

APPLICATION OF DIGITAL MARKETING TOOLS IN ENHANCING THE AGRO PRODUCTS MARKETING IN THE CURRENT ECONOMIC SCENARIO

Guru.P¹ Sathyapriya.J² Vijayalakshmi.P.S³ Umamaheswari.D⁴

^{1&2}Associate Professor, Department of Management Studies, PMIST, Thanjavur

³Assistant Professor, Department of Business Economics, Ethiraj College for Women,
Chennai

⁴Professor, Department of Commerce, PMIST, Thanjavur

Abstract

It has been stated that nearly one-third of the population depends on the agriculture industry in some way, shape, or form, it should come as no surprise that we are an agricultural nation. Agriculture is responsible for over 30.02 percent of India's gross domestic product, which is a significant share of the industry. Everything was moved onto various digital platforms throughout the course of the past two decades. Paperless transactions became standard across all sectors as digitalization spread around the globe. Following the use of the same marketing strategy, companies began offering their products on other e-commerce platforms. Activities for promotion on social media platforms, such as emails, websites, and messages, have already begun. These platforms include: The government of India, recognising the benefits, usefulness, and efficacy of digitization, has adopted the "Digital India" programme, which encourages the use of technology in commercial operations. This effort was named after the country of India. The government of India stated in its "Union Budget 2016-2017" that the Unified Agricultural Marketing e-platform would be developed for wholesale markets in India and that one hundred percent FDI would be permitted in the marketing of food products produced and manufactured in India if it went through the FIPB route. Both of these announcements were made in reference to the marketing of food products. In spite of the fact that it could seem to be fairly difficult to use these technologies in unorganised sectors such as agriculture, this is the case all the same. This study kicks off a discussion on the potential benefits of digitization in the agriculture industry, as these developments will have a significant impact on the marketing and sale of agricultural products. Specifically, this discussion will focus on the advantages that digitization may bring to the industry.

Keywords: Agro products, Cost, Digital Marketing, Factor Analysis

Introduction

The majority of India is rural. The growth of a nation's rural areas is the single most important element in determining that nation's overall level of wealth. In an effort to foster growth in rural areas, the government has launched a few different initiatives. One of the innovations that are being used by the government in order to sell items online without the aid of middlemen is digital marketing. Because through online marketing, farmers now have the opportunity to sell their goods in other countries. The expansion of the agricultural sector is a contributor to economic development in a number of developing countries, including India. The majority of

the marketing of agricultural goods in India is done via the employment of middlemen. This leads to trade monopolies, which in turn leads to bad price fixing for the farmers who produce food. (Annosi, et al., 2020). The efficiency of the food supply chain may be significantly improved by the use of technology in agromarketing. The English term "digital" originates from the Latin word "digitus," which refers to many types of counting devices. The transmission of information by means of a computer is what we mean when we talk about digital technology. It is the model for innovation and information exchange, and it uses cutting-edge algorithms to tackle critical issues in real time. This makes it the standard (Bowen & Morris, 2019). Agricultural production and marketing are becoming more cutting edges as a result of the increased use of digital technology.

In recent years, the agricultural sector has emerged as a popular destination for prospective business owners as it is projected to have a potential of 24 billion dollars by the year 2025. More than 234 agricultural start-ups will get a total of 24.85 crores in funding from the Indian government as part of the Startup India programme, which is designed to support enterprises that are enabled by technology. The disruption of agricultural business ecosystems caused by enterprises empowered by technology leads to an improvement in the supply chain for agricultural products. In addition, the number of agribusiness startups has increased rapidly in recent years as a direct result of their access to cutting-edge technology that enables them to address some of the most important production and marketing issues facing the agricultural industry. As a result, the agri-startup ecosystem is the sole viable alternative for addressing inefficiencies in the agricultural value chain and making a positive contribution to economic development. A limited number of studies have shown that developing technologies, new regulatory frameworks, and socio-psychological characteristics have a significant impact on the potential and barriers for start-ups to use and adopt technology.

The process by which an agricultural product is moved from the farm to the end user is referred to as "agricultural marketing," and it involves a number of different steps. The processes of planning, production, cultivation and harvesting, sorting, packaging, shipping, warehousing, agro- and food-processing, distribution, marketing, and sales are just a few of the many that are interwoven in this undertaking. According to some definitions, marketing encompasses all of the operations that a firm engages in, including purchasing goods, renting machinery, and paying employees. The free flow of information and access to resources that may help fund such endeavours are absolutely necessary for their success. Systems of marketing are inherently dynamic and competitive, necessitating ongoing expansion and development. Companies that are able to create high-quality goods for less money and with more efficiency often experience greater levels of financial success. It is common practise to remove competitors on the grounds that they have higher costs, are unable to adjust to changing market demands, or provide worse quality goods. The focus of marketing should always be on the consumer, yet it should also be profitable for businesses like manufacturers, shippers, and retailers. In order to do this, each player in the marketing chain is required to have an understanding of the product- and economic environment-related desires of the client.

The success of digital marketing, which has become an essential part of any communications

operations, is becoming more vital. The term "online marketing" refers to any and all methods that are used to advertise products, brands, and businesses that rely on current media and technological capabilities to encourage offline and online customer participation. Online marketing can also refer to any and all techniques that are used to advertise products, brands, and businesses. Given the background information presented above, the current investigation makes a concentrated attempt to meet the following research goals: determining the factors that influence the utilisation and use of digital marketing technologies by agricultural product-producing companies. As a result, the findings of this study contribute to the grasp of digital technologies and their use in agromarketing on the part of farmers, business owners, researchers, and consumers.

Problem Statement

The development of a digitally enabled economy in India's rural areas was one of the key objectives of the Digital India programme, which kicked off on July 1, 2015 and continues to this day. As a direct result of this development, a number of different sectors have started the process of selling their goods online. Young farmers nowadays are open to the idea of using online marketing strategies to promote their wares in international markets. Agricultural marketing engagement is lower due to the following causes, despite the fact that digital marketing is pervasive throughout all company sectors: Barriers to innovation include a lack of experience, worries about security, initial expenditures, a lack of digital tools, a lack of infrastructure, reluctance to apply new ways, and a lack of openness to new ideas.

The marketing of goods and services has evolved as a result of the proliferation of technological advancements. Digital marketing is preferred by many businesses due to its many advantages, which include cost and time savings, accessibility, and flexibility. Consequently, digital marketing is becoming more popular. However, a large number of farmers working in the agricultural industry are unaware of the benefits of online marketing for the promotion of their products. The purpose of this research is to determine the viewpoints of farmers and dealers, as well as their levels of expertise and the positive and negative effects that digital marketing has had on the agricultural industry.

Review of Literature

The reduction of world hunger, the improvement of life in rural areas, and the promotion of economic expansion are all dependent on the enhancement of agricultural productivity. Agriculture, one of the most significant industries in the country, has much to gain from the use of information and communications technologies (ICTs), particularly in terms of improving the socioeconomic situations of the underprivileged in rising regions. The majority of the world's rural poor rely on rain-fed agriculture and vulnerable forests for the majority of their income. These two industries together account for a significant share of the global economy. Farmers in rural regions often experience crop failure as well as disease in their animals since there is not effective communication infrastructure.

According to Balu (2020), a lag in the adoption of technology and low levels of agricultural output are the results of inadequate extension services and limited access to information. In addition to this, he stressed the need of having accurate information at the right moment for the

growth of Indian agriculture. Because of a technical solution, it may now be possible for younger farmers to successfully enter the agricultural sector.

According to the findings of OseremenEbhote (2020), the transition of agricultural expansion into digital marketing has been highly effective. The government is obligated to implement the required measures in order to improve the digital marketing skills of farmers.

According to Sudhakar Reddy (2021), digital marketing platforms help farmers by increasing the selling price of their agricultural products while simultaneously reducing the costs associated with marketing those products. These products include cotton lint, maize grains, paddy, and vegetables, amongst others. The use of digital marketing as a technique may be beneficial for both commercial and informative ends. In addition to this, he claims that the use of digital media makes the purchase of large amounts of crops more easier. He proposed that the central government of India as well as the governments of the individual Indian states put in place plans and regulations to enable the uninterrupted growth of the digital agricultural business.

Technology-Organisation-Environment (T-O-E) (T-O-E), Ideas of technology adoption include the likes of the Theory of Planned Behavior and the Theory of Reasoned Action. Other examples of such theories are the Extended Technology Acceptance Models (TAM), Social Identification Theory, Social Learning Theory, and Social Networking Theories. When it comes to doing research on the incorporation of ICT into rural extension services, the frameworks that are used the majority of the time are the theory of planned behaviour, the technology acceptance model, and the TOE models. However, there were not many research that combined TOE and TAM in order to analyse consumers' intents to use mobile technologies to get market data (Alavion et al., 2017; Chavas, &Nauges, 2020). According to the findings of a research conducted on African farmers, the implementation of high-yielding technology made it possible to generate a surplus that could be sold, which in turn made it easier for farmers to have access to market information (Bruke, 2010). In a way that is analogous to how small businesses are able to get a greater profit from the incorporation of ICT into production and agricultural marketing when they take part in the market. Startups are able to expand their client bases by entering new markets by using digital technologies to increase sales in those new markets.

Even though there has been very little research done on how agribusiness entrepreneurs have used and applied digital technology in the production and sale of agricultural goods, there is a rising need for digital capabilities in developing nations. On the other side, the TOE model is used to determine whether or not a company is prepared to implement new technologies. There are three factors that influence how quickly a technology is adopted: the environment, the organisation, and the technology itself. The technical part encompasses both the internal and external infrastructure as well as the various process technologies. The organisational component addresses assets and tangible qualities, including management capabilities, the size and structure of the company, and the capability of its human resource pool, among other things. The size of the industry, legal and regulatory concerns, the enterprise's current competitors, and external pressure are all examples of environmental factors (Tornatzky& Fleisher, 1990). In

addition to taking into account TOE criteria, some researchers have proposed incorporating social networking, task features, and individual aspects into studies on the adoption of new technologies. The rate at which an idea is adopted can be affected, either directly or indirectly, by networking. The greater the number of consumers or other organisations that adopt an invention, the more likely it is for that invention to build interdependencies with other firms that employ related items. The degree to which an individual believes that the implementation of a specific technology will boost the company's performance is referred to as the perceived usefulness of that technology. TAM is a paradigm that is used in information systems (IS) that simulates how consumers see the variety of advantages that are provided by the use of business technology.

For example, ITC has made the commendable effort to promote agricultural goods directly by utilising its very own "e-choupal" strategy, while also taking into consideration the agricultural marketing in India. The company has begun implementing a plan known as "e-choupal," in which personal computers equipped with Internet access are placed in rural communities. The "e-choupal" acts as both a community gathering place where people can share information and a centre for online commercial activity. As a direct result of this, work has begun on the process of reengineering the purchasing strategy for agricultural products such as soya, tobacco, wheat, shrimp, and other systems. With the help of this technology, ITC was able to establish a highly efficient supply and procurement design channel for the company in geographically remote areas. An e-commerce platform and order fulfilment system with a low price point that is tailored to address the requirements of rural India. Additionally, the "e-choupal" system has promoted rural development, which has led to the elimination of rural isolation, the encouragement of greater transparency for farmers, as well as an increase in both the farmers' production and revenue.

Using digital technologies, self-help organisations in India have begun expanding their product distribution beyond their immediate communities in order to broaden their customer base. They are all in agreement that SHG's end customers will buy agricultural products through the website of the merchant, which will serve as an intermediary between SHG and those customers. SHG provides prompt fulfilment of online orders placed by customers for agricultural goods. In an article that was published in the Asia Pacific Journal of Research, Dr. Rajendra explains that the marketing of agricultural goods presents a number of difficulties. The information about the market is difficult to obtain for farmers. Farmers, particularly in India, have a low level of literacy, and several methods of income distribution deprive them of their fair share of the money that should be theirs. An unreasonable number of middlemen are taking their cut of the revenue from the farmer. Even though we assert that technological progress has occurred, we cannot say for certain that it has reached rural areas just yet.

Objectives

The focus of the study is to understand the critical application of digital marketing tools in enhancing the agro products marketing in the current economic scenario.

The objectives of the study are stated as follows:

- To assess the overall awareness of using digital marketing in agro products marketing in India
- To measure the usage of digital marketing in agro products marketing
- To evaluate the decrease in total cost of agro marketing in Indian using digital marketing

Research Methodology

The purpose of this research was to show that digital marketing represents a huge opportunity for Agri-marketers. Sample of 133 respondents to find out their knowledge about application of digital marketing on agro products were taken for this research. The researchers used both primary and secondary sources for preparing the study; the researchers used descriptive design for carrying out the study.

Data Analysis

The first part of the analysis is involved in presenting the demographic variables

Table 1: Demographic analysis

Gender composition	Frequency	Percent
Male	116	87.2
Female	17	12.8
Age composition	Frequency	Percent
Less than 30 years	42	31.6
31 - 40 years	43	32.3
41 - 50 years	17	12.8
Above 50 years	31	23.3
Type of family	Frequency	Percent
Nuclear family	86	64.7
Joint family	47	35.3
Annual Income	Frequency	Percent
Less than Rs. 5 Lakhs	58	43.6
Rs. 5 Lakhs - Rs. 10 Lakhs	66	49.6
Rs. 10 Lakhs - Rs. 15 Lakhs	9	6.8
Total experience	Frequency	Percent
Less than 3 years	40	30.1
3 - 6 years	30	22.6
6 - 9 years	22	16.5
9 - 12 years	9	6.8
More than 12 years	32	24.1
Total	133	100.00

From the above table it is noted that the 87.2% were male respondents, 32.3% were in the age group between 31 - 40 years, 64.7% were living in nuclear family, 49.6% were drawing an annual salary between Rs. 5 Lakhs - Rs. 10 Lakhs, 30.1% possess experience of less than 3 years.

Regression analysis

The next step in the analysis is to measure the overall relationship between the independent variables (Awareness; Usage and Decrease in Cost) with the dependent variable (Digital marketing)

Table 2: Regression analysis

Model	B	SE	Beta	t	Sig.
(Constant)	0.083	0.201		0.415	0.68
Awareness	0.278	0.112	0.264	2.483	0.01
Usage	0.43	0.104	0.443	4.14	0.00
Decrease in cost	0.211	0.103	0.198	2.048	0.04
R	0.872	R Sqd	0.76		

Based on analysis from table 2, the value of coefficient of determination (i.e., R^2) is 0.760, hence it can be concluded that the model is best fit, furthermore, the value of significance is less than 0.05, hence can be stated that the variables are significant. Also, the regression equation is stated as

$$\text{Digital Marketing} = 0.083 + 0.278 \times \text{Awareness} + 0.430 \times \text{Usage} + 0.211 \times \text{Decrease in cost}$$

Factor Analysis

The next stage of the analysis is involved in analysing the critical factor influencing the critical application of digital marketing tools in enhancing the agro products marketing.

Table 3: KMO test

KMO and Bartlett's Test	
KMO	0.776
Bartlett's Test	421.14
df	36
P val	0.00

Based on the analysis the KMO test states a value of 0.776, which is higher than the benchmark value of 0.500 and also it is identified that the Bartlett's test is at 421.14, p is at 0.00. which is less than 5% level of significance and therefore can be concluded that the sample is good for performing the factor analysis.

Table 4: Principal Component Analysis

Constructs	Extraction
There is an increased awareness of using digital marketing tools in the ago industry	0.887
Digital marketing will greatly benefit the industry	0.900
Digital marketing tools disrupt the industry and competition	0.885
The usage of digital marketing is fast growing	0.852

More benefits is realised through digital marketing	0.867
Easy to use tools are available	0.887
The cost is very less when compared with traditional marketing	0.859
The value realised is very high	0.701
The budget is pocket friendly	0.846

From the above table the critical factors which is influencing the adoption of digital marketing for agro related products are: “Digital marketing will greatly benefit the industry” which possess the extraction value of 0.900, followed by the factors “There is an increased awareness of using digital marketing tools in the ago industry” and “Easy to use tools are available” with value of 0.887 and lastly the other main factor is “Digital marketing tools disrupt the industry and competition” is 0.885.

Chi square test analysis

H₀: There is no statistical association between awareness of using digital marketing tools and enhancing the agro products marketing.

Table 5: Chi square test 1

Awareness	Value	df	Sig.level
Chi-Square	239.21	16	0.00
LR Result	172.16	16	0.00
Association	92.30	1	0.00

Based on the analysis it is noted that the significance level is 0.00 and hence null hypothesis is rejected, hence can be concluded that there is a statistical association between awareness of using digital marketing tools and enhancing the agro products marketing.

H₀: There is no statistical association between usage of digital marketing tools and enhancing the agro products marketing

Table 6: Chi square test 2

Usage	Value	df	Sig.level
Chi-Square	187.63	16	0.00
LR Result	159.22	16	0.00
Association	83.06	1	0.00

Based on the analysis it is noted that the significance level is 0.00 and hence null hypothesis is rejected, hence can be concluded that there is a statistical difference between usage of digital marketing tools and enhancing the agro products marketing.

H₀: There is no statistical difference between reduction in cost and enhancing the agro products marketing

Table 7: Chi square test 3

Cost	Value	df	Sig.level
Chi-Square	163.63	16	0.00

LR Result	132.54	16	0.00
Association	61.26	1	0.00

Based on the analysis it is noted that the significance level is 0.00 and hence null hypothesis is rejected, hence can be concluded that there is a statistical association between reduction in cost and enhancing the agro products marketing.

Results and Discussion

During this time of the Pandemic, digital marketing is very important. Farmers profit when the selling prices of their products go up and the expenses of marketing those products go down. Young farmers are willing to employ digital marketing. To encourage the development of a sustainable digital agriculture industry, both the federal government and state governments provide farmers with education on digital marketing and establish legislation. Agribusiness companies stand to gain a significant competitive advantage from the use of digital technology, which may improve their ability to sell their wares to customers. Despite the availability of numerous options, there is no foolproof digital solution that is applicable in each and every circumstance. In addition, despite the pervasive use of the term "digital solution," technology is only a tool that may be utilised to assist you in achieving the goals of your organisation in a manner that is more effective. People who have better marketing abilities will likely earn more than those who do not have these talents in the future as a growing number of companies develop their networks via the use of technology. As a result, it will continue to be necessary to provide business owners and farmers with aid in promoting their products.

Conclusion

In recent years, the agriculture sector has become a popular destination for budding entrepreneurs as it is projected to reach \$24 billion by 2025. Over 234 agri startups have received a total of Rs 1000 crore in funding from the Government of India. 24.85 crores will be earned. India's startup program aims to support tech companies. Disturbance in the balance of agricultural trade due to technological advances that improved agricultural supply. In addition, the number of agricultural start-ups has grown rapidly in recent years thanks to advanced technology that enables specific solutions to key production and marketing problems facing the agricultural industry. Economic development in rural India is one of the main objectives of the Digital India programme, which was launched on 1 July 2015 and continues till date. Due to this development, many different companies have started selling their products online. Today's young farmers are open to using online media to promote their products in international markets. Although digital marketing is pervasive in all industry sectors, participation in agriculture is low due to the following reasons: lack of experience, barriers to innovation, security concerns, start-up costs, lack of digital tools, no tools, no willingness to innovate and there is no room for new ideas.

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