Farmers' Awareness towards Digital Marketing in M'lang, Cotabato

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ABSTRACT

Digital marketing has become a dominant force in the business world, bridging the gap between sellers and buyers through convenient global communication. Despite its widespread use, many farmers remain unaware of the diverse platforms available to market their agricultural products. This study sought to assess the level of awareness of vegetable farmers in M'lang, Cotabato regarding digital marketing. A total of 165 farmers were selected through simple random sampling, and data were collected using an interview guide. The study employed a descriptive-correlational design, with frequency counts and percentage distributions used for descriptive analysis, while Chi-square tests and point biserial correlations were applied to examine relationships between variables.

Findings revealed that most respondents were familiar with social media marketing and traditional channels such as television and radio advertisements. However, awareness of other digital platforms including email marketing, websites, content marketing, and mobile marketing was notably low. Statistical analysis rejected the null hypothesis, showing significant relationships between farmers' age, family monthly income, educational attainment, and their level of awareness of digital marketing platforms.

Overall, the study concludes that while farmers in M'lang, Cotabato demonstrate some awareness of digital marketing, particularly through social media, many remain uninformed about other available platforms. Consequently, most continue to rely heavily on direct selling as their primary marketing strategy.

Keywords: Agricultural marketing, digital marketing awareness, ICT adoption, social media marketing, vegetable farmers

INTRODUCTION

Digital marketing has dominated the business world as it bridges the gap between sellers and buyers through convenient communication all around the world. Since the digital marketing industry is constantly changing, businesses must keep up with current trends in order to attract customers' attention. Perhaps its significant influence on the people has brought about an effective change towards improving the livelihood of businessmen, particularly farmers. Farmers play a vital role in our society, as they create a sustainable living for all the people. Also, many digital marketing platforms were created, however, farmers are not knowledgeable and are unaware that there are other platforms which they could use to market their agricultural products. Since, as studied by Nagaraj (2022), lack of knowledge, security concerns, fear to use and lack of digital tools are some of the reasons why farmers are less involved in digital marketing.

According to Nagaraj (2022), many young farmers are ready to embrace digital marketing because the state and central governments conduct farmer awareness campaigns with regards to digital marketing and they develop policies that would promote the development of a sustainable digital agricultural market. The Agricultural Training Institute has conducted the training on Digital Marketing which aims to provide farmers with the knowledge and skills in the digital marketing techniques so that they could reach the audience in a way that is not costly, measurable, and scalable. (Akut, 2022). Through the advancement of the internet and global

interconnectedness, a tremendous opportunity in accelerating farmers' livelihoods through technological innovation such as mobile applications, arises. However, most of the farmers have not taken full advantage of these benefits (Diaz et al., 2021).

Farmers have limited access to modern world. Although some are already capable of racing with us today, there will always be those who are left out. There is a tendency that the reason why some farmers are not being profitable enough is because of their incomprehension in digital marketing. Which is why the purpose of this study is to determine farmers' awareness towards digital marketing in M'lang, Cotabato. Hence, this study is significant for farmers as it raises awareness about digital marketing and its potential to expand the reach of their vegetable products globally. Government agencies can utilize these findings to design supportive programs and policies that encourage farmers to adopt digital platforms, thereby strengthening agricultural markets. Agricultural extension services can integrate the insights into training modules, helping farmers develop practical skills in online promotion and sales. NGOs can leverage the results to craft community-based initiatives that empower smallholder farmers and improve market access. Training institutions can incorporate the study into curricula, equipping future agricultural professionals with knowledge of modern marketing strategies. Consumers benefit as well, since digital marketing provides them with convenient and efficient ways to purchase fresh produce. Finally, the study serves as a valuable reference for future researchers and offers guidance to aspiring entrepreneurs in the agricultural sector, enabling them to market their products more effectively through digital tools.

The general objective of the study was to determine the farmers' awareness towards digital marketing in M'lang, Cotabato. Specifically, this study aimed to describe the socio-demographic profile of the respondents, identify the source of awareness about digital marketing platforms, determine the level of awareness of the respondents to the different digital marketing platforms, examine the ownership and internet connectivity of ICT gadgets on the respondents, determine the constraints of farmers in using digital marketing platforms, and know if there is a significant relationship between the profile of the respondents and their level of awareness to the different digital marketing platforms.

The study was expected to provide information on the socio-demographic profile of the respondents, source of awareness about digital marketing platforms, level of awareness to the different digital marketing platforms, ownership and internet connectivity of ICT gadgets, constraints of farmers in using digital marketing platforms, and relationship of farmer's profile and their level of awareness to the different digital marketing platforms.

This study was conducted in the Municipality of M'lang, Cotabato Province in October 2023 and the study hypothesized that there is no significant relationship between the profile of the respondents and their level of awareness to the different digital marketing platforms.

Conceptual Framework

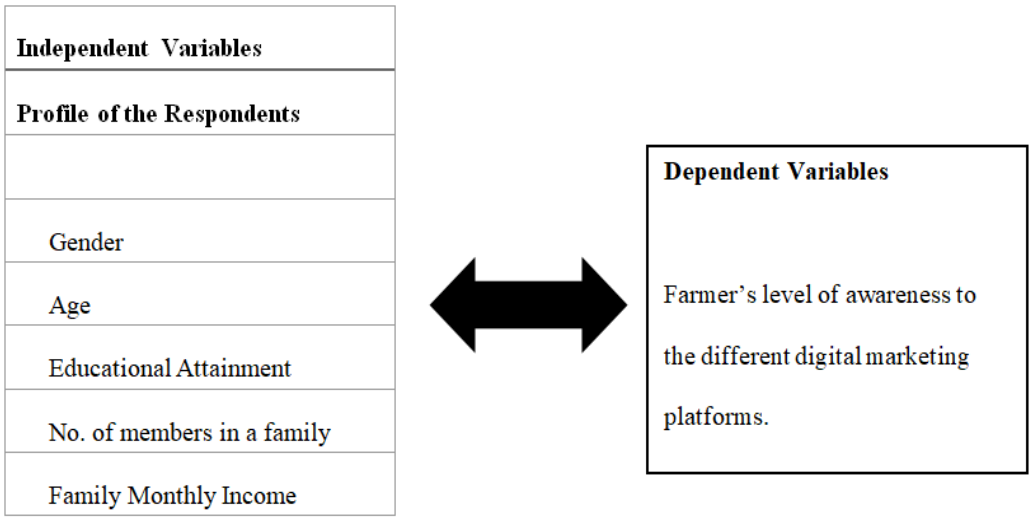

Figure I: Schematic Diagram of the Study

The figure shows the conceptual framework used in the study. The researcher will study the relationship of the independent variables which are the profile of the respondents specifically their gender, age, educational attainment, no. of members in a family, and family monthly income to the dependent variable which is farmer's level of awareness to the different digital marketing platforms.

LITERATURE REVIEW

Source of Awareness about Digital Marketing Platforms

Farmers need to expand their scope of business since it would help them to grow thus engaging in digital marketing will affect a positive change towards them. Hence, some of the source of farmers awareness in digital marketing platforms may came from the people that surrounds them. Based from the study of Nagaraj (2022), respondents are more aware about digital marketing through their source in advertisement such as TV, newspaper, social media and etc. Other choices are self-knowledge, dealers, advertisement and through friends and relatives. However, the use of radio and television as sources of agricultural knowledge, notwithstanding their potential, is still low among Tanzanian farmers according to the study of Mtega (2018). The modern customer expects a smooth online experience across all digital channels. Online shopping through various ecommerce is one of the most popular activities in the Philippines on smartphones and the internet, but very few people actually know that the same platform can be used for selling things.

As anchored in the study of Secretaria (2019), farmers who either lack suitable access to technology or lack sufficient information that such a platform of technology is available as a tool for enhancing agriculture business are particularly susceptible to this knowledge deficiency. The statistics also showed that small-scale farmers in the Philippines are only very dimly aware of the e-commerce and social media platforms that are now in use.

There are a lot of digital marketing platform which the farmers can use in marketing their products however according to Gartner (2022) it can only be categorized as a digital marketing platform, when it enables functions like media buying, performance measurement and optimization, and brand tracking rather than claiming to support every aspect of digital marketing. It might not, however, include other marketing techniques like social media or search engine optimization. Digital marketing platforms are tools that offer numerous commercial or technological capabilities in the context of contemporary business. Platforms offer several marketing functions across various demands, whereas tools only address specific functions inside one company need, such as a single tool for scheduling social media updates. By utilizing application programming interfaces, integrations, and partnerships with other apps or data sources, digital marketing platforms often make it possible for a wide range of different operations to be performed at once.

ICTs have also presented new avenues for agriculturists and climate experts to generate, disseminate and translate weather information and, more generally, ICTs provide advisory services without the constraint of physical distance. As Mandal (2019) stated that farmers now have access to cutting-edge farming practices. Their output will rise as a result of this information. In addition, if the farmer receives proper training, he or she may be able to share this information with a larger audience in a number of local languages by setting up a blog or website and making use of social networking tools.

Further, ICTs have enabled farmers to establish linkages with financial institutions, government agencies, transport services, input suppliers and producer associations and networks who are all instrumental to achieving food security and livelihood outcomes.

Level of Awareness to the Different Digital Marketing Platforms

Farmers are not always aware about the happenings in the society, thus sometimes the things that they are unaware of can also be helpful for them especially with their farming. One instance is their awareness in different digital marketing platforms which can be seen in the study of Secretaria, N. M. (2019), wherein the respondent farmers are unaware that the platforms can be used as for the sale of products and services. Farmers may suffer a huge loss if they have little or no knowledge of e-commerce and social media platforms. This is because these platforms are used in modern commerce to exchange goods and services. The internet serves as an anchor for

modernity. As supported by Mandal (2019) in which network connectivity is the lifeblood of any digitization process, hence connectivity problems are a major concern. However, despite having the second-highest number of internet users, connection is a major problem in the majority of India's rural areas. Farmers are not eager to convert to newer marketing methods, despite the fact that it has taken a long time to convince them to adopt contemporary farming practices—a process that is still ongoing.

According to Subashini and Fernando (2017), television, radio, cell phones, and landlines are the most popular ICT tools that farmers use and are willing to utilize for personal and professional purposes. The main barrier discouraging farmers from using ICT is the fear of adopting new technology brought on by ignorance. The high cost of equipment, the lack of available technology, and language barriers are the other main issues that must be resolved in order to bring ICT to the rural farming population. According to research, younger generations are more open to and engaged with contemporary technology, whereas farmers over 45 years of age still prefer the old method.

The expansion of other agribusiness companies opens more opportunities however, Radd Interactive (2020) said that the farming and agribusiness industries themselves have become more complicated, encompassing subsectors like crop production, supply-chain services, chemicals, farm equipment, and precision agriculture as agriculture and agribusiness sectors in the United States have expanded to represent a market worth close to $390 billion in goods. Businesses in these industries now have the option of using online marketing techniques or more conventional corporate outreach channels. Yet, the reality is that digital marketing for agriculture and the agribusiness industry gives companies the chance to become more visible and to produce business-to-business leads more effectively than before. This is similar to the study of Reddy (2021) wherein farmers can benefit from digital marketing platforms since they improve sales and decrease costs. In his study, up to 90% of the farmers who responded say that agricultural digital marketing is effective which means that they are aware of what digital marketing is. Unlike from the conventional marketing which makes it more difficult to target clients because there is less data available about them.

Also, according to Nagaraj (2022), social media marketing, e-mail marketing, website, content marketing, mobile marketing, and radio and TV ads are the awareness level of farmers in different digital marketing tools. Thus, digital marketing has a broader variety of sources, clients and channels and has high customer engagement rates and purchase conversion rates for agricultural production.

Ownership and Internet Connectivity of ICT Gadgets

Information and communication technologies (ICTs) comprises the networks, mobiles, devices, services, and applications that facilitate the processing, management, and sharing of data, information, or knowledge with a target audience. From the study of Mansour (2023), the majority of respondents had a combined work experience of 26 to 30 years. Most of them spent 4-6 hours a day using ICTs. These were used by all respondents to discover innovative agricultural goods, improve land productivity, discover market information, and discover livestock. All participants indicated mobile phones, social media, and the internet as the most practical and user-friendly technology. It was revealed that respondents' attitudes toward CITs were influenced by illiteracy, a lack of knowledge and awareness, and the cost of CITs. The use of ICT in agriculture benefits farmers by allowing them to acquire market information and promote their products (Dabbara et al., 2019).

ICT covers a wide range of convergent technologies, including conventional telecoms, television, radio, CD-ROMs, mobile phones, smart gadgets, and various contemporary ones like computers, the internet, sensors, satellites, Geographic Information Systems, and so on. Farmers can keep up with all the most recent information with the help of ICT. This includes information on the weather, agriculture, and newer, more cutting-edge techniques for improving crop quality and productivity. ICTs have significantly changed how people, governments, and enterprises of all sizes transact business today since its main objective is to convey information from one place to another. Almost 60% of people worldwide have access to the internet, and mobile internet is currently the most popular method of accessing the internet globally. ICTs have been widely adopted, allowing for improved communication and the supply all information and services to people who previously lacked access. Anchored in the study of Nagaraj (2022), the computer, laptop, smart phone, and tablet are the farmers' ownership of gadgets.

There is a lack of ownership and inadequate infrastructure for these ICTs which constraints restricting their level of utilization. The weekly allotment of agricultural radio and television programs constrained the use of radio and sources of agricultural information on television. Thus, it is advised that radio and television stations should advertise their agricultural programming before airing them. The government should lower the tariffs imposed on the purchase and upkeep of radio and television (Mtega, 2018). For a reason that government intervention in agricultural marketing has helped it grow over the past several decades. ICT enables small farm holding farmers to locate multiple buyers for their agricultural products who are willing to pay high prices because the products are in-demand and fresh. In this digitally dominated world, we can extensively develop the agriculture marketing end to end through digital applications. Small farm holding farmers used to solely deal with a small number of direct pickup customers. However, the number of buyers in the digital agriculture marketing mode is currently growing. Digital and internet-based applications on Android phones give farmers market information that can reduce market distortions, logistics and transportation losses, and product waste and damage. Android mobile and internet-based digital applications can assist in finding farmers, agricultural input dealers, agricultural output buyers, storage facilities, and reputable financial institutions for investment purposes. As a result, farmers are receiving higher profits for their yields in the digital agriculture markets (Reddy, 2021).

Based from the study of Ramamurthy (2017), the various stakeholders will be connected via a planned e-agriculture platform, which would use ICT technologies, smart data management, and farm management systems to assist farmers in overcoming present issues. The platform will include a variety of access channels, including contact centers, radio, television, kiosks, mobile, and desktop. Twenty percent (20%) of farmers who use mobile phones—which comprise more than 80% of them—also use smartphones. Affordable high-speed internet is readily available, and social media sites like Facebook are frequently utilized for information sharing. Fawole and Olajide (2016) noted that farmers preferred older ICTs like radio and television for agricultural information awareness. Also supporting the earlier studies, Syiem and Raj (2015) which emphasized that majority of farmers owned cellphones, televisions, and radios. For instance, using a mobile device to make payments has increased the security and speed of financial transactions along the value chain between farmer's actors (Potnis et al., 2017).

Moreover, in order to utilize these gadgets, assessing and evaluating if farmers have the internet connectivity in their homes is essential. Thus, according to Prasad (2023), Dial-up Internet, Cable Internet, Satellite, and Cellular Broadband (Mobile) are the connections which are used to communicate, promote, and share their thoughts as well as their ideas. Also, it was added by Khillar (2019), how wi-fi was also used as an internet connectivity. Wi-Fi is a technology that broadcasts over a few hundred meters range and offers high-speed Internet access without using wires. However, there are also people who do not have internet connection due to their place or lack of financial resources.

Constraints of Farmers in Using Digital Marketing Platforms

Farmers cannot always keep up with what is trend in the society, they are sometimes left behind particularly when marketing their agricultural products. Since the rise of digital marketing has given people more opportunities, we cannot deny the fact that it has also brought many challenges which up until now we are still facing and striving to seek for solutions. In relation to that, farmers' use of digital marketing platforms has also been challenged due to many constraints which cited by Gupta (2021), poor access to network and internet connectivity and lack of digital agricultural knowledge. Poor access to network and internet connectivity, since the global agricultural supply chain can now be better understood through the internet. With the advent of search engines, online reviews, digital marketing, and social media recommendations, many consumer paths to product purchase now start online. Although the cost of smartphones has decreased significantly across the board, access to mobile internet has remained a major challenge, especially in low- to middle-income nations. (LMICs). The majority of people in LMICs use the internet through their mobile devices, yet 60% of them are still not connected, with farmers in rural areas bearing the greatest burden of the problem. Mobile internet use is roughly 40% less common among rural residents than among urban ones.

Lack of digital agricultural knowledge, this problem occurs in third-world countries where farmers have minimal experience with e-commerce services and where digital literacy is typically low. Due to the lack of internet

connections in rural areas, digital agricultural firms find it challenging to use marketing to raise awareness and encourage the adoption of their platform, so they must hire local field agents to train farmers in crucial tasks like packing, uploading, grading, and the specifics of the food farmers want to sell. Some of the constraints were anchored in the study of Shanthya and Sankar (2017), these are problems of foreign language which garnered the majority of the respondents, difficulty in reading on screen text, use of ICT causes eye and other health problems and the lack of skills to use ICT gadgets.

Marketing agricultural farmers has been one of the challenges of farmers thus they were constrained because of Worldwide competition since there are a large number of vendors from various nations and geographic regions. Therefore, it is challenging to anticipate the sale of products from Indian farmers at the correct price and at the right time. Also, farmers cannot completely depend on e-marketing because many buyers still prefer to buy things offline. So, it is vital to rely on offline markets in some capacity (Reddy, 2021). Government intervention in the agricultural marketing has helped it develop over the past many decades. ICT enables small farm holding farmers to locate various consumers for their agricultural products who are willing to pay high rates because the items are in-demand and fresh. In this digitally controlled world, we can significantly improve the agriculture marketing end to end using digital applications. Small farm holding farmers used to solely deal with a small number of direct pickup customers.

In the current digital farm marketing mode, there are more consumers. In the study of Kasimin (2021), farmers are lack of funds and lack of facilities and infrastructure and solutions has been presented such as offering local access to digital infrastructure and facilities, working capital help, scholarships for farmers' families, and socialization and training on the use of digital technologies. Farmers could use their land more efficiently if the land tenure agrarian legislation was strengthened and a land conversion law was passed. This is supported in the study of Ghosh et al., (2022) wherein he cited lack of availability of ICT facilities as one of the constraints of farmers.

The widespread use of modern information technology for communication needs to be fostered so that technology and information can be transferred in an affordable manner. It has the potential to provide new information services to rural areas, giving farmers greater influence over existing information channels than ever before. Given the current state of the globe, which is undergoing rapid change, ICT use has been acknowledged as a key pillar of agricultural expansion and a crucial input mechanism for disseminating knowledge (information) and advice as an input for modern agriculture. Hence, Pavithra and Nayak (2019), revealed some of the constraints of farmers in using digital marketing platforms, these are lack of interest and confidence in online marketing, illiteracy of farmers, and lack of knowledge of e-payment and its difficulties to small farmers. Moreover, these constraints are totally present with farmers nowadays, given their age which really affects their usage of ICT gadgets. Thus, more importantly is that they make ways in order to solve and prevent these constraints so as to generate income for the betterment of their business.

Relationship of Farmer's Profile and their Level of Awareness to the Different Digital Marketing Platforms

Farmers have limited access to modern world though some are already capable of competing with other businesses, there will always be those who are left out. There's a tendency that the reason why some farmers are not being profitable enough is because of their incomprehension in digital marketing. According to the study of Zougmoré and Partey (2022), despite the fact that gender is a top priority for African development, its relationship to research on ICT in agriculture and climate change is limited. Using the literature found, just 3% of respondents linked ICT use to measures of gender empowerment, and the outcomes were mixed. The use of digital tools in Africa for farmers' agricultural education and the dissemination of agricultural knowledge are becoming more and more popular (Evans, 2018). Regardless huge advantages and potentials of using ICT in agriculture, there are a number of variables that affect and limit farmers' usage of these technologies. These difficult and restricting conditions can even be worse for female farmers.

Gender is one of the factors that affects the ICT ownership of farmers since based on Partey (2020), authors like McOmber et al. and Gillwald et al., argued that men are about 80% more likely to own mobile phones than women despite an increasing mobile penetration in Africa. Development experts advise that in order to address

these gender gaps and fully take advantage of the potential benefits of ICT use in agriculture and climate risk management, efforts to foster innovation and a gender-inclusive digital transformation in agriculture and in response to climate change must drive policy decisions that promote investments in ICT for female. Generating the necessary data is a crucial step in activating such policy actions and generating investments. Additionally, Morwani (2017) stated that education level is a significant factor of intensity in the adoption of ICT in marketing of agricultural products. This recommends on the enhancement of different project about ICT's where farmers could get easy access in communicating with the people to sell their goods in the market.

According to study of Secretaria (2019), the age distribution of the respondents must be determined because it may have an impact on a farmer's ability to produce. Aging farmers have an impact on overall productivity, according to a recent study in China (Guo et al., 2015). This study also shows how old the respondents were. The statistics showed that 45, or 28.8% of the total respondents, are between the ages of 46 and 55, which has the greatest response in terms of age. While the responders aged 66 to 75 have the lowest frequency at 11, or 7.1%. Although age, years of farming, and income were shown to be significantly correlated, the results ultimately showed that there was no significant association between the respondents' level of awareness and their income. Mabe and Oladele (2012) investigated the state of information and communication technologies in South Africa. The results demonstrated that extension officers recommended a high level of expertise, including mobile phones, computers, the internet, overhead projectors, fax machines, organizational e-mail, landlines, individual e-mail, and the organization's website, among other things.

In their 2015 study, Umar et al. looked into State A.D.P extension agents' knowledge of and usage of information and communication technology. The majority of respondents in the research area were found to be familiar with at least one ICT. It was determined that the socioeconomic traits of the extension agents in the research area had an impact on their level of ICT use. Knowledge and communication technologies have enormous promise for improving agricultural extension delivery. The research area's use of ICT was significantly influenced by parameters like marital status, educational attainment, level of training, and professional association participation. This guarantees that the extension agents can use ICTs effectively and efficiently the more expertise they have. In the study of Kabir and Roy (2015), the respondents' least favored ICT tool was the Internet, whereas their first and second most chosen tools were a mobile phone and a tab, respectively.

Anchored to the study of Alant (2021), when examining the relationship between ICT literacy levels and demographic variables, it was discovered that there were significant negative associations between ICT literacy levels and age and years of experience, but significant positive associations between ICT literacy levels and educational level. As a result, the SHFs' age and years of agricultural experience are adversely and inversely correlated with their ICT literacy competency, whereas their educational attainment is directly correlated with their ICT literacy proficiency. This supports the study of Wawire et al (2017), whereas the age factor can be categorized as a moderating variable that significantly and negatively influences the ICT literacy requirements of Msinga SHFs.

Education level can be thought of as a moderating factor that influences Msinga SHFs' ICT literacy requirements in a favorable and significant way. The findings of this study have demonstrated that the adoption of ICT by farmers may be significantly hampered by a lack of specific ICT skills, as this adoption heavily depends on the users' practical ICT expertise. The results of this study also support those of Subashini and Fernando (2017), who found a decline in ICT use among Sri Lankan farmers as they aged and a very high correlation between ICT use and level of education. From these studies, we can see how age and level of education significantly affects the use of ICT gadgets which means that as farmers aged, their usage of ICT are being lessen since they are no longer capable in using these. Additionally, their level of education becomes the basis of their knowledge when they use ICT. Furthermore, their socio-demographic profile affects their ICT usage regarding on how they market their products.

METHODS

Research Design

This study employed descriptive – correlational research design. The descriptive design was used to describe the farmers' socio-demographic profile; their source and level of awareness about digital marketing platforms;

ownership and internet connectivity of ICT gadgets; and constraints of farmers in using digital marketing platforms. In addition, the correlational design was used to determine the relationship of farmers' profile and their level of awareness to different digital marketing platforms.

The Respondents

The respondents of this study were the farmers who are selling vegetables in M'lang, Cotabato who has a land area of at least ¼ ha.

Sampling Procedure

The purpose of this study is to ascertain the farmers' awareness in digital marketing in M'lang, Cotabato using the simple random sampling. The researcher used a Slovin's formula to calculate the sample size (n) formula of the respondent.

It is computed as $n=N/ (1 + Ne^2)$.

whereas:

n= number of samples

N= Total of population

e= 5% or 0.05

$n= 281 / \{1 + 281(0.05)^2\}$

n= 281 / (1 + 0.7025)

n= 281 / 1.7025

n= 165. 05

n= 165

There were 165 respondents of this study. Thus, these 165 respondents were obtained through performing a draw lots on 281 total population of vegetable farmers.

Research Instrument

The questions were adopted from the study of Nagaraj (2022) entitled "Impact of Digital Marketing in Agricultural Sector" with detailed survey items except from the questions about the internet connectivity of ICT gadgets and constraints of farmers in using digital marketing platforms. The research instrument was an interview guide which consists of five (5) parts containing checklist and writing information. Part I consists of the items that gathers demographic profiles, such as their gender, age, educational attainment, number of members in a family, and family monthly income. Part II refers to the source of awareness about digital marketing platforms. Part III refers to the level of awareness of the respondents to the different digital marketing platforms. The part IV refers to the ownership and internet connectivity of ICT gadgets of the respondents. Lastly, part V refers to the constraints of farmers in using digital marketing platforms.

Data Gathering Procedure

The University of Southern Mindanao's ethical guidelines for research was followed in conducting this study. It was carried out to make sure that everyone who participated in the conduct of this study were protected in their rights and safety. Additionally, this was carried out to guarantee the accuracy and integrity of the data collection and processing. Before conducting the study, the researcher seeks a clearance form from the ethics committee

through the College Research Coordinators (CRC) office. After the issuance of the Exempt for Review Certificate by the CRC, the researcher started collecting the data needed for the study. In engaging with the respondents, the researcher upholds impartiality, objectivity, and any applicable codes of conduct. This involved obtaining the respondent's consent and ensured that they are aware of the study's objectives and the reasons they are required, particularly during the data collection.

The researcher gathered both primary and secondary data. The interview guide was the primary source of quantitative data for the study's area. Secondary data sources included the journals, articles, internet and books. The researcher submitted a letter to the adviser for review and approval. The researcher personally coordinated with the selected respondents in the municipality of M'lang, Cotabato Province to conduct the research thoroughly. The researcher introduced herself and explained the purpose of this study. Next, the researcher explained to the respondents how to answer the interview guide. Lastly, the researcher compiled the data and tabulated the results.

Data Analysis

Chi-Square Test for association and point biserial was used in determining the relationship between the profile of respondents and the level of awareness to the different digital marketing platforms. Specifically, the frequency counts and percentage distribution were used in terms of the socio-demographic profile of the respondents, the source and level of awareness on different digital marketing platforms, ownership and internet connectivity of ICT gadgets, and constraints of farmers in using digital marketing platforms in Mlang, Cotabato.

RESULTS AND DISCUSSION

Socio-demographic Profile of the Respondents

Table 1 presents the socio-demographic profile of the respondents, covering age, family size, sex, educational attainment, and monthly family income. The data reveal that the largest group of respondents (24%) were aged 51–60 years, followed by those aged 31–40 years, indicating that vegetable farming is primarily practiced by adults.

As shown in Table 1, the majority of respondents (57%) reported having 1–5 family members, suggesting that most vegetable farmers belong to relatively small households. In terms of sex, 68% of respondents were female, highlighting those women are more actively engaged in vegetable farming. Many explained that farming requires relatively less physical effort and is often pursued as a hobby while managing household responsibilities.

Educational attainment data show that 44% of respondents had reached the high school level. Several noted that financial constraints prevented them from pursuing college education, while others faced challenges completing high school.

Finally, the findings on family monthly income reveal that 72% of respondents earned below ₱10,000. This indicates that most vegetable farmers have unstable incomes, with many relying solely on farming as their primary source of livelihood.

Table 1. Socio-demographic profiles of the respondents.

Variables	Frequency (n=165)	Percentage (%)	Average
Age			46
11-20	3	2	
21-30	16	10	
31-40	39	24	

41-50	36	22	
51-60	40	24	
61-70	27	16	
71-80	4	2	
No. of members in a family			12
1-5	94	57	
6-10	67	41	
11-15	4	2	
Sex			
Female	112	68	
Male	53	32	
Educational Attainment			
Elementary Level	45	27	
High School Level	72	44	
College Level	33	20	
No formal education	15	9	
Family Monthly Income			25,000
Below 10,000	119	72	
10,000-20,000	35	21	
20,001-30,000	4	2	
30,001-40,000	1	1	
40,000-50,000	6	4	

Source of Awareness about Digital Marketing Platforms

Table 2 shows the source of awareness of the respondents about the digital marketing platforms. Based on the findings, the awareness of majority of the respondents (52%) about digital marketing platforms came from family, friends and relatives. It connotes that majority of the respondents were not well-informed by the other sources. Since most of them were aged 51-60 based on the data on demographic profile, they are more reliant on the people around them. This finding contradicts with the study of Nagaraj (2022) wherein most of the respondents' source of awareness came from advertisement.

Also, the lowest response (1%) was on the newspaper since newspaper nowadays are not really used by many people due to the advancement of technology. Data also show that most of the respondents have no source of awareness because they are not aware of these digital marketing platforms considering that their place is in a secluded area and they have no ICT gadgets to use.

Table 2. Source of awareness about digital marketing platforms.

Variables	Frequency (n=165)*	Percentage (%)
Through Family, Friends and Relatives	86	52
Social Media	78	47
Advertisement through TV and Radio	28	17
Self-knowledge	17	10
Acquaintance	10	6
Dealers	8	5
No source of Awareness	5	3
Newspaper	1	1

*Multiple Response

Level of Awareness to the Different Digital Marketing Platforms

Table 3 presents the respondents' awareness of various digital marketing platforms. The majority (79%) indicated awareness of social media marketing. This aligns with Dencheva (2023), who noted that social media marketing has become one of the most successful and widely used forms of digital marketing. His study further revealed that 89% of respondents actively engage with Facebook, the most popular social media platform.

The data also show that most respondents were aware of radio and TV advertisements, though the margin between those aware and not aware was relatively small. This finding supports Nagaraj (2020), whose study reported that only 1.67% of respondents were unaware of radio and TV ads, while the rest demonstrated awareness.

In contrast, awareness of mobile marketing was very low among respondents, with almost all reporting unfamiliarity with this platform. This contradicts the findings of Nagaraj (2022), who observed that the majority of his respondents were aware of mobile marketing.

Regarding websites, 17% of respondents reported being unaware of them, which again differs from Nagaraj's (2022) results, where only 7.5% were unaware and most respondents demonstrated familiarity.

For content marketing, 16% of respondents indicated lack of awareness. This finding is consistent with Nagaraj (2022), who also reported that unawareness was the most common response. Several respondents explained that their limited knowledge stemmed from a lack of information, and many preferred engaging with Facebook instead.

Finally, in terms of email marketing, 15% of respondents reported being unaware, with only a small proportion expressing awareness. This contradicts Nagaraj's (2022) findings, which showed that nearly all respondents were familiar with email marketing, with only 9.17% reporting unawareness.

Table 3. Level of awareness to the different digital marketing platforms.

Variables	Frequency (n=165)	Percentage (%)
Social Media Marketing	131	79
Radio and TV ads	87	53

Mobile Marketing	39	24
Websites	28	17
Content Marketing	27	16
E-Mail Marketing	24	15

Ownership and Internet Connectivity of ICT Gadgets

Table 4 shows the respondents' ownership and internet connectivity of their ICT gadgets. In terms of the ownership of ICT gadgets, the data revealed that almost all of the respondents (95%) were using smart phone, hence this is supported by the findings of Nagaraj (2022) wherein most of his surveyed respondents specifically the 74.17% have the ownership of smart phone. However, the least owned ICT gadgets of the respondents is the tablet.

In terms of internet connectivity of ICT gadgets, the data present that majority of the respondents' internet connectivity (42%) came from their cellular broadband or the 3G and 4G. It is followed by the Wi-Fi, thus this implies that farmers can still engage in online marketing platforms to sell their vegetables. Although, the response 'no internet' still holds a big percentage (21%), this means that most of the respondents are having a hard time finding internet since there is no available internet in their places.

Table 4. Ownership and Internet Connectivity of ICT Gadgets

Variables	Frequency (n=165)	Percentage (%)
***ICT Gadgets**		
Smart Phone	156	95
Laptop	16	10
No ICT gadgets	8	5
Personal Computer	4	2
Tablet	3	2
***Internet Connectivity**	70	
Cellular broadband connection (3G and 4G)		42
Wi-Fi	69	42
No internet	35	21
Cable internet	3	2
Dial-up Internet	1	1

*Multiple Response

Constraints of Farmers in using Digital Marketing Platforms

Table 5 highlights the constraints faced by farmers in using digital marketing platforms. The findings show that the majority of respondents (78%) were constrained by the lack of availability of ICT facilities, as they had no

means to access or provide such tools. This result is consistent with Ghosh et al. (2022), who identified the absence of ICT tools as the most significant constraint among farmers. Similarly, Williams and Agbo (2013) reported that only 19.17% of farmers had access to proper internet facilities.

The second major constraint was the lack of digital agricultural knowledge, with 75% of respondents admitting limited skills in digital usage. Many noted that they relied on the guidance of their children to navigate digital platforms. On the other hand, only 1% of respondents cited lack of time as a constraint, suggesting that most farmers are willing to devote time to digital marketing if resources and knowledge are available.

Table 5. Constraints of farmers in using digital marketing platforms.

Variables	Frequency (n=165)*	Percentage (%)
Lack of free ICT facilities	128	78
Lack of digital agricultural knowledge	124	75
Problems of foreign language	112	68
Use of ICT causes eye and other health problems	112	68
Illiteracy of utilizing ICT gadgets	106	64
Lack of skills to use ICT gadgets	105	64
Difficulty in reading on screen text	98	59
Lack of interest and confidence in online marketing	95	58
Lack of knowledge of e-payment and its difficulties	83	50
Lack of funds	77	47
Cannot fully depend on digital marketing because many customers still prefer to purchase the products physically	71	43
Poor access to network and internet connectivity	51	31
Worldwide competition as there are many sellers in different geographic areas	28	17
No time	1	1

*Multiple Response

Relationship of Farmers' Profile and their Level of Awareness to Different Digital Marketing Platforms

Table 6.1 shows the relationship between age and level of awareness. The study revealed significant results for digital marketing awareness. The relationship between age and social media marketing awareness is complex and versatile. It can be noted that highly significant results were found in age vs social media marketing; and age vs e-mail marketing; age vs content marketing, and age vs radio and TV ads with p-values of 0.000, 0.000, 0.037 and 0.01, respectively. Moreover, significant relationships were also found in age vs websites with p-value of 0.001 and age vs mobile marketing with 0.09. Different age groups tend to have distinct patterns of social media usage and responsiveness to marketing efforts. However, results imply that awareness is spread to all ages

of farmers. Digital marketing efforts in the form of targeted ads, influencer collaborations, and social commerce can significantly impact their purchasing decisions. Older age groups may also engage in online shopping, especially as e-commerce becomes more mainstream. Awareness of digital marketing campaigns promoting products and services can influence their purchasing behavior.

Table 6.1. Relationship between age and level of awareness.

Age	Coefficient	P-Value
Social Media Marketing	0.365***	0.000
E-mail Marketing	0.315***	0.000
Websites	0.252***	0.001
Content Marketing	0.202***	0.009
Mobile Marketing	0.163**	0.037
Radio and TV ads	0.2***	0.010

*** - *1% level of significance*

** - *5% level of significance*

* - *10% level of significance*

^{ns} - *Not significant*

Table 6.2 presents the relationship between the number of family members and digital marketing awareness of farmers. Social Media Marketing had coefficient value of 0.152, and P-Value of 0.052. The positive coefficient suggests a positive relationship between the number of family members and the effectiveness of social media marketing and it is statistically significant at a significance level of 5%. Same results were found in E-mail marketing (coefficient: 0.091, p-value: 0.243), websites (coefficient: 0.094, p-value: 0.228); content marketing (coefficient: 0.085, p-value: 0.278); mobile marketing (coefficient: 0.01, p-value: 0.897) and radio and TV ads (coefficient: 0.124, p-value: 0.113). The positive coefficient suggests a positive relationship between the number of family members and the effectiveness of social media marketing. However, the p-values indicates that this relationship might not be statistically significant.

The statistical analysis revealed no significant results based on the awareness of farmers on digital marketing except for the social media marketing. It is important to note that statistical significance does not necessarily imply practical significance, and the context of the study is crucial for interpretation. In this context, general considerations, and individual variations within families play a significant role. Demographic factors, such as the age distribution of family members, socioeconomic status, and cultural background, can further influence the relationship between the number of family members and digital marketing awareness.

Table 6.2. Relationship between number of members in a family and level of awareness.

Number of members in a family	Coefficient	P-Value
Social Media Marketing	0.152*	0.052
E-mail Marketing	0.091^{ns}	0.243
Websites	0.094^{ns}	0.228

Content Marketing	0.085^{ns}	0.278
Mobile Marketing	0.01^{ns}	0.897
Radio and TV ads	0.124^{ns}	0.113

*** - *1% level of significance*

** - *5% level of significance*

* - *10% level of significance*

^{ns} - *Not significant*

Table 6.3 shows the relationship between monthly income and digital marketing awareness, it is complex and can vary based on several factors. The results revealed significant difference among digital marketing channels namely; social media marketing, e-mail marketing, websites, content marketing, mobile marketing, and radio and TV ads with p-values of 0.018, 0.000, 0.003, 0.059, 0.051 and 0.030, respectively. In other words, as monthly income increases, the effectiveness of social media marketing tends to decrease. Additionally, the negative coefficients indicate a negative relationship, but it's important to remember that correlation does not imply causation. Further analysis and understanding of the specific context and data are necessary for more specific interpretations. This implies that farmers, with lower income, may prioritize essential spending over online activities. However, they still engaged with digital platforms for information and communication, impacting their digital marketing awareness and while digital access is increasing across income levels, individuals with lower incomes may have limitations on device ownership and internet access. This could influence their exposure to digital marketing messages.

Table 6.3. Relationship between family monthly income and level of awareness.

Monthly Income	Coefficient	P-Value
Social Media Marketing	-0.184**	0.018
E-mail Marketing	-0.448***	0.000
Websites	0.227***	0.003
Content Marketing	-0.147*	0.059
Mobile Marketing	-0.152*	0.051
Radio and TV ads	-0.169**	0.030

*** - *1% level of significance*

** - *5% level of significance*

* - *10% level of significance*

^{ns} - *Not significant*

Table 6.4 presents the relationship between sex of farmer and digital marketing awareness and it involves exploring how individuals of different genders engage with and perceive social media platforms, as well as how awareness and experiences may vary. Based on the study, results revealed no significant difference among digital marketing channels except for the radio and TV ads which is statistically significant at the conventional

significance level (p-value = 0.043). For social media marketing, the positive coefficient suggests a positive relationship between the variable sex and the effectiveness of social media marketing. However, the relationship was not statistically significant at the conventional significance level (p-value = 0.229). There was also a positive coefficient suggests a positive relationship between gender and the effectiveness of e-mail marketing. However, the relationship was not statistically significant at the conventional significance level (p-value = 0.542). Further, positive coefficient was also found in websites, content marketing, and mobile marketing with coefficients of 0.2, 0.022, and 1.562, respectively. This implies that the relationship between gender of farmers and digital marketing awareness was dynamic and can be influenced by cultural, regional, and generational factors.

Table 6.4. Relationship between sex and level of awareness.

Sex	Coefficient	P-Value
Social Media Marketing	1.45^{ns}	0.229
E-mail Marketing	0.373^{ns}	0.542
Websites	0.2^{ns}	0.655
Content Marketing	0.022^{ns}	0.883
Mobile Marketing	1.562^{ns}	0.668
Radio and TV ads	4.088**	0.043

*** - *1% level of significance*

** - *5% level of significance*

* - *10% level of significance*

^{ns} - *Not significant*

Table 6.5 presents the relationship between educational attainment and digital marketing awareness and it can be influenced by various factors. The table presents the results of the statistical analysis. Social media marketing (coefficient: 26.2, p-value: 0.024), had high positive coefficient that suggests a substantial positive relationship between educational attainment and the awareness of social media marketing. The relationship was statistically significant at the conventional significance level (p-value = 0.024). This implies that as educational attainment increases, the awareness of social media marketing increases. Likewise, e-mail marketing (coefficient: 34.45, p-value: 0.002) had very high positive coefficient suggests a strong positive relationship between educational attainment and the awareness of farmers on e-mail marketing. Moreover, the relationship was statistically significant at a very low p-value (p-value = 0.002). This also implies that as educational attainment increases, awareness of farmers on e-mail marketing increases.

For, websites (coefficient: 17.607, p-value: 0.225) the positive coefficient suggests a positive relationship between educational attainment and the awareness of farmers on marketing through websites. However, the relationship was not statistically significant at the conventional significance level (p-value = 0.225). Similarly, content marketing (coefficient: 15.306, p-value: 0.358) the positive coefficient suggests a positive relationship between educational attainment and awareness of farmers on content marketing. However, the relationship was not statistically significant at the conventional significance level (p-value = 0.358). Mobile marketing (coefficient: 64.391, p-value: 0.015), on the other hand, had high positive coefficient suggests a strong positive relationship between educational attainment and the awareness of farmers on mobile marketing. Moreover, the relationship was statistically significant at the conventional significance level (p-value = 0.015). This implies that as educational attainment increases, the awareness of farmers on mobile marketing increases.

Lastly, radio and TV Ads (coefficient: 24.822, p-value: 0.036) also had high positive coefficient suggests a substantial positive relationship between educational attainment and the awareness of farmers on marketing through radio and TV ads. Moreover, the relationship was statistically significant at the conventional significance level (p-value = 0.036). This implies that as educational attainment increases, awareness of farmers on radio and TV ads increases. Cultural, regional, and individual variations can significantly impact the relationship between educational attainment and digital marketing awareness.

Table 6.5. Relationship between educational attainment and level of awareness.

Educational Attainment	Coefficient	P-Value
Social Media Marketing	26.2**	0.024
E-mail Marketing	34.45***	0.002
Websites	17.607^{ns}	0.225
Content Marketing	15.306^{ns}	0.358
Mobile Marketing	64.391**	0.015
Radio and TV ads	24.822**	0.036

*** - *1% level of significance*

** - *5% level of significance*

* - *10% level of significance*

^{ns} - *Not significant*

CONCLUSIONS

Based on the major findings, the study concludes that most respondents were not fully aware of the various digital marketing platforms, with many continuing to rely primarily on direct selling. Although nearly all respondents owned smartphones indicating their potential capacity to engage in online marketing—the lack of accessible ICT facilities remains a significant constraint, contributing to hesitancy in adopting digital platforms.

The statistical analysis further revealed that the null hypothesis was rejected in several cases. Significant relationships were found between age and level of awareness, family size and awareness (specifically in social media marketing), family monthly income and awareness, sex and awareness (limited to radio and TV advertisements), as well as educational attainment and awareness (notably in social media marketing, email marketing, mobile marketing, and radio/TV ads). These results highlight those demographic and socioeconomic factors play a crucial role in shaping farmers' awareness and utilization of digital marketing platforms.

Overall, the findings emphasize the need for targeted interventions to improve farmers' knowledge and access to digital marketing tools, thereby enabling them to expand their market reach and enhance their livelihood opportunities.

RECOMMENDATIONS

The researcher recommends that the Department of Agriculture implement programs aimed at educating farmers on the use of ICT tools for digital marketing. Training sessions should be conducted to familiarize farmers with various applications and platforms for online marketing. In addition, collaboration with the Department of Information and Communications Technology is encouraged to provide farmers with free access to ICT facilities, thereby reducing barriers to adoption. Expanding farmers' knowledge through seminars and workshops would further empower them to enhance both their farming practices and marketing strategies.

Beyond government initiatives, agricultural extension services can integrate digital literacy into their training modules, ensuring farmers acquire practical skills to independently use marketing platforms. NGOs can complement these efforts by offering grassroots-level support, such as subsidized ICT tools, mentoring programs, and community workshops tailored to smallholder farmers. Training institutions can embed digital agriculture into their curricula, preparing future practitioners with both technical and marketing competencies. Furthermore, farmers' cooperatives can pool resources to collectively access ICT facilities, making digital marketing more feasible and sustainable.

For future research, it is recommended that similar studies be conducted in other municipalities or localities to allow for comparative analysis across different contexts. It would also be valuable to focus on diverse groups of farmers, beyond vegetable producers, to capture broader insights. Since this study concentrated on awareness, future researchers may explore related aspects such as farmers' actual engagement in digital marketing, the effectiveness of specific digital marketing techniques, and the impact of these practices on income and market reach.

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