

# ADOPTION OF DIGITAL MARKETING IN AGRIBUSINESS: A CONCEPTUAL STUDY

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## ABSTRACT

*Digital technology is predicted to be a new driver of economic growth and most of the sectors of business make a good use of technology to deliver value to customers. However, agricultural sector has not yet capitalized the resources of technology, particularly marketing technology. Adoption and use of digital marketing practices would empower agricultural producers and startups by improving their marketing capabilities. This study believes that the key to make a good use of technology lies in the ways in which agri startups perceive the use of technology in marketing agro products. Therefore, this paper studies the perception of agri startups towards adoption of digital marketing. First the paper explains the potentials that digital technology has for making agricultural sector contribute better to economic growth. Second, the study looks at the ways in which the agri startups look at the use of digital technology in the marketing of agro products. Third, it discusses ways by which agri startups could make good use of digital technology in the marketing of the products. This study suggests agricultural development practitioners including non-governmental organizations, the private sector and other implementation partners in India to identify appropriate and effective digital technology for agri value chain interventions.*

**Keywords:** Digital marketing, Agri startups, Marketing, Technology.

## INTRODUCTION

Agriculture industry contributes to the economic growth in many developing nations especially in India. In India marketing of agro products majorly executed through mediation of middlemen. This leads to monopoly of Trade and poor price fixation for farmers cultivable. (Annosi *et al.*, 2020) with advent of technologies in marketing agro products improves efficiency of food value chain. The word Digital originates from Latin –digitus, refers to tools for counting. Any information used or disseminated on a computer is called as Digital technology. It enhances the level of creativity and sharing of information, also applies new algorithms to solve real time problems (Bowen & Morris, 2019). Use of digital technologies “Internet, mobile technologies and devices, big data analytics, artificial intelligence, digitally-delivered services and apps”—are shifting the agriculture production and marketing to a modern way (V. Grimblatt, 2020).

Recently agriculture Sector has become attractive horizon for development of potential startups with estimated potential of \$ 24 billion by 2025. As a part Startup India initiative, Government of India funds, and 24.85 crores to more than 234 Agri-start-ups with a mission to promote technology enabled startups (Financial Express, 2019). Technology enabled agri startups cause disruption in agribusiness ecosystem and strengthens the agri food supply chain. In addition, agri startups have seen an enormous growth to combat the key challenges in agriculture production and marketing with access to deep technology.

Hence agri startup ecosystem is the only measure to overcome inefficiencies in food value chain and there by contributes growth of economy. Few Studies found that opportunities and challenges for start-ups on use and adoption of technologies are directly influenced by new technologies and new policy frameworks and Socio-Psychological factors (Stenholm & Hytti, 2014).

In the light of above context, this study attempts more specifically on following research question: How do agri startups perceive the use of digital technologies in marketing of agro products? and What are the factors driving the use and adoption of technologies for marketing agro products. Hence, the objective of this research is to identify the factors drive the use and adoption of digital marketing technologies by agribusiness firms. Therefore, this study helps farmers, entrepreneurs, researchers, and consumers to know more about digital technologies and its use in agro marketing.

## REVIEW OF LITERATURE

### Technological Capability

Technological context includes existing technologies at startup level and others available at marketplace but currently not in use (Baker, 2012). Every startup needs strong technological capabilities to overcome limitations in technical requirements. Furthermore, strong technological capabilities helps to adopt digital technologies like e commerce, app based marketing models to generate better market performance. Similarly, studies found that Innovation of e commerce into agribusiness sector is result of technological capability and adaptation of enterprises (Bramley & Ouzman, 2019). Likewise, digital banking and payments processing technology accelerates agri startups to scale up their business (KrujaDemneri, 2020).

*H<sub>1</sub>: Technological capability has a positive influence on adoption of digital marketing technology.*

### Firm Size

Size of the firm is a key factor in adoption of digital technologies by startups in agriculture sector. A small firm lacks financial assistance to procure and adopt relevant and useful digital tools when compared to large firms in both developed and developing economies (Ibrahim, 2016). Scalability of agri startup are largely depends on funding and participation of funding agencies in this sector.

*H<sub>2</sub>: Firm size has a positive influence on adoption of digital marketing technology.*

### Government Policy and Initiatives

Government policies and initiatives influences firm on adoption of digital technologies. Role Government initiatives includes providing farm input at subsidized rate , incentives , crop advisory services, electronic dissemination of market information , access to e-marketplaces and establishment of incubation centers encourages firms to use and adopt digital technologies at business level (Ibrahim,2016).

Issues faced at firm level on technology adoption should be addressed by establishment of digital innovation hubs across India with good broadband infrastructure to ensure connection between updated information and communication technology (ICT) and farming communities (Alavion, 2020).

Building an innovation hubs helps to act as one-stop –shops solution, enables any farmers and startups to access to latest technology and expertise.

*H<sub>3</sub>: Government policy and initiatives has a positive influence on adoption of digital marketing technology.*

## **Social Networking**

Social networking refers to as networking on digital platforms (Suchiradipta & Saravanan, 2016) like social media and social networking sites. Social media presence, discussions on internet forums, instant messaging, promotion through youtube channels and blogs encourage learning from networks. Literatures shows importance of social learning thereby networking among stakeholders enables the individual farmers as well as firms to adopt technologies for marketing of their business (Arafat, 2020) .A study addressed that social networking influences initial adoption decisions at industry level (Vecchio et al., 2020) where firms faces lack of information as barrier to use and adopt technologies and networking enables early adopters to communicate the potentials with each other.

*H<sub>4</sub>: Social networking has a positive influence on adoption of digital marketing technology.*

## **Perceived Benefits**

Acceptance of technology is an interesting study area because of change in the way users perceives the benefits on adoption of technologies to identify new business opportunities. Indeed, few studies addressed how firm level perception on use of technology (Simmons et al., 2007) and its benefits obtained impacts willingness to adopt technology. Increase in use of modern marketing communication tools in agribusiness plans to integrate social media applications (Tonny et al., 2019) to reach the potential audience and market expansion.

*H<sub>5</sub>: Perceived benefits has a positive influence on adoption of digital marketing technology.*

# **THEORETICAL BACKGROUND**

Technology adoption theories includes Theory of reasoned action, Technology Acceptance Model (TAM) , extended TAM models, Diffusion of Innovation theory, Theory of planned behavior, Technology-Organisation-Environment (T-O-E), Social Identification theory, Social learning theory and social networking theories. Studies on the adoption of ICT in Rural extension services are mostly conducted based on theory of planned behavior, Technology acceptance model and TOE models. However few studies adopted the fusion of TOE and TAM to measure the intention on adoption of mobile technologies to access market information (Alavion et al., 2017; Chavas, & Nauges, 2020). A study conducted among African farm holders resulted that adoption of high yielding technology enabled farmers to produce marketable surplus and thereby facilitate farmers to access to market information (Bruke, 2010). Similarly, adoption of ICT in Production and agricultural marketing positively affects small firms over large firms by market participation.

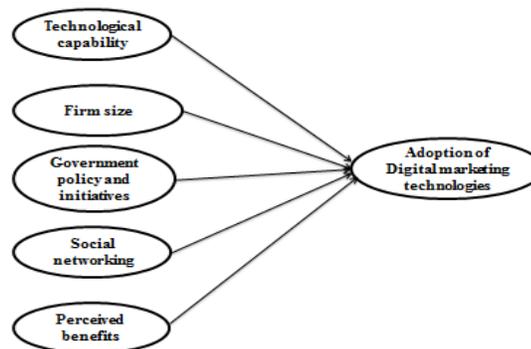
Digital technologies help startups to enter sales new territories in turn finds new group of customers.

Demand for digital capabilities in developing countries is gaining importance, but very little studies have been conducted to explore the ways in which agri startups looked at use and adoption of digital technologies in production and marketing of agro products.

On other hand TOE model explains the enterprise readiness to adopt technological innovations. Technology, organization and environment are the three elements that determine technological adoption. Technological element includes internal and external technologies available for the firm in terms of infrastructure and process. Organizational element describes resources and physical characteristics such as managerial capabilities, firm size, and structure and manpower resources. Industry size, legal and policy matters, existing competitors of the firm and external pressure (Tornatzky & Fleisher, 1990) are the parts of environmental elements. Some researchers have suggested apart from TOE factors, social networking (Baker, 2011), task Characteristics and individual factors also to be used in technology adoption studies (Premkumar, 2003). Networking affects directly or indirectly influences adoption of innovation, number of users or other organization who adopts innovation tend to generate interdependencies with other firms in use of corresponding goods (Abrams & Sackmann, 2014). Perceived usefulness (Davis, 1989) is the “*degree to which a person believes the use of particular technology would enhance the firm performance*”. TAM is an IS theory that models how users perceive the number of benefits to be obtained by use of technology at business level (Bowen & Morris, 2019).

Hence, this research attempted to fill the knowledge gap on adoption of digital technologies by agri startups in marketing of agro products. Also this paper adopts technology – organization-environment (T-O-E) by Tornatzky & Fleischer (1990), Technology acceptance model (TAM) developed by Davis (1989) and social networking theory to explore the factors influences agri startups on adoption of digital technologies. In connection to the existing theoretical reviews, this paper proposes an integrated conceptual framework on technology adoption and its impact on marketability of agro products.

## CONCEPTUAL FRAMEWORK



**Figure 1**  
**CONCEPTUAL MODEL FOR ADOPTION OF DIGITAL MARKETING TECHNOLOGIES**

## CONCLUSION

Digital technologies present unique opportunities to empower agri startups by strengthening their capabilities in marketing their products. Despite these possibilities, the fact that there is no single, best digital solution for all conditions. Also, often use of the phrase ‘Digital solution’, technology is not the solution on its own, but rather a tool that can be used to help you better achieve the firm’s objectives. As an increasing number of startups expand their networks through technology adoption, those with the most refined marketing skills will likely reap more benefits than those without. Providing technical assistance on marketing skills to startups and farmers, therefore, will continue to be important. While this paper presents an integrated framework for development practitioners to evaluate, plan and deploy impactful technological interventions in agriculture to facilitate marketing of agro products.

## LIMITATIONS OF THE STUDY

Digital technologies present unique opportunities to empower agri startups by strengthening their capabilities in marketing their products. Despite these possibilities, the fact that there is no single, best digital solution for all conditions. Also, often use of the phrase ‘Digital solution’, technology is not the solution on its own, but rather tools that can be used to help you better achieve the firm’s objectives. As an increasing number of startups expand their networks through technology adoption, those with the most refined marketing skills will likely reap more benefits than those without. Providing technical assistance on marketing skills to startups and farmers, therefore more research opportunities exists on skill development area of agriculturist’s. While this paper presents an integrated framework for development practitioners to evaluate, plan and deploy impactful technological interventions in agriculture to facilitate marketing of agro products. Hence there is more scope on testing and validating the proposed model with empirical investigation.

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