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Research Article

The Phenomenological Study of Online Marketing Adoption Among Farmers in Malang City

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Abstract
The digital transformation of agriculture in Indonesia faces a significant hurdle, marked by the low adoption rate of online marketing among farmers despite its potential to shorten supply chains and increase profitability. This study explores the lived experiences of farmers in Malang City, Indonesia, regarding the adoption of online marketing. Utilizing a qualitative phenomenological approach, in-depth interviews, observations, and documentation were conducted with six farmers purposively selected to represent diverse backgrounds, from conventional to millennial urban farmers. The analysis revealed six core themes: motivation driven by crisis and opportunity; a learning process heavily reliant on intergenerational assistance; a spectrum of marketing strategies from pure transaction to personal branding; positive economic impacts including margin increases of 40-50% and market diversification; persistent operational challenges such as logistics and digital reputation; and a fundamental identity transformation from traditional farmer to digital agripreneur. The findings highlight a digital divide not only in access and skills but also in the capacity to generate value from technology. This research enriches the Technology Acceptance Model by incorporating socio-cultural and intergenerational dimensions, introducing the concept of "facilitated adoption." It concludes that online marketing adoption is a complex negotiation between tradition and modernity, producing heterogeneous farmer typologies. The study offers practical recommendations for local governments to create mentorship programs and for platforms to develop features responsive to diverse farmer needs, emphasizing that sustainable digital agriculture requires both technological infrastructure and social engineering.

Keywords: Digital Agriculture, E-Commerce, Phenomenology, Technology Adoption, Urban Farming

1. Introduction

Indonesia faces major challenges in modernizing the agricultural sector, particularly in terms of marketing agricultural products. Malang City, as one of the agricultural centers in East Java, has unique characteristics that distinguish it from other agrarian areas. Unlike conventional agricultural regions that are predominantly rural, Malang City demonstrates an urban farming phenomenon that is actively managed by the millennial generation. This generation plays a strategic role in developing urban farming as a response to food security challenges, particularly in urban settings, by integrating digital technology and sustainable agricultural practices (Makmun et al., 2024). The existence of urban farming in Malang City functions not only as a local food source but also as a social laboratory demonstrating how technology can transform the way farmers interact with the market.

However, digital transformation in the agricultural sector in East Java, including Malang City, is still progressing slowly. Current data shows that only 15% of farmers in East Java use digital marketing technology, while 66.45% do not use it at all (Hidayati et al., 2023). This figure indicates a significant digital divide between technological potential and adoption reality in the field. Yet, the utilization of information and communication technology (ICT) in agricultural marketing offers solutions to classic problems faced by farmers, namely long and inefficient marketing chains. This often leads to reduced

profitability for producers, as a substantial portion of the final consumer price is absorbed by intermediaries rather than benefiting the farmers directly (Sugandini et al., 2023).

Conventional marketing chains in Indonesia's agricultural sector generally involve many intermediaries, from collectors, wholesalers, to retailers, before finally reaching consumers. This condition causes the selling price of agricultural products at the farmer level to become very low, while large profit margins are controlled by middlemen. Empirical data shows that 67% of farmers in East Java still sell their harvest to middlemen as their main partners (Hidayati et al., 2023). This dependence on the traditional marketing system not only weakens farmers' bargaining position but also makes them vulnerable to price fluctuations and market exploitation.

In this context, online marketing or digital marketing emerges as a promising alternative to shorten the distribution chain and empower farmers as more independent market actors. E-commerce platforms such as TaniHub, Sayurbox, Tokopedia, and Shopee have developed special features to facilitate farmers selling their products directly to consumers (Ken Research, 2025). These platforms offer various advantages, including access to wider markets, price transparency, and safer payment mechanisms. Further, social media such as Instagram, Facebook, and WhatsApp Business are also used by farmers to build personal branding and establish direct relationships with customers (Rauf, 2024).

Malang City was selected as the research location for several reasons. As a recognized agricultural center in East Java, it possesses established agrarian infrastructure and farming communities, while its urban-rural continuum allows traditional farming practices and urban farming initiatives to coexist. This convergence, combined with the active involvement of millennial-generation farmers who are likely to have encountered digital marketing platforms, makes Malang City a compelling setting for exploring the phenomenological dimensions of technology adoption in agriculture.

While the literature on agricultural e-commerce and digital marketing is growing, a significant research gap remains concerning farmers' individual experiences in adopting these technologies. Existing studies predominantly employ quantitative approaches, particularly the Technology Acceptance Model (TAM) and structural equation modeling. For example, Schwering et al. (2022) conducted a large-scale quantitative segmentation of German farmers' attitudes toward online purchasing, while Gao (2022) focused on identifying determinant factors through statistical analysis. Although valuable for predicting adoption patterns, these approaches reduce farmers' experiences to variables and correlations, overlooking the nuanced, contextual meanings farmers assign to digital technologies in their daily practices.

A phenomenological approach offers a critical alternative to address this gap. Recent studies by Riyadh (2025) and Sulistiani (2025) demonstrate how phenomenological inquiry uncovers the lived experiences of young farmers engaging with digital technologies, revealing how they interpret and adapt these tools within their specific contexts. Similarly, Arditi et al. (2023) employed phenomenological analysis to explore early adoption of Industry 4.0 technologies among agricultural engineers, emphasizing subjective meaning-making processes. These qualitative investigations align with the proposed research direction by prioritizing farmers' voices and experiential knowledge over predetermined adoption metrics, providing the depth of understanding that quantitative determinant-focused studies often lack.

The importance of this research is also driven by the urgency of policies to support agricultural digitalization. The Indonesian government has launched various programs such as Food Estate and the development of agricultural e-commerce, but their implementation often does not consider local nuances and specific farmer characteristics. By understanding farmers' experiences in Malang City, this research can provide more contextual and applicable recommendations for the development of digital agricultural policies in the future.

Based on the background described, this research seeks to understand how farmers in Malang City experience and make meaning of their adoption of online marketing technologies. It further explores what driving and inhibiting factors shape farmers' utilization of online marketing, as subjectively perceived and interpreted by them, and how farmers perceive the impact of online marketing on their income, market access, and overall farming practices.

This research is expected to provide benefits both theoretically and practically. Theoretically, this research is expected to enrich the literature on urban agricultural digitalization, particularly in the context of technology phenomenology. Academic contributions of this research include developing understanding of technology adoption dynamics in heterogeneous farmer communities between conventional and urban farming, elaborating the concept of digital literacy in the agricultural context, and providing an empirical basis for technology adoption theories such as Technology Acceptance Model (TAM) and Social Learning Theory in the Indonesian agricultural context.

Practically, the results of this research are expected to provide specific policy recommendations for the Malang City local government in designing agricultural digitalization assistance programs. For e-commerce platforms and digital service providers, these findings can provide input for developing features that are more responsive to farmers' needs. In addition, this research can also serve as a guide for other farmers who want to start or develop online marketing, as well as for agricultural education and training institutions in designing appropriate digital literacy curricula.

2. Methods

2.1. Research Type

This research uses a constructivist paradigm with a qualitative phenomenological approach. This paradigm was chosen because it aims to understand the meaning of farmers' subjective experiences in using online marketing, not to test hypotheses or generalize findings. The phenomenological approach is suitable for exploring the essence of lived experience of informants related to the adoption of digital technology in agricultural marketing activities (Creswell & Poth, 2017).

2.2. Research Location and Time

The location of this research was conducted in Malang City, East Java, focusing on three areas selected based on variations in farmer characteristics and levels of digital technology adoption. The three areas include Dinoyo Sub-district known as the center of millennial urban farming, Lowokwaru Sub-district which is the base of organic vegetable farmer groups, and Sukun Sub-district representing conventional farmers who are beginning to switch to digital marketing. The selection of diverse locations aims to obtain a comprehensive picture of the dynamics of online marketing adoption among farmers with different backgrounds. The research time was conducted for four months, from August to November 2025, covering the stages of preparation, field data collection, data analysis, to the preparation of the final research report.

2.3. Research Informants

The number of informants was set at 6 people based on the principle of saturation in qualitative research. The sampling technique used purposive sampling with the following criteria:

1) Active farmers in Malang City for at least 2 years
2) Using online marketing platforms for at least 6 months
3) At least 2 informants per platform category (social media, e-commerce, combination)
4) Vegetables, fruits, or ornamental plants
5) Willing to be informants and provide informed consent

2.4. Data Collection Techniques

Data collection methods in this research were conducted through three main techniques to obtain in-depth and comprehensive data. First, in-depth interviews with a semi-structured approach were conducted at farmers' business locations or informants' homes, with a duration of 60 to 90 minutes and audio recording after obtaining permission. The interview guide covered several important themes, namely background and motivation for using online marketing, learning process and technology adaptation, content strategy and platform management, impact on sales and relationships with buyers, and challenges faced along with ways to overcome them. Second, participatory observation was carried out by following informants' daily activities for two to three hours per visit, which included the process of photographing products, creating social media content, interacting with customers through chat, as well as packaging and shipping orders. Third, documentation was carried out by collecting secondary data in the form of screenshots of informants' social media posts, sales records if permitted, and photos of online marketing activities that support research analysis.

2.5. Data Analysis

Data analysis in this research used the interactive model of Miles & Huberman (1994) which was carried out through three main stages systematically. The first stage is data reduction, which began with verbatim transcription of interview results, then continued with selection of relevant data according to research focus, and preparation of case summaries per informant to facilitate data management. The second stage is data display, which was carried out through the preparation of matrices per theme, mapping of connections between categories, and creation of visual case profiles per informant to describe relationships between findings in a more structured manner. The third stage is drawing conclusions, which includes identifying patterns and themes of experience, verification with supporting data, and formulation of the essence of experience through textural and structural description. To strengthen the analysis process, coding techniques were applied in stages including open coding as initial coding from transcription, axial coding for grouping categories and subcategories, and selective coding for integration of main themes that form the core of research findings.

3. Results and Discussion

3.1. Research Results

3.1.1. Informant Profiles

This research involved six farmers in Malang City with diverse characteristics. Three informants (I-01, I-03, I-05) are millennials with higher education backgrounds who are active in urban farming. Three other informants (I-02, I-04, I-06) are conventional farmers with more mature age ranges who are beginning to switch to digital marketing. A summary of the informant profiles is provided in Table 1.

Table 1. Summary of Informant Profiles

Code	Age	Background	Commodity	Main Platform	Usage Duration
I-01	28 years	Agricultural Graduate, urban farmer	Hydroponic vegetables	Instagram, WhatsApp Business	18 months
I-02	45 years	High school graduate, conventional farmer	Tomatoes, chili	Tokopedia, Shopee	12 months
I-03	32 years	D3 Communication, content creator	Ornamental plants	Instagram, Facebook	24 months

Code	Age	Background	Commodity	Main Platform	Usage Duration
I-04	52 years	Junior high school, conventional farmer	Mustard greens, water spinach	TaniHub, WhatsApp	8 months
I-05	35 years	Economics Graduate, agripreneur	Strawberries	Shopee, TikTok Shop	15 months
I-06	41 years	High school, former traditional market farmer	Melon, watermelon	Instagram, Tokopedia, WhatsApp	20 months

Based on phenomenological analysis, six main themes emerged that describe the essence of farmers' experiences in using online marketing.

3.1.2. Adoption Motivation from Urgency to Opportunity

Farmers' initial motivations for adopting online marketing varied, but can be classified into two categories: push motivation (driven by forcing conditions) and pull motivation (pulled by perceived opportunities).

Push motivation was dominant among conventional farmers. I-02 (45 yrs) recounted: *"During the COVID-19 pandemic, traditional markets were closed. My tomatoes rotted in the garden because no one bought them. Middlemen also stopped coming. I was forced to find another way, finally my child taught me to sell on Tokopedia."* Similar conditions were experienced by I-04 (52 yrs): *"I don't know the internet, but my neighbor's child said on TaniHub I can sell vegetables directly to city people. I tried it, turned out it sold."*

Pull motivation was stronger among millennials. I-01 (28 yrs) stated: *"I deliberately looked for market gaps. People in Malang now like hydroponics, but no one sells online with attractive packaging. I saw that opportunity."* I-03 (32 yrs) added: *"I saw content creator friends succeed in selling skincare, why can't ornamental plants? I combined hobby with business."*

This theme shows that external crises (pandemic) can become catalysts for digital transformation, while entrepreneurial vision drives proactive adoption.

3.1.3. Theme 2: Trial and Error and the Role of Young Generation in the Learning Process

All informants experienced different learning curves, greatly influenced by age and educational background.

Millennials (I-01, I-03, I-05) showed relatively independent and fast learning processes. I-05 (35 yrs) explained: *"I self-taught from YouTube and Facebook groups for online business people. Trial and error about product photos, captions, to posting times. Two months and I found the right pattern."* I-03 even developed systematic content strategies: *"I made a content calendar, this week focus on care tips, next week plant unboxing. I applied communication knowledge I learned."*

Mature-aged farmers (I-02, I-04, I-06) were highly dependent on young generation assistance. I-06 (41 yrs) admitted: *"I can't create an account myself. My child created Instagram, taught me to take photos with a phone, to how to reply to chats. I memorized the steps, if I forget I ask again."* I-04 (52 yrs) required intensive assistance: *"TaniHub is already simple, but I still need my neighbor's child to help input data for the first time. Now I can do it myself, but slowly."*

This finding confirms the important role of farmer regeneration in the digitalization process. Intergenerational knowledge transfer becomes a crucial mechanism for reducing the digital divide between age groups.

3.1.4. Theme 3: Personal Branding vs. Pure Transaction as Marketing Transaction

Informants developed two different marketing strategy patterns, namely personal branding patterns and pure transaction.

Personal branding patterns were applied by I-01, I-03, and I-05. They not only sold products, but built narratives and communities. I-01 explained: *"I tell my journey from office worker to farmer. I post the planting process, harvest failures, to cooking recipes. People buy because they like my story, not just the vegetables."* I-03 utilized visual aesthetics: *"Ornamental plants are about style. I style photos with Scandinavian concepts, minimalist. I have 15 thousand followers, high engagement."*

Pure transaction patterns were practiced by I-02, I-04, and partly I-06. Focus on sales efficiency without brand building. I-02 stated: *"I don't understand Instagram. On Tokopedia, I upload photos, write prices, stock. What matters is it sells, I don't need storytelling."* I-04 added: *"I sell on TaniHub because they handle shipping. I just send goods, don't need to think about promotion."*

This difference reflects the spectrum of digital literacy: from using technology as a transaction tool to media for constructing identity and community.

3.1.5. Theme 4: Margin Increase and Market Diversification

All informants reported positive impacts on economic conditions, although with different magnitudes.

Margin increase became a universal finding. I-06 provided concrete data: *"Before to middlemen, my melons were Rp8,000/kg. Now online can be Rp15,000–18,000/kg. There are packaging and shipping costs, but still more profit."* I-01 calculated: *"Margin increased 40–50%. Importantly, I get cash, not waiting for middlemen to pay debts."*

Market diversification opened access to new segments. I-05 explained: *"My strawberries used to be sold only to local markets. Now via TikTok Shop, I ship to Jakarta, Surabaya, even Medan. My market has expanded."* I-03 found a niche market: *"My ornamental plants are bought by interior designers for cafe and office projects. I never imagined before."*

However, the impact was not evenly distributed. I-04 experienced limited increase: *"It sells indeed, but I can't produce much myself. Revenue increased, but not as much as the young ones who have large land and employee assistance."*

3.1.6. Theme 5: Operational Challenges

Despite experiencing benefits, informants faced various persistent challenges.

Logistical challenges were most frequently mentioned. I-02 complained: *"Tomatoes and chili are easily damaged. If delivery is late or courier is not careful, when it arrives it's already wilted. I've lost money due to buyer complaints."* I-05 added complexity: *"Strawberries need cold chain. My wallet is not big enough to buy special shipping refrigerators. I work around it with ice packs, but the risk is still there."*

Trust issues emerged especially in initial transactions. I-06 recounted: *"New buyers are often suspicious. 'Is this melon really sweet?', 'What if it's fake?' I have to patiently explain, give money-back guarantees if it doesn't match. Eventually there are testimonials, then it's easy."* I-01 added a digital reputation dimension: *"One one-star review can ruin. I once sent the wrong lettuce variety, immediately replaced it free plus bonus. Reputation is everything."*

Content consistency became a burden for some informants. I-03 admitted: *"Instagram algorithm is tiring. Must post every day, active stories, quick replies. If absent one day, engagement drops. I sometimes get burnout."* I-02 who only used e-commerce felt lighter: *"I don't need to worry about content. But on Tokopedia, I compete with thousands of other sellers. Prices must be competitive, margins thinner."*

3.1.7. Theme 6: Identity Transformation from Farmer to Digital Agripreneur

This theme reveals fundamental changes in how informants interpret themselves and their work.

Mindset change was most evident in I-01: *"I used to think farmers plant, harvest, sell. Now I am an entrepreneur. I think branding, customer service, cash flow, product innovation. My identity has changed."* I-05 agreed: *"I learned digital marketing, copywriting, even basic photography. My skills increased, not just a farmer."*

Increased agency was felt by I-06: *"Before I waited for middlemen, they determined prices. Now I determine prices, I choose buyers. There's a sense of pride, I have control."* I-04 despite advanced age felt change: *"I'm proud I can. My peers don't know smartphones, I can already sell online. I'm proof old farmers can learn."*

However, transformation was not always smooth. I-02 experienced identity conflict: *"Young people say I must brand, storytelling. I'm a farmer, not an artist. I just want to sell garden produce, don't want to show off personal life."*

3.2. Discussion

3.2.1. Adoption Dynamics in Urban Agricultural Context

Research findings confirm and enrich technology adoption theory in the urban agricultural context. The Technology Acceptance Model (TAM) which emphasizes perceived ease of use and usefulness is validated, but with local nuances. For mature-aged farmers like I-04 and I-02, perceived ease greatly depends on the availability of social assistance, not just technology interface. This aligns with findings by Hidayati et al. (2023) that social factors and knowledge become critical determinants in agricultural technology adoption in East Java.

The existence of urban farming managed by the millennial generation in Malang City (Arvianti et al., 2025) creates a unique ecosystem where digital knowledge transfer occurs horizontally and vertically. The millennial generation not only becomes adoption agents, but also change agents that transform conventional farmer practices. This phenomenon shows that agricultural digitalization is not solely about technology infrastructure, but also social engineering in the farming community.

3.2.2. Online Marketing as De-agrarianization and Re-agrarianization Strategy

Informants' experiences illustrate a paradox in digital agricultural transformation. On one side, online marketing drives de-agrarianization: farmers are no longer just producers, but become entrepreneurs, marketers, even content creators. Required skills expand from agronomy to digital marketing, business management, and communication. I-01 and I-03 reflect the modern agripreneur type that integrates urban identity with agricultural practices.

On the other side, re-agrarianization occurs: strengthening agricultural values through digital narratives. Personal branding built by I-01 and I-03 actually emphasizes farmer authenticity, sustainability, and closeness to nature. This narrative attracts urban consumers experiencing cognitive dissonance toward food industrialization. This finding aligns with Rauf (2024) on the role of social media in building agricultural product added value through local identity construction.

3.2.3. Digital Divide and Inclusion

Findings about experience disparity between millennials and mature-aged farmers underline the persistence of multidimensional digital divide. Besides access gap (first-level digital divide) and skills (second-level digital divide), a third gap emerges (third-level divide) in the form of capacity to optimize technology to generate economic and social value (Châteauvieux & Baddache, 2024). I-04, despite having adopted TaniHub, has not been able to utilize market analytics or premium promotion features.

I-02 is limited to basic transaction models in marketplaces. This condition shows that digital inclusion is not sufficient to be measured by binary adoption indicators (using/not using), but must be viewed from depth of usage and innovation capacity. Furthermore, the ability to leverage digital platforms effectively often correlates with factors such as internet access, farm ownership, and family size, highlighting broader socio-economic determinants of successful digital marketing adoption (Winarto et al., 2025).

3.2.4. Resilience and Vulnerability in Digital Food Systems

The COVID-19 pandemic that became a catalyst for adoption for I-02 and I-06 reveals the vulnerability of traditional food systems. Dependence on middlemen and physical markets turned out to be fragile when systemic shocks occurred. Online marketing offers resilience through diversification of distribution channels. However, findings also identified new vulnerabilities: dependence on platform algorithms, fluctuating logistics costs, and digital reputation risks. I-03 who experienced burnout due to content consistency demands and I-05 who struggled with cold chain show that supporting infrastructure for digital ecosystems is still uneven. This finding confirms World Bank (2020) assessment about the need for investment in logistics, digital payments, and literacy to realize the full potential of digital agriculture in Indonesia.

4. Conclusion

Based on phenomenological analysis of six farmers in Malang City, this research concludes that online marketing adoption is triggered by external crises and entrepreneurial opportunities, with distinct motivational patterns between mature-aged conventional farmers (driven by push factors) and millennial urban farmers (driven by pull factors). The adoption process relies heavily on intergenerational assistance and produces a spectrum of marketing strategies from pure transactions to comprehensive personal branding yielding positive economic impacts including 40–50 percent increased margins and diversified market access. However, farmers face systemic challenges including logistics vulnerability for perishable products, digital reputation risks, and cognitive burden of content consistency, which are most acutely experienced by mature-aged farmers with limited digital literacy. This experience triggers identity transformation toward digital agripreneurship, representing an ongoing negotiation between tradition and modernity that produces heterogeneous farmer typologies.

The research offers theoretical contributions through refinement of the Technology Acceptance Model by incorporating social-cultural and intergenerational dimensions via the concept of facilitated adoption, and development of agrarian digital hybridity that explains farmers' simultaneous navigation of agrarian and digital logics. Practical implications include recommendations for Malang City local government to develop intergenerational mentorship programs and logistics infrastructure, for e-commerce platforms to simplify interfaces for senior users and provide tiered education, and for farmer communities to strengthen mentor-mentee networks with experiential digital literacy curricula. This research is limited by its geographical focus on Malang City and relatively short observation period, suggesting future directions for longitudinal studies, comparative research across cities, and deeper ethnographic investigation to map the broader ecosystem of digital agriculture.

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