

E marketing for Indonesia Coffee Famer Using UTAUT2

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Abstrak: This study investigates the acceptance and usage of e-marketing among Indonesian coffee farmers using the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) model. With the rapid growth of digital platforms, e-marketing offers unique opportunities for coffee farmers to expand their market reach, increase sales, and improve operational efficiency. A qualitative research approach was adopted to explore UTAUT 2, the development of e-marketing for Indonesian coffee farmers can become more effective and relevant because this model helps design strategies based on a deep understanding of the factors that encourage or hinder technology acceptance among farmers. how factors such as performance expectancy, effort expectancy, social influence, and facilitating conditions, impact coffee farmers' adoption of e-marketing technologies. Data were collected through in-depth interviews with coffee farmers and industry stakeholders across several Indonesian regions, providing a comprehensive understanding of the challenges and motivations driving e-marketing adoption. The findings reveal that, while coffee farmers recognize the potential benefits of e-marketing, several barriers—such as limited digital literacy, infrastructure constraints, and concerns over technology costs—hinder widespread adoption. Social influence, particularly from peers and family, was found to play a critical role in encouraging the use of digital platforms. Moreover, facilitating conditions, including access to training and support, significantly enhance adoption rates. This research provides valuable insights for policymakers and technology providers aiming to increase digital inclusion among rural coffee producers. It suggests that tailored interventions addressing local challenges can foster greater e-marketing adoption, ultimately contributing to the economic sustainability of Indonesia's coffee farming sector.

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INTRODUCTION

The coffee industry in Indonesia holds a significant role in the global market, both as a primary agricultural commodity and as a source of livelihood for millions of smallholder farmers. Indonesia is the fourth largest coffee bean-producing country after Brazil, Vietnam, and Colombia, with an average production of 639 thousand tons/year or around 8% of world coffee production. The composition of Indonesian coffee production is 72.84% robusta coffee and 27.16% arabica coffee. (Suherman et al., 2023). Coffee plants can reach a productive age of up to 20 years (Dirjenbun, 2023). Arabica, robusta, and liberica coffee are the types of coffee widely traded worldwide, including in Indonesia. However, Arabica coffee production is less than that of robusta coffee. This is because the place or location of planting influences the inequality in the production of the two types of coffee. Arabica coffee grows well at altitudes above 1,000 m above sea level (Maryuna et al., 2022), while robusta coffee can grow optimally at altitudes between 400-900 m above sea level (Silalahi & Rosyadi, 2024).

Many coffee farmers in Indonesia still need help with problems of low productivity, minimal income, and poverty due to limited access to technology, credit, and markets. (Ananda et al., 2023). One of the biggest challenges in developing local coffee products is farmers' need for knowledge regarding digital marketing and the latest technology in coffee cultivation (Aziz et al., 2021). As technology develops, digital marketing has become an essential tool in increasing the competitiveness of local products in an increasingly competitive market. Through digital marketing, coffee farmers can more easily market their products, increase brand awareness, and reach broader markets, including international ones (Naryatmojo & Sholeh, 2023).

Facing the transformation wave of Industrial Revolution 4.0 and Society 5.0, the coffee industry is also experiencing a significant shift in its marketing strategy. Changes in consumer behavior, integration of digital technology, and rapid access to information have created conditions that require innovation in marketing strategies. However, this change or marketing transformation that is wholly digitalized is not followed by the capabilities of the coffee farmers themselves. Many local coffee farmers market their coffee harvest to markets or marketing agents. Only some coffee farmers market their coffee harvest digitally or use digital platforms. (Widiasyih et al., 2024) Digital marketing can be done with various tactics and tools available to help businesses in the online market, namely: (a) Affiliate Marketing, there is value from the site or each individual who has a partnership to promote the business, (b) display advertising, online advertising in various formats such as banners, sentences, images, and videos on the website, (c) content marketing, creating and sharing valuable and relevant content to achieve marketing targets, (d) Search Engine Marketing or SEM, increasing website visitors and displaying the website on the search page by paying, (e) mobile marketing, reaching consumers via mobile phones or tablets, (f) email marketing, reaching consumers directly via email using interactive sentences and media, (g) social media marketing, reaching consumers via social media such as Facebook, Twitter, Instagram, LinkedIn to increase brand awareness, increase sales, and increase website visitors, (h) Search Engine Optimization or SEO, optimizing the website to increase the appearance in the search box organically or unpaid, (i) Analytics, the entire process of using devices to track and analyze habits of website visitors

for marketing strategies. (Khairunnisa, 2022)

The adoption of digital marketing tools could empower Indonesian coffee farmers by allowing them to showcase their products, build brand awareness, and establish direct-to-consumer sales models. E-marketing enables farmers to expand their reach, increase revenue, and gain more control over their product positioning. Many coffee farmers face barriers to adopting E-marketing, including limited digital literacy, lack of access to stable internet and digital devices, and hesitancy due to unfamiliarity with technology. Furthermore, socio-economic factors such as age, education level, and income can significantly influence a farmer's willingness to engage with digital marketing channels. These barriers underscore the need for a deeper understanding of the factors that drive or hinder technology adoption in this context.

Existing research on technology adoption in agriculture has provided valuable insights into the general obstacles faced by farmers, such as limited technological awareness, financial constraints, and inadequate infrastructure. However, there is a gap in the literature regarding the specific factors that influence E-marketing adoption among coffee farmers in Indonesia. The Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) presents a robust theoretical model for examining technology adoption such as performance expectancy, effort expectancy, social influence, facilitating condition by integrating additional constructs such as price value, habit and behavioral intention. (Venkatesh et al., 2012), beyond traditional models. By using UTAUT2, the development of e-marketing for Indonesian coffee farmers can become more effective and relevant because this model helps design strategies based on a deep understanding of the factors that encourage or hinder technology acceptance among farmers.

This research is urgent due to the pressing need for economic resilience and sustainability in Indonesia's coffee industry. With global coffee prices fluctuating and competition intensifying, enabling farmers to access E-marketing tools can significantly enhance their competitiveness. By leveraging digital marketing, farmers can capture higher profit margins and gain independence from local middlemen, leading to improved economic stability and resilience against market volatility. In addition, E-marketing can facilitate greater consumer awareness of Indonesian coffee varieties (Arabica, Robusta, Liberika), promote coffee-producing areas such as South Sumatra (Pagar Alam, Indragiri Hulu), Lampung (West Lampung Regency, Tanggamus, North Lampung), Bengkulu (Kepahiang, Curup, Rejang Lebong), East Java (Jember, Banyuwangi, Situbondo, Bondowoso, Malang, Jombang), West Sumatra (Agam, Padang Pariaman, Tanah Datar, Solok, and Pasaman), North Sumatra (Tapanuli, Pematang Siantar, Samosir, Sidikalang), NAD (Central Aceh, Bener Meriah), , Nusa Tenggara (Flores Bajawa, Mangarai, Sumbawa, North Central Timor, South Central Timor), West Nusa Tenggara (Mataram, North Lombok, West Lombok, Central Lombok, East Lombok, West Sumbawa, Sumbawa, Dompu, Bima and Bima), Bali (Buleleng, Tabanan, Bangli, Badung), South Sulawesi (Toraja, Polmas and Enrekang), Papua (Wamena, Timika, Bintang Mountains) which have their characteristics and appeal in the national market and international. Coffee in Indonesia has a rich taste and distinctive aroma because Indonesia has many regions with different interactions of soil types, climate, altitude, coffee varieties, and processing methods; this makes coffee in Indonesia have a unique taste (Isyariansyah et al. 2018, Fiqhry et al., 2024).

The findings from this study are anticipated to contribute substantially to both academic literature and practical applications. Academically, this research fills a notable gap in technology adoption studies by focusing specifically on E-marketing within the agricultural context of Indonesian coffee farming. The results can inform policymakers, development agencies, and agricultural organizations in creating targeted programs to support digital literacy, infrastructure development, and training for coffee farmers. By identifying the factors that influence E-marketing adoption, this study can also guide technology providers in developing user-friendly platforms tailored to the needs of rural farmers. Ultimately, facilitating E-marketing adoption among Indonesian coffee farmers could strengthen their position within the global coffee market, enhance income stability, and contribute to the long-term sustainability of Indonesia's agricultural sector.

While previous studies have explored the adoption of technology in agriculture, there is a notable research gap in understanding the specific factors that influence Indonesian coffee farmers' acceptance and use of E-marketing. The Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) model provides a comprehensive model for analyzing technology adoption, taking into account factors such as performance expectancy, effort expectancy, social influence, and facilitating conditions, as well as hedonic motivation, price value, and habit. Applying UTAUT2 in the context of E-marketing adoption among coffee farmers is both timely and relevant, as it addresses a unique intersection of technology acceptance and agricultural marketing. The urgency of this research lies in the potential for E-marketing to increase the economic resilience of coffee farmers by expanding their market access and enhancing the value chain within the industry.

This study aims to assess the factors that affect the adoption of E-marketing among Indonesian coffee farmers using the UTAUT2 model. By identifying key determinants and barriers to E-marketing adoption, this research provides novel insights that can guide policy development, training programs, and digital infrastructure improvements tailored to the needs of coffee farmers. The expected contribution of this research lies in its potential to facilitate a more sustainable and competitive coffee industry in Indonesia, empowering farmers to leverage digital platforms for improved market reach and income stability. Ultimately, this study adds to the existing literature on technology adoption in agriculture and offers practical implications for enhancing digital inclusivity in rural agribusiness.

METHOD

This study adopts a qualitative research approach to explore the factors influencing the adoption of E-marketing among Indonesian coffee farmers using the UTAUT2 model. Qualitative research is appropriate for this investigation because it enables an in-depth understanding of the social and contextual factors that affect farmers' decisions regarding digital marketing adoption. The qualitative design allows for a flexible and interpretive analysis of complex phenomena, making it suitable for identifying the diverse motivational and barrier aspects of rural agriculture.

The data for this study are primarily collected through semi-structured interviews with Indonesian coffee farmers, industry experts, and government representatives involved in agricultural and technological development. This multi-perspective approach provides a

comprehensive view of the challenges and motivations surrounding E-marketing adoption. Participants are purposefully selected based on their involvement in coffee farming and their varying levels of familiarity with digital marketing tools. By including farmers who have and have not adopted E-marketing, this study gains insights into both the perceived benefits and barriers from a range of user experiences.

Data are gathered through in-depth, semi-structured interviews, allowing participants to share their experiences, attitudes, and beliefs freely. Semi-structured interviews are well-suited to exploring individual perceptions in detail while maintaining consistency across interviews to facilitate comparison. The interview guide is designed based on the UTAUT2 model, covering constructs such as performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, price value, habit and behavioral intention, as they relate to E-marketing adoption. Each interview is conducted in a conversational manner to build rapport and encourage participants to express their viewpoints openly.

Data analysis is conducted using thematic analysis, a method well-suited for identifying, analyzing, and interpreting patterns of meaning within qualitative data. Thematic analysis allows the researcher to categorize data into themes that align with the constructs of the UTAUT2 model, as well as any additional themes that emerge inductively. This approach involves familiarizing with the data, generating initial codes, searching for themes, reviewing themes, and defining and naming themes. Coding is performed manually to ensure a close, detailed examination of the data and to capture nuances in the responses of coffee farmers and other stakeholders.

In ensuring the rigor of the research, strategies such as triangulation, member checking, and peer debriefing are employed. Triangulation is achieved by comparing data across different participant groups to validate findings, while member checking is used to confirm interpretations with the participants. These techniques enhance the credibility and trustworthiness of the research findings, ensuring that the results accurately reflect the perspectives and realities of Indonesian coffee farmers to E-marketing adoption.

RESULT AND DISCUSSION

The analysis of this study reveals that the adoption of E-marketing among Indonesian coffee farmers is influenced by a range of factors aligned with the constructs of the UTAUT2 model, particularly performance expectancy, effort expectancy, facilitating conditions, and social influence. Performance expectancy emerged as a significant factor, with many farmers recognizing the potential of E-marketing to expand their reach beyond local markets and increase profitability (Ghizlane et al., 2024). Farmers indicated that digital platforms offer a means to directly engage with consumers and eliminate the need for intermediaries, which aligns with findings that performance expectancy can enhance perceived value in technology adoption, especially in rural agricultural sectors (Kaluarachchi & Nagalingam, 2024). This perception of value is heightened by the growing demand for specialty Indonesian coffee varieties in the global market, where direct consumer engagement through E-marketing could significantly benefit smallholder farmers by providing them with market access and competitive positioning (Mramba & Msuya, 2024).

Effort expectancy was another essential component affecting E-marketing adoption, as many farmers expressed concerns over the complexity of digital tools. Although some participants

indicated a willingness to adopt E-marketing if provided with adequate training, others found that the current platforms were too complex or not user-friendly enough, especially for individuals with limited digital literacy (Kabir et al., 2024). This aligns with recent studies that emphasize the need for intuitive, user-friendly platforms in rural communities to encourage technology adoption (Islam et al., 2024). The role of facilitating conditions was also prominent, as farmers highlighted the importance of stable internet connectivity and access to digital devices. For many coffee farmers in remote areas, lack of infrastructure remains a significant barrier, inhibiting their ability to engage effectively in digital marketing (Graham, 2019). Such infrastructure-related challenges corroborate previous research on digital adoption, which stresses that adequate support structures are crucial to enable successful E-marketing integration in agricultural settings (Dayioğlu & Turker, 2021).

Social influence further impacted E-marketing adoption, with many farmers more inclined to consider digital tools if they witnessed successful cases within their community. The role of social networks and community influence is particularly relevant in rural Indonesian farming communities, where collective decision-making often guides individual choices (Prayitno et al., 2023). This phenomenon aligns with UTAUT2's emphasis on social influence, suggesting that peer experiences and the visibility of successful digital adoption cases can play a motivating role for hesitant adopters. Furthermore, hedonic motivation appeared to have a subtle influence, as a minority of farmers expressed enjoyment in using new technologies, particularly younger farmers. While not a dominant factor, this motivation indicates a generational shift, where younger farmers are more open to experimenting with digital tools for business purposes. The gradual increase in technology curiosity among younger farmers could suggest future trends in E-marketing adoption, provided that they have access to educational resources and digital tools (Annosi et al., 2023).

Barriers to E-marketing adoption, however, were significant and multifaceted, highlighting specific challenges that limit the effectiveness of digital tools for coffee farmers. The primary obstacles cited were limited digital literacy, fear of financial loss, and concerns over cybersecurity. Many farmers were apprehensive about conducting online transactions, a concern that aligns with recent findings indicating that perceived risks can impede technology adoption in financial contexts (Van Niekerk, 2024). Financial constraints also played a role, as some farmers were reluctant to invest in E-marketing without a clear understanding of its potential return on investment (Ashokkumar et al., 2022). Additionally, concerns about data privacy and fraud were prevalent, with farmers expressing caution over online transactions, reflecting broader issues in digital trust within rural communities (Aladdin & Alfathan, 2022).

Overall, this study underscores the need for comprehensive support to promote E-marketing adoption among Indonesian coffee farmers. This includes efforts from both public and private sectors to provide digital literacy training, improve rural internet infrastructure, and develop user-friendly platforms tailored to the specific needs of rural farmers. The findings align with previous research advocating for the integration of technological support and community-based training to foster digital inclusion in agriculture (Annosi et al., 2023). To address the highlighted barriers, policymakers and technology providers could consider localized training sessions, focusing on safe online practices, basic digital skills, and simplified E-marketing processes, thereby fostering trust and confidence among farmers (Zia & Alzahrani, 2022). The insights from this study contribute to a deeper understanding of technology adoption in rural agriculture, offering a basis for future strategies that support digital transformation in Indonesia's coffee sector. Through these targeted

interventions, E-marketing has the potential to enhance economic resilience, market access, and sustainability for Indonesian coffee farmers, strengthening the country's position within the competitive global coffee industry (Lubis & Lubis, 2024).

CONCLUSION

This study explored the adoption of E-marketing among Indonesian coffee farmers through the lens of the UTAUT2 model, uncovering key factors that influence their engagement with digital marketing tools. The findings indicate that performance expectancy, effort expectancy, and facilitating conditions are primary determinants of E-marketing adoption among coffee farmers. Many participants view E-marketing as a valuable tool for reaching broader markets and increasing their revenue; however, the ease of use and accessibility of these platforms significantly impact their willingness to adopt digital tools. Furthermore, social influence and hedonic motivation play a role, with farmers more likely to adopt E-marketing if they observe successful examples within their communities or find intrinsic enjoyment in learning and using digital platforms. These insights align with the constructs of UTAUT2, affirming its relevance in understanding technology adoption in rural agricultural contexts.

Barriers to E-marketing adoption were also highlighted, including limited digital literacy, inadequate infrastructure, and perceived risks associated with online transactions. These challenges are especially pronounced in remote rural areas with scarce internet access and technical support. Despite the perceived benefits of E-marketing, many farmers still need to be more hesitant to engage with digital tools due to concerns over cost, cybersecurity, and the complexity of online marketing platforms. Addressing these barriers requires a multifaceted approach involving targeted digital literacy training, infrastructure development, and simplified E-marketing platforms that cater to rural farmers' needs and skill levels. Support from government programs and agricultural organizations could further facilitate E-marketing adoption by providing farmers with resources, training, and incentives to participate in digital marketplaces.

In conclusion, promoting E-marketing adoption among Indonesian coffee farmers could significantly enhance their market reach, economic resilience, and overall global competitiveness. This study contributes to the literature by applying the UTAUT2 model in a novel agricultural setting, emphasizing the motivations and barriers specific to coffee farmers in Indonesia. Policymakers, technology developers, and farming organizations can leverage these findings to create tailored strategies supporting digital inclusion and empowering farmers to harness E-marketing's benefits. By facilitating access to digital marketing tools, Indonesia's coffee industry can strengthen its position in the global market, benefiting the farmers and the broader rural economy.

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