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Digital Marketing Readiness and Agricultural Marketing Practices of Farmers in Guimaras Island, Philippines

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ABSTRACT Agriculture still plays an important role in the economy of the Philippines. However, small-scale farmers are still experiencing difficulties in gaining access to premium markets because of the use of conventional marketing channels. This research evaluated the marketing situation and digital preparedness of farmers in Guimaras Island by examining their socioeconomic characteristics, agricultural and marketing practices, behavioral tendency towards internet marketing, and the barriers that affect their adoption. The research used a descriptive approach wherein the participants were purposively selected from farmers in five municipalities of Guimaras Island. Results revealed that farmers are predominantly engaged in diversified crop production, with mango as the dominant commodity, and rely mainly on direct selling within localized markets. While all respondents demonstrated familiarity with online marketing and a majority expressed willingness to adopt it, significant barriers persist. These include concerns about fraudulent transactions, unsecured payment systems, transport-related losses, and limited internet connectivity. The study on the adoption of digital marketing among farmers will not be influenced by awareness alone, but also by trust and logistics. It is important that institutions be reinforced, that there be improvements in digital security measures, and that post-harvest logistics be improved to help farmers become part of digital agriculture.

Keywords: Agricultural marketing, Digital readiness, Farmers, Guimaras, Online marketing

INTRODUCTION

For the Philippines, agriculture continues to be at the core of its economic development and plays an integral role in the income generation of people by providing employment to many of its people. The contribution of agriculture cannot be overlooked because, especially in underdeveloped countries, agriculture still constitutes a vital activity for income generation (Koutodis, 2018). For the Philippines, agriculture provides work for millions of small farmer households that farm in small production units. As per data provided by the Philippine Statistics Authority, most of the farms in the country are small and average around one hectare (Bersales, 2015). Small-farm households have been instrumental in rural development and in providing food security. However, several structural and economic obstacles face small farmer households in the country.

Access to markets is one of the key issues that farmers face in agricultural development. In the case of small-scale farmers, there is a fragmented supply chain in which their products have to pass through many hands before reaching the consumer. These middlemen have an important role in agriculture marketing because they help distribute products and gain access to the market.

But in many cases, their involvement is often associated with decreased profit margins for farmers because of price fixing and informational asymmetries in the market (Yamashita, 2019). In most cases, farmers are usually deprived of information concerning prices in the market and the ability to bargain with their buyers and have no direct connection to consumers. This limits their capacity to extract maximum value from their produce.

The inefficiencies associated with traditional agricultural marketing systems are further exacerbated by issues such as overproduction, price volatility, and limited market diversification. The cases from the Philippines demonstrate the economic implications that arise from excess production in agriculture. As seen in the examples of excess tomato production in Ifugao and excess mango production in Ilocos, there was an evident fall in prices, causing farmers to sell their products at lower costs than what was required to produce them (Department of Agriculture, 2020; Ocampo, 2019). Also, there is an example of excess sayote production in Benguet that caused the prices in the market to fall significantly (Galvez, 2019).

In view of these issues, there is increasing emphasis on the use of digital technologies as a solution to the problems facing agricultural marketing practices. The adoption of digital technology in agriculture has created many prospects for farmers by allowing them to reach wider markets and become aware of prices, as well as to create connections with the consumers. Online marketing has emerged as a key method through which the process becomes less dependent on intermediaries and can operate in a more efficient manner. Digital technologies have allowed farmers to interact with potential customers and complete transactions without the need for additional players involved in this exchange. This was especially important during times of crises like the coronavirus outbreak.

The possible advantages of online marketing in the agriculture sector have been supported by previous research studies that suggest that it can lead to improved market opportunities, increased income levels, and reduced transaction costs. As per Rameshkumar (2022), online marketing increases the presence of agricultural goods in the market and helps the farmers connect with a broader audience base, leading to increased sales opportunities. Likewise, Peter & Latha (2021) have stressed on the importance of online marketing in enhancing the outreach of agricultural producers among different consumer groups irrespective of geographical boundaries.

Moreover, the utilization of online marketing is also associated with the application of social media and digital communication technologies. Some research studies indicate that social media acts as an important platform for marketing agriculture-based products and increasing marketing efficiency. According to Balkrishna & Deshmukh (2017), the social media platform increases marketing communication capabilities and allows farmers to communicate directly with consumers. Likewise, other research studies conducted by Mwangi & Wagoki (2016), Ogunniyi & Ojebuyi (2012), and White et al. (2014) revealed that digital communication technology impacts the performance and turnover of agricultural firms. The above discussion reveals that digital technology can act as an effective tool for reforming conventional agricultural marketing practices.

Nevertheless, while these advantages exist, the use of online marketing by farmers faces several challenges, including limitations. For instance, the farmers' poor understanding of technology, especially for the older generation who have limited knowledge about how to use technology platforms, is one of the main limitations facing farmers' online marketing. Lack of technological devices, such as phones and computers, and access to the Internet is another challenge. These farmers are unable to take advantage of these technological tools for advertising purposes due to this limitation. Issues related to transaction safety, including digital frauds and unsafe payment systems, are also prevalent and create fear among farmers while engaging in online transactions.

The issue of logistics can also hinder the process of online marketing. For example, when transporting food products, it is important to handle and package the items properly for quality maintenance. Otherwise, the products can be damaged during transport, resulting in losses to the farmers and discouraging them from using online marketing methods. The lack of an effective logistics system and cooperation between farmers can also impede the development of such a strategy.

According to innovation and technology diffusion theory, innovation and the adoption of online marketing techniques in agricultural marketing are influenced by certain factors. These include the perceived value and usefulness of innovation or technology, how easy it is to use, and its compatibility with present systems. Adoption of online marketing would be high if farmers perceive online marketing to be useful and easy to use and if it is compatible with what they are presently doing. However, if barriers to adoption exceed perceived benefits, then adoption levels will be low.

Furthermore, the theory of value chains serves as an ideal tool in illustrating the use of e-marketing in increasing the profitability in agriculture. This is because online marketing helps in creating a shorter value chain as well as limiting the activities of intermediaries through allowing farmers to engage directly with consumers. Consequently, the profits earned by the farmers will increase since they can take a bigger percentage from the final value of the product in the market.

While there is an increasing number of scholarly works on agriculture digitalization and online marketing, there still is an insufficient body of literature regarding the level of farmers' readiness towards using online marketing. The majority of previous research works on this topic tend to analyze the topic at large without considering particular geographic zones such as Guimaras Island. It is important to note the necessity to analyze the particular geographic zone from the perspective of socio-economic and infrastructural characteristics. The island of Guimaras, famous for its agricultural efficiency and diversified crop production, offers a distinct environment within which the possibilities of online marketing within agriculture can be studied. Guimaras is a prolific source of mangoes and various high-end crops; therefore, it serves as an ideal platform to study alternative marketing techniques. Notwithstanding, very few studies have been conducted regarding the digital marketing activities of farmers here and the obstacles they encounter.

Given these considerations, this study aims to establish a profiling of farmers and agricultural commodities available in Guimaras Island and its readiness to online marketing. In particular, this research seeks to investigate the socio-economic characteristics of the farmers, evaluate their production and marketing behavior, gauge their knowledge and willingness to embrace online marketing techniques, and establish the issues and conditions that influence their embracement of digital marketing methods. By addressing these objectives, the study contributes to a deeper understanding of the opportunities and constraints associated with online marketing in agriculture and provides insights for developing targeted interventions to support farmers in the digital economy.

METHODOLOGY

This study made use of descriptive research design. Data were collected from farmers in the five (5) municipalities of Guimaras, namely: Buenavista, Jordan, Nueva Valencia, San Lorenzo and Sibunag. Secondary data on the list of farmers and registered farmer's organizations/ cooperatives in the province were collected from the respective agricultural offices of each municipality and the Provincial Office for Agricultural Services (POAS). Purposive sampling was employed where only large farms that continuously operate and produce products even during pandemic were included in the survey. This is to ensure sustainable production and supply of agricultural products in the market. Data were gathered using a researcher-made questionnaire composed of three (3) parts. Part 1 contained the demographic profile of the farmers and Part 2 focused on product profile while Part 3 determined the farmer's behavior towards online marketing. Frequency count, percentages, and ranking were used to analyze the data.

RESULTS AND DISCUSSION

1. Socio-Economic Profile of Farmers

Farmers' profile data suggest that agriculture sectors depicted in this study consist of fairly mature, land-holding, and educated farmers. Age groupings indicate that farmers in selected areas are mostly middle-aged or older people. While there may be pros and cons in having such farmers, they may have certain characteristics that need to be considered. For example, old farmers may be able to leverage accumulated knowledge and good judgment about their farming environment. However, having an old farmer community may be indicative of potential issues in terms of adoption of innovations, succession planning, and sustainability of their businesses.

The predominance of male respondents also reflects the traditional structure of agricultural labor and farm management in many rural communities. However, this does not necessarily imply that women have no involvement in agriculture. Rather, it implies that women's lack of control over production and marketing means that the decision-making power could be vested with the male members of the family. This aspect is significant since it indicates that new ways of marketing, such as use of online systems, will depend on who controls the decision-making process in the farm business.

A notable strength in the profile is the high educational attainment of the respondents. This observation shows that there is a high proportion of college educated farmers, which implies a better human capital endowment when compared to the commonly held stereotype that farmers are poorly educated. This is important since educated individuals tend to be more receptive to technology adoption. In the context of online marketing, this profile implies that the barrier may not primarily be lack of cognitive ability or inability to learn digital tools, but rather concerns related to infrastructure, trust, logistics, and risk. In other words, the respondents appear educationally capable of adapting to online marketing systems if enabling conditions are present.

Given the range of income from below ₱20,000 to above ₱1.5 million annually, there appears to be considerable variability in income for agricultural farms. This income variation is probably related to crop type, farming scale, timing of sales, and seasonality. It is not uncommon in agricultural societies that income tends to vary greatly due to the dependence on harvests, market pricing, and climate. The wide range of incomes in this study suggests that farmers' preparedness for online marketing can also be influenced by their financial stability. Farmers earning more could afford to take risks and allocate money for packaging, logistics, and digital media, trying out direct marketing strategies.

The variation in the number of years involved in farming operations is another way of emphasizing the variety among the respondents. There are those who come from a long history of farming, and there are those who are recent entrants in the sector. This implies the presence of both traditional farming knowledge and new entrepreneurial mindset. In addition, Velasco (2019) highlighted the effect of the number of years of farming on managerial skills and operational efficiency. Experienced farmers are likely to have better production knowledge, whereas recent entrants are more innovative.

The size of the farm and ownership of the land form two critical structural results. The farm sizes in this study vary between 2 and 12 hectares, and all the farmers own the land that they cultivate. This suggests that they have a better production base than the situation prevailing in many other contexts where there are challenges with land tenure. Land ownership enables the farmers to plan their production activities better. Fan and Rue (2020) emphasized that smallholders' market success depends not only on production but also on their ability to connect to stable and rewarding market systems. In this case, ownership may support the willingness to consider innovations such as online marketing because producers have more stable control over supply and production continuity.

In sum, based on the socio-economic characteristics of the interviewees, they have a number of advantages conducive to innovation in terms of marketing practices: education, land ownership, and fairly large farms. However, considering their age composition, gender bias in decision making, and variable incomes, one can conclude that preparedness for engaging in online marketing could be affected both positively and negatively. In particular, this means that assistance efforts cannot be based on the assumption that farmers are not ready due to insufficient education.The profile also supports the argument that readiness for digital marketing is not merely a matter of awareness, but a function of socio-economic capacity, perceived risk, and institutional support.

Table 1. Profile of Farmers in Guimaras Island

Profile Variable	Key Findings	Interpretation
Age	52–69 years old	Farmers are generally in the older age bracket
Sex	71% male; 29% female	Farming operations are male-dominated
Educational attainment	86% college graduates; 14% high school graduates	Respondents have relatively high educational preparation
Monthly/annual income	Less than ₱20,000 to ₱1.5 million per year	Income varies widely and is influenced by seasonal production
Years in farming	1 to 35 years	Farmers have mixed levels of experience
Farm size	2 to 12 hectares	Respondents operate relatively large farms
Tenurial status	100% landowners	Farmers have secure control over production resources

2. Production and Marketing Practices of Farmers

Based on the analysis above, it can be concluded that a transition form of agriculture is practiced in Guimaras, whereby the farmers are involved in diversification exercises even while being reliant on conventional market systems. This involves farming a variety of crops, such as mangoes, durians, coffee, calamansi, cacao, and rambutan. This is because of the inherent dangers in farming, which range from climate changes, seasons, and pricing. This is inline with what Chay et al. (2019) stated regarding the usefulness of diversification to overcome shortcomings in conventional agricultural marketing systems.

Despite this diversification, mango production remains dominant in both cultivation and output. This reinforces Guimaras' identity as a major mango-producing region and provides a comparative advantage due to strong market demand and product reputation. But there is also the downside of vulnerability that comes with specialization. Farmers become susceptible to threats, including oversupply and unstable prices, owing to their dependency on a particular product. There are many cases in the past where, despite having high output, farmers suffered a drop in prices because they did not have a ready market for the produce (Ocampo, 2019; Galvez, 2019).

It is also important to note that the majority of agricultural produce is sold immediately after harvest, with little or no processing involved. This suggests that the farmers use the raw commodity model for marketing their agricultural produce since the goods are sold without undergoing any process. Although this method makes sales swift and saves on storage fees, it does not allow for added value. Such activities as processing, packing, and branding could add much value to the goods and increase earnings from them.

Immediate selling may be the result of many factors, but one of the most important factors can be the perishable nature of the farm products. As long as there are no sufficient storage or processing facilities available, the farmer has to sell his products immediately otherwise he faces a risk of losing his produce. However, in this way, he becomes vulnerable and has to agree to sell his produce at reduced prices.

Moreover, distribution patterns of markets suggest that there is still a significant degree of localization in agricultural marketing. Almost fifty percent of the agricultural products are distributed within Guimaras, while the remaining fifty percent goes to adjacent areas like Iloilo, Capiz, Bacolod, and Manila. This implies an attempt at market expansion but still retains regional concentration in terms of distribution. There could be several reasons why the market is dominated by local buyers. One reason could be the geographical closeness, reduced transport costs, and pre-existing buyer relationships.

Yet, a narrow orientation of the producers also points out to problems of scalability and entry into the more lucrative markets. To reach faraway markets, efficient logistics and transport infrastructure as well as information about markets are necessary. If not, it becomes difficult for farmers to enter other markets apart from their own. According to Yamashita (2019), the reliance of the farmers on conventional methods has been hampering them from realizing greater profits because of lack of competitive pricing and consumer networks.

The mode of selling reinforces the persistence of conventional practices. Direct selling is the dominant approach, but it does not always mean direct-to-consumer transactions . Farmers often sell to traders, vendors, or processors who still function as intermediaries. Although this reduces the number of intermediaries, it does not fundamentally change the structure of the market. Farmers remain part of traditional systems where pricing power is uneven and access to market information is limited.

This scenario serves as an example of the distinction between formal and functional disintermediation. While the farmers may be able to sell without intermediary services, they nevertheless work within markets where intermediaries hold sway. According to Yamashita (2019), the farmers must be offered other marketing means in order for them to take charge. Here, digital platforms provide such possibilities.

From a theoretical perspective, these findings align with value chain theory, which emphasizes that value is added at multiple stages from production to consumption. Farmers in Guimaras are primarily engaged in the production stage, with limited involvement in processing, distribution, or marketing. As a result, they capture only a small share of the total value generated. Expanding into downstream activities such as value addition and direct marketing could significantly enhance income and economic outcomes.

Overall, the production and marketing practices observed reflect a semi-commercial agricultural system. Farmers demonstrate strong production capacity and crop diversification, yet their marketing strategies remain underdeveloped. This mismatch between production potential and market capability is a common issue in developing agricultural systems, where improvements in production are not matched by advancements in marketing infrastructure. In relation to online marketing, the findings present both opportunities and challenges. The diversity of crops and volume of production suggest that farmers have the supply capacity to engage in digital markets. However, limitations such as lack of value addition, restricted market reach, and reliance on traditional selling methods indicate that transitioning to online marketing will require significant adjustments. Digital marketing is not merely a technological change but a transformation of the entire marketing system, including product presentation, logistics, pricing, and customer engagement.

Table 2. Product and Marketing Profile of Farmers

Indicator	Key Findings	Interpretation
Product varieties	Mango (71%), dragon fruit (57%), coffee (43%), calamansi (29%), cacao (29%), rambutan (14%)	Farmers cultivate diversified but fruit-centered crops
Volume of production	Mango: 16 tons/year; dragon fruit: 7 tons/year; rambutan: 3 tons/year; calamansi: 2 tons/year	Mango is the dominant commodity in terms of output
Uses of product	Mostly sold immediately after harvest; little to no processing	Marketing is oriented toward raw commodity sales
Market distribution	50% local market; 20% Iloilo; 10% each to Capiz, Bacolod, and Manila	Market reach is present but still regionally concentrated
Mode of selling	Direct selling is the dominant practice	Farmers rely on conventional and direct market channels

3. Farmers' Behavior Toward Online Marketing

The behavioral findings show that farmers are not unfamiliar with online marketing. In fact, universal familiarity indicates that online selling is already part of the broader social environment in which they operate. This is a crucial result because it shifts the discussion away from mere awareness and toward deeper issues of adoption readiness. Familiarity suggests that the concept of online selling is no longer novel. Farmers have already encountered it through observation, family networks, or community experiences. In behavioral terms, this means that the awareness stage of innovation diffusion has largely been achieved.

Just as important is the readiness to participate in online marketing. The finding shows that the respondents generally do not consider online marketing to be an unsuitable method for the agricultural sector. Rather, they seem to see some advantages in it. As Peter and Latha (2021) found, online marketing can prove to be beneficial to farmers because it helps expand the market by connecting producers with buyers in different locations. Likewise, according to Rameshkumar (2022), online marketing can be advantageous to marketing by helping lower its costs and providing favorable marketing conditions during disruptive periods.

This trend can also be explained using technology acceptance theories. Readiness is generally influenced by the perception of usefulness and ease of use. If the farmers perceive that online marketing will enable them to link up with customers in a more efficient manner and minimize the use of middlemen, thereby potentially improving prices, then they would be more willing. The high number of respondents who were motivated by observing other people using online marketing further emphasizes the importance of social proof.

Studies on social media in agricultural marketing support this interpretation. Balkrishna and Deshmukh (2017) argued that social media improves information flow and agricultural marketing efficiency. Similar conclusions were reached by Mwangi and Wagoki (2016), Ogunniyi and Ojebuyi (2012), Vassiliadou et al. (2011), and White et al. (2014), all of whom found that digital and social media tools positively affect agricultural promotion, communication, and turnover. These studies reinforce the finding that willingness among farmers is not accidental; it reflects growing recognition that digital tools have practical economic value.

Equally important, willingness must not be mistaken for complete readiness. While behavioral readiness is essential, it is not enough. The farmers are willing, yet may lack both the ability and willingness when it comes down to adoption. The implications, therefore, point to the existence of a favorable behavioral foundation for intervention, in that the issue now is not about convincing the farmers regarding the significance of online marketing, but rather enabling them to adopt it.

Table 3. Behavior of Farmers Toward Online Marketing

Indicator	Result	Interpretation
Familiarity with online marketing	100% familiar	Farmers are aware of the concept and practice
Willingness to engage	85% willing	There is strong behavioral openness to adoption
Source of influence	Exposure to relatives/friends doing online selling	Social exposure shapes behavioral intention

4. Challenges and Readiness for Online Marketing

However, the existence of both high willingness and high risk perception can be considered a "readiness-constraint paradox." On one hand, farmers show readiness in terms of awareness and willingness. On the other hand, the institutional and infrastructural constraints prevent the adoption of digital marketing techniques. The phenomenon is consistent with the principles of the Technology Acceptance Model (TAM). According to TAM, the adoption process depends on not only perceived usefulness but also ease of use and risk. While farmers understand the usefulness of online marketing (broader market reach and better prices for their products), their doubts regarding fraud and payment risks negatively affect the perception of ease and security and, thus, lead to low behavioral intentions. Likewise, the theory of Diffusion of Innovations (by Rogers) states that innovation adoption can be impeded due to the perception of risks and compatibility issues. The farmers' inclination to sell their goods directly demonstrates that digital marketing cannot be considered a normalized practice in their farming networks.

Fraudulent transactions and insecure payment systems are common, underscoring the core problem of mistrust in digital networks. Contrary to conventional transactions, which rely on personal interaction, online marketing involves informational asymmetry and anonymity, making the participants feel exposed. Indeed, the results affirm Yamashita (2019), who noted that although online marketing can bypass the need for middlemen, it necessitates the implementation of governance mechanisms to safeguard both the buyer and the seller. In their absence, the farmers would consider digital platforms more risky than middlemen, regardless of the exploitative nature of the latter. Besides, according to Rameshkumar (2022), digital marketing is an efficient way of minimizing transaction costs and boosting profit margins but only if secure payment mechanisms are guaranteed.

Another critical barrier is losses during transport (42.9%), which reflects the perishability of agricultural products and inadequate logistics systems. Unlike non-perishable goods, agricultural commodities—especially fruits like mango and dragon fruit—are highly sensitive to handling, packaging, and delivery time. This finding is consistent with Chay et al. (2019), who noted that marketing inefficiencies in agriculture are often linked to poor post-harvest handling and transportation systems. The shift to online marketing intensifies this challenge because it requires longer distribution chains and higher quality standards. From a value chain perspective, this indicates that farmers remain concentrated at the production stage, with limited engagement in post-harvest value addition and

logistics management. Without improvements in packaging and cold-chain systems, digital marketing may increase exposure to risks rather than profitability.

Although less dominant than trust-related issues, internet connectivity (28.6%) remains a notable constraint. This reflects the broader issue of digital inequality in rural areas, where infrastructure development lags behind urban centers. The World Bank (2020) emphasized that digital agriculture can only succeed when supported by reliable internet infrastructure and access to digital services. In areas such as Sibunag and Nueva Valencia, connectivity limitations restrict farmers' ability to engage in real-time transactions, online promotions, and customer communication. However, the relatively lower percentage compared to other barriers suggests that connectivity is no longer the primary bottleneck, but rather part of a broader ecosystem challenge involving trust, logistics, and institutional support.

Interestingly, investment cost and lack of equipment were the least reported barriers (14.3%). This indicates a significant shift from traditional assumptions that technology affordability is the main obstacle in digital adoption. This finding supports Peter and Latha (2021), who observed that the proliferation of smartphones and social media platforms has reduced entry barriers for digital marketing. Farmers increasingly have access to basic digital tools, often through personal or family networks. Thus, the challenge is no longer access to technology, but rather effective utilization and integration into business practices. This reinforces the idea that digital transformation in agriculture is more of a systems issue than a technology issue.

The high level of willingness among farmers can be partly explained by observational learning, as many respondents reported exposure to relatives or peers engaged in online marketing . This aligns with social learning theory, where individuals adopt behaviors based on observed success within their social networks. Studies by Balkrishna and Deshmukh (2017) and Mwangi and Wagoki (2016) confirm that social media enhances information flow and marketing performance, thereby influencing adoption decisions. As farmers witness successful cases of online selling, their perceived benefits increase, strengthening their readiness. However, without addressing structural barriers, this readiness may remain aspirational rather than actionable.

CONCLUSION

It is evident that there is a significant production capability among the farming community on Guimaras Island, diverse agricultural products, and heightened awareness regarding the use of online marketing tools. Nevertheless, despite their readiness for online marketing, the implementation of the same faces serious structural challenges. These challenges range from issues relating to transaction safety, poor payment mechanisms, inefficient logistics, and inadequate ICT infrastructure.

The findings emphasize that digital transformation in agricultural marketing extends beyond technological awareness and requires an enabling ecosystem that supports safe, efficient, and accessible market participation. Farmers' continued reliance on traditional marketing systems reflects not resistance to innovation, but rational responses to perceived risks and operational limitations.

For increasing the adoption rate of digital marketing, efforts should be concentrated on improving support systems such as security of digital platforms, forming cooperatives among farmers to gather products, betterment in the packaging and transport system, and providing more internet access to rural areas.

Overall, the study highlights the need for an integrated approach that combines technological innovation, policy support, and capacity-building initiatives to empower farmers and ensure their effective participation in digital agricultural markets.

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