authenticity.
- **Visual Storytelling:** Some MSME products embed short “founder stories” or “from our village to your table” slogans in the label, using both text and visuals to evoke emotion. For example, an MSME selling coffee may include sketches of farmers or mountains, anchoring the product to a specific place and community narrative.
- **Brand Consistency across Platforms:** Semiotic coherence is also reflected in how MSMEs synchronize the visual language of packaging with Instagram aesthetics, online catalogs, and even offline displays. A consistent palette and symbol system strengthen consumer recognition and perceived professionalism.

These semiotic applications shape not only the aesthetic perception of the product, but also its emotional positioning in the consumer's mind. Products that effectively leverage visual symbols are more likely to foster trust, memory, and affective attachment—factors that are crucial in purchase decision-making, especially in highly competitive digital platforms.

Semiotic Strategies in MSME Marketing

Semiotic strategies refer to the intentional use of signs and symbols to convey meaning, values, and emotional appeal. In MSME marketing, these strategies are essential to shape brand identity, consumer perception, and purchase intention. Semiotic strategies operate at three interrelated levels:

1. **Denotative Level** – This is the literal or surface-level meaning of a visual sign. For instance, a red package denotes the color red, or a label that says "organic" directly communicates product content.
2. **Connotative Level** – This involves the cultural or emotional associations behind the sign. Red may connote tradition or excitement; “organic” may connote health or eco-friendliness.
3. **Mythological or Ideological Level** – At this level, signs reinforce cultural narratives or social ideologies. For example, batik motifs evoke national identity and heritage, while minimalist design may reflect modernism or premium quality.

In addition to this theoretical framework, semiotic strategies can be broken down into tangible visual elements MSMEs can apply, such as:

1. **Color Semantics:** Colors are chosen for their cultural associations. For example, green for freshness or nature, gold for luxury, or red for traditional or celebratory products.
2. **Typography:** Fonts carry tone. Handwritten typefaces may suggest artisan or handmade quality, while sans-serif fonts feel modern and tech-savvy.
3. **Visual Syntax:** The layout and spatial organization of visuals affect readability and brand perception. Balanced designs suggest professionalism; crowded visuals can cause cognitive overload.
4. **Cultural Encoding:** MSMEs often use local motifs, symbols, and languages to build emotional proximity with local consumers (e.g., wayang figures, regional scripts, ethnic textures).
5. **Narrative Anchoring:** Stories told visually—such as the origin of ingredients or family recipes—add authenticity. Packaging or social media design can embed narrative cues that encourage emotional bonding.
6. **Cross-Platform Visual Consistency:** Ensuring visual coherence across packaging, social media, and e-commerce platforms increases brand recall and trust.

These strategies not only enhance visual appeal but also function as **non-verbal persuasion tools**, allowing MSMEs to communicate trustworthiness, authenticity, and emotional resonance. By carefully constructing their symbolic language, MSMEs can strengthen consumer relationships and differentiate themselves in saturated markets.

CONCLUSIONS

This study was conducted to analyze the extent to which digital transformation and visual marketing strategies influence consumer purchase decisions of agricultural MSME (Micro, Small, and Medium Enterprises) products. Based on the results of data analysis, it can be concluded that all independent variables—namely e-service quality, social media promotion, online payment systems, product quality, brand image, and semiotics—have a significant influence on consumer purchasing decisions, both simultaneously and partially. These findings indicate that consumers consider not only the functional aspects of a product but also the digital experience and symbolic value embedded in the product.

E-service quality was found to influence consumer comfort and trust during the online purchasing process, where fast, user-friendly, and secure services are key factors in encouraging consumers to complete transactions. Social media promotion also plays a major role, particularly due to its interactive, visual nature and ability to reach consumers on a personal level. On the other hand, flexible, secure, and fast online payment systems are crucial in ensuring a smooth and efficient shopping experience.

Product quality remains fundamental in maintaining consumer trust and loyalty. High-quality, consistent, and need-relevant products are more likely to be accepted by the market. Furthermore, semiotic elements—ranging from visual syntax, culturally meaningful symbols, color semantics, to narrative storytelling—play a critical role in building emotional resonance and perceived value. These strategies help MSME products stand out, communicate authenticity, and cultivate brand loyalty in the digital space. Thus, purchase decisions in the digital era are heavily influenced by the integration of digital performance, tangible product quality, and meaningful visual communication.

This study yields several important implications. From a theoretical perspective, the findings enrich the literature on digital consumer behavior and provide new insights into how visual and symbolic elements (semiotics) influence purchasing decisions, particularly in the MSME context. They also underscore the importance of a holistic approach to understanding the factors influencing purchasing decisions—beyond functional or technical aspects—to include emotional experiences and consumer perceptions.

Practically, the study offers direct recommendations for MSME practitioners to enhance their digital service systems to be more responsive, secure, and user-friendly. Business actors are also encouraged to manage social media actively and strategically as an effective promotional channel to reach consumers. Additionally, offering flexible and secure digital payment systems will serve as a valuable asset, especially amid growing consumer trust in online transactions.

Product quality must remain a top priority, with efforts to maintain consistency and provide added value that consumers can directly experience. Moreover, MSME actors need to understand the importance of semiotics as a visual communication strategy that enhances product appeal, strengthens brand identity, and fosters emotional bonds with consumers.

From a practical perspective, MSME practitioners should invest in developing consistent semiotic systems—by standardizing logo use, aligning color and typography across channels, and incorporating culturally resonant symbols into packaging and digital branding. Training programs should include visual communication principles to ensure MSMEs can craft emotionally engaging brand stories that are visually coherent across digital ecosystems.

In terms of policy implications, this study points to the critical need for government support, particularly through training, mentoring, and more comprehensive digitalization facilitation for MSMEs. Capacity-building programs should focus not only on digital technology and online marketing but also on branding development, visual communication, and consumer behavior understanding. In doing so, Indonesian MSMEs will be better prepared to compete in an increasingly competitive and dynamic digital ecosystem.

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