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DIGITAL MARKETING PRACTICES FOR AGRICULTURE PRODUCTS: IN INDIA

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ABSTRACT

The article focuses on Digitalization and the internet have completely altered the world. Farmers may reach a wider audience of potential purchasers and command greater prices for their produce with the assistance of digital marketing. It helps new agriculture businesses get off the ground. Young farmers are willing to utilise digital marketing platforms as a result of the rising literacy rate in rural regions and the improvement in agribusiness infrastructures. Farmers' mentalities are changed through COVID-19, which encourages them to embrace digital marketing. Research information helpful is to get a vast understanding of farmers' perspectives, levels of awareness, and experiences about the influence of digital marketing on the agricultural industry. To accomplish this goal, primary data was gathered from a total of 120 respondents. In order to accomplish the goals of the research, the data were tabulated and evaluated with the use of several statistical techniques. Agriculture has adopted internet marketing, like other industries, and is rising to new heights while offering services that are superior to those found in traditional marketing venues. Farmers have a variety of options for selling their goods online. Additionally, they use the internet to market their agricultural goods. Therefore, the agricultural business sector is likewise changing its marketing channels. Now that the "e-NAM" platform, which was introduced by our prime minister Narendra Modi, has been established, farmers may sell their agricultural goods via IKISAN, NAPANTA APP, NAFED, e-Choupal, AGMARKNET, and other online marketplaces. Agriculture marketing identifies, develops, and supplies agricultural product markets. Agriculture products include food grains (rice, wheat, millets, red grame, green grame, black grame, ground nut, sunflower, soya bean, maize, etc.), fruits (apples, bananas, oranges,

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lemon, grapes, pomegranate, etc.), vegetables (chilies, tomato, brinjal, coccinea, carrot, beetroot, potato, etc.), and commercial crops (Tobacco, Cotton, Sugar cane etc.,). Over the past 60 years, agricultural marketing has evolved. Rising urbanisation and income levels have improved customers' buying power. High yielding seed kinds, fertilisers, and micro irrigation systems have increased agricultural production annually. Farmers, farmer associations, and F.P.Os are using ICT to advertise their agricultural goods online (ICT). Android phones are utilised by farmers and FPOs to access the internet, WhatsApp, Facebook, Twitter, and YouTube. Using the digital information described above, they link with national and global markets to sell their agricultural commodities at the best prices. Digital marketing helps too. All small, medium, and large farmers use digital marketing to enhance sales and prices. Digital marketing eliminates commission brokers and intermediaries, so purchasers may acquire farm fresh commodities at fair prices.

Keywords: Digital Marketing, Agri-Business, Agri-Products, Conventional Marketing, Government Schemes.

1. INTRODUCTION

The rich fields of India's length from North to South and width from West to East make it a paradise for growing crops. Furthermore, it has a sizable population of more than 140 crores. In the production of several crops, our nation comes in second place globally. Agriculture is the back bone of India. The agricultural sector employs more than 60% of Indians. The chances & options for farmers to promote their goods are many. Agriculture in India has a lot of potential for using digital marketing to advertise its goods. And since digital marketing plays a significant part in time savings, revenue growth, and client acquisition, the future for agri-output marketing is only going to become brighter in the years to come.

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Figure 1 Growth in the number of internet users

To develop with digital marketing and its information, farmers increasingly need and want a mobile phone. A lot of people are now interested in digital agriculture. And significant advancements and transactions are taking place in the field of digital agriculture. Every farmer wants to sell their agricultural goods and services for the highest possible pricing, whether via conventional marketing methods or internet-based platforms. However, farmers like internet services to broaden their user or consumer base. Digital marketing is more cost-efficient and effective than conventional marketing. According to a study estimate by the Internet and Mobile Association of India (IAMAI), there would be 479.1 million internet users in India by the year 2022. This promotes the digital agriculture industry and the potential for farmers (sellers) and consumers to acquire and sell agricultural goods (buyers). And these digital marketing goods and services will meet the requirements and preferences of our magnificent India's expanding people.

1.1 AGRICULTURAL PROFILE OF INDIA

India has put a significant amount of effort into agricultural output, and it is now rated second to China in the production of rice, fruits, and vegetables. The delivery of production to clients is made possible, in large part and to a significant extent, by agricultural marketing (customers). The farmers get the greatest rates possible via digital marketing, while the consumers receive the freshest food available. As

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a result of the fulfilment and satisfaction of the customers' requirements and wants, the ties between the farmers and the consumers are strengthened.

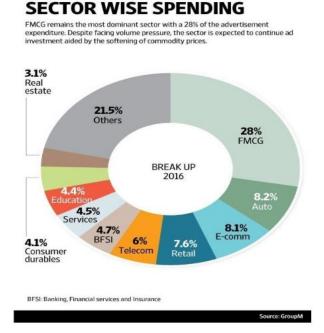


Figure 2 Sector wise spending in Digital Marketing

Promotion of Agricultural Goods and Services Companies that produce FMCG are increasing the amount of money they spend on advertising. When compared to the proportion in other industries, the share of the fast-moving consumer goods industry is as high as 28 percent. These businesses are doing an excellent job of catering to both the producers (farmers) and the consumers (customers) in the digital marketing mode as well.

1.2 DIGITAL MARKETING PRACTICES

India is a country of villages. Rural development is most important element for the countries development. For rural development government has taken many steps. Digital marketing is one of the innovation developments by the government to sell products digitally without the intervention of mediators. Digital Marketing is helpful to farmers to sell their products globally. Digital India movement launched on the 1st July 2015 had its goals cleared of transforming rural India into a digitally empowered economy. After this movement many of the industries are started to sell their products digitally. Young Agriculturalist are ready to adopt digital marketing tools to reach their products globally.

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1. **PPC Advertisement-** An efficient digital marketing tactic that increases conversions and leads is running a PPC campaign. Modern agricultural equipment, which has evolved, may be extensively publicized with the use of digital marketing. The ranks in SERPs and the quality of the organic search results will both be improved by PPC adverts. PPC advertising only requires payment when a user clicks on the ad. Your ad will show up in the top search engine results if you bid on a variety of keywords or phrases. When it comes to producing leads or sales, digital marketing methods may be a real game-changer. It aids in expanding the production of agricultural goods, which raises interest among followers. PPC advertisements assist brands become more well-known by 81 percent, and you may utilize web resources to expand your agriculture company.

2. Create Social Media Page- The agriculture sector's new and emerging approach, social media, is crucial for marketing farm goods and services. Various social media channels help to forge important connections with clients, inform the public about innovative agricultural methods, and build collaborations. Create social media accounts on a variety of sites, such as Facebook, Twitter, or Instagram, and start publishing pertinent material about your agriculture sector.

It contributes to the development of a vibrant community and raises interest among prospective clients. With the use of blogs, articles, and interesting subjects, you may connect with your target audience.

3. Paid Social Media Marketing- Paid social media advertisements provide e-commerce or business-tobusiness development options. These operate similarly to cost per click advertisements, and by marketing items via well-liked mainstream channels, it helps to simplify the user experience. It enables agricultural enterprises to increase their internet presence and profit. The expansion of e-commerce is aided by the use of sponsored social media advertisements. It provides prospects for net expansion in social media outreach and clarifies agricultural marketing objectives. Tools for managing social media professionally allow marketing concepts be adjusted for the greatest outcomes. It aids in building a strong social media following and provides SEO with trustworthy and authoritative backlinks. In a word, it helps to advertise your agricultural company and increase awareness in new geographic areas.

4. Create an e-commerce website- The creation of an e-commerce website aids in taking your agribusiness to the next level of promotion. It allows customers to learn more about your company's products and services and helps agribusinesses increase revenue. It is beneficial to show the whole spectrum of agricultural goods, including food processing equipment and agricultural accessories. Using e-commerce websites to advertise your brand's products can be very profitable. Work with a digital marketing company that provides a wide range of web development services. The website will assist in expanding audience reach and brand exposure.

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2. LITERATURE REVIEW

1) The sale of agricultural goods in digitally controlled marketplaces offers a greater number of benefits to farmers than traditional markets do. In addition to this, it varies from market to market as a result of the creation of the infrastructure and the amenities that are made accessible to the purchasers and vendors in the market (Jairath, M. S, 2012).

2) Information and communication technology (ICT) lends a hand to the agricultural marketing sector by facilitating the evaluation, organization, and facilitation of smallholder marketing in order to make the sale of agricultural goods simpler (USAID FACET project, 2012).

3) The marketing section of digital agricultural marketing assists farmers in the process of selling their agricultural goods at higher rates (Ms. Kiruthiga, et al., 2015).

4) Significant organizations from the business sector are putting into practice great strategies for the digital marketing of agricultural goods (V. Nagendra., 2015).

5) Balu (2020) it has been said that a gap in the adoption of technology and low levels of agricultural output are caused by inadequate extension services and limited access to information respectively. In addition to this, he emphasized the need of having accurate information at the appropriate moment in the process of advancing Indian agriculture. Young farmers may more effectively participate in agribusiness with the use of a tool that uses digital technologies.

6) Oseremen Ebhote (2020) it can be concluded that digital marketing is highly advocated for agricultural growth, since it effectively transforms agricultural practices. The government is obligated to take the required efforts to raise farmers' understanding of the benefits of digital marketing.

7) Sudhakar Reddy (2021) it is important to make the point that digital marketing platforms are beneficial to farmers because they enable farmers to raise the selling price of their agricultural products while simultaneously lowering the cost of marketing those products. Some examples of agricultural products include cotton lint, maize grains, paddy, and vegetables. The use of digital marketing as a tool for both business and information is quite beneficial. He also claims that the use of digital media assists in the sale of large quantities of agricultural products. He urged that the government of India and the governments of the states should put up the plans and create the policies in the direction of the sustainable growth of the digital agricultural sector.

The influence that digital marketing, information, and communication technology solutions have on agricultural enterprises is as follows:

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Over the course of the last several decades, governments have been actively participating in agricultural marketing in order to encourage the development of the industry and further its growth. In this world that is increasingly controlled by digital technology, we are in a position to significantly advance the marketing of agricultural products using digital applications from beginning to finish. The use of information and communications technology assists farmers with small farm holdings in finding many consumers for their agricultural goods who are prepared to pay higher rates due to the fact that the items are fresh. In the past, small farm holding farmers would only deal with a limited number of purchasers who would pick up their purchases directly. In the current digital agricultural marketing mode, there has been a growth in the number of purchasers. The digital and internet-based apps that are included in android phones give farmers with market information, which has the potential to reduce market distortions, losses incurred due to logistics and transportation, as well as product spoilage and damage. Android mobile and internet-based digital applications can help in locating farmers, agri-input dealers, agri-out put buyers, storage warehouses, and recognized financial institutes for investment purposes in the national and international digital marketing scenario. As a result, farmers are getting higher profits from their yields in the digital agriculture markets. The term "Blockchain" refers to a kind of technology that may detect inadequate standards of quality in the food grain supply chain of any agricultural product, enabling for prompt and effective action to be taken against the company in question. As a result, customers have the potential to gain a competitive edge. Walmart is employing a technology called "Blockchain" to track the provenance of each and every bag of agricultural items that it buys directly from the farm. It contributes to ensuring that the clients get fresh agricultural goods of a high grade. On a daily basis, the necessary information is being effectively communicated to both the customers and the farmers via efforts led by private sector organizations. In India, organizations such as I.T.C, Reliance, "More" (Aditya Birla group), AGMARKNET, M & M (Shubhlabh), Godrej group, N.A.F.E.D, NAAPANTA APP, A.P.M.C., etc., are playing an essential and responsible role for the welfare of the country's farmers via the implementation of e-choupal. The use of digital marketing to promote agricultural goods results in a rise in revenue, particularly for smallholder farmers (farmers). As a result, young people from rural areas with modest holdings are being encouraged to continue working in agriculture since the industry's prospects seem promising.

KISAN MANDI ONLINE AGRIS:

On April 26, 2016, it established itself in the market as a private limited company and was later designated as a startup by the Department of Industrial Policy and Promotion of the Government of India.

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E-CHOUPAL:

The Indian Tobacco Company (ITC), which is a limited company, established its digital marketing department in the year 2000. e-Choupal is a platform that connects rural farmers with buyers of agricultural goods including coffee, soyabean, wheat, Rice, Pulses, and Oil seeds through the internet and other forms of digital media. ITC has provided internet connectivity in addition to distributing computers in the rural areas so that farmers there may have direct conversations about market prices and other relevant information. Farmers use digital media to get information on a variety of topics, including market pricing, best agricultural techniques, and weather forecasts. They also have the ability to obtain the necessary agricultural chemicals, manures, and other farm items via the use of digital media that is facilitated by the internet. ITC farmers who have been registered and trained are operating kiosks in the communities where they live. Within a radius of five kilometers and including ten villages, each kiosk has the capacity to provide services to more than 600 farmers. As a result, there is no need for a middleman. The provision of e-Choupal services has contributed to an increase in the amount of money that farmers take home. According to the most current available information, the ITC firm is providing services to farmers and customers in more than 6155 e-Choupals located in 3513 villages spread over 11 states in India.

RELIANCE GROUP:

Mr. Mukhsh Ambani, head of the Reliance Group, has devised a plan to instantly build a 5,000-acre contract farming firm in the states of Karnataka, Andhra Pradesh, and Telangana. Because of this, it may become possible for it to become one of the top agricultural business hubs for the export of farm products. In addition to this, we want to establish warehouses all throughout India. Since the fruits, vegetables, grains, and other agricultural commodities will be purchased directly from the farmers by Reliance Fresh Stores, this will result in significant time, energy, and labour savings, in addition to cost reductions associated with transportation.

AGMARKNET:

An electronic trading site that integrates 585 marketplaces in 16 different states. On the e-NAM platform, more than 164,53 lakh M.Ts worth of agricultural products have been traded. It was designed to make the transition of agricultural products from one market to another as seamless as possible in order to preserve the goods.

NAFED is the highest governing organization of the cooperative marketing system at the national level in our country. It is an outstanding and oldest cooperative organization that was created in the year

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1958 for the benefit of the farmers of Indian Horticultural crops. It is beneficial to the farmers since it eliminates the need for intermediaries, which results in more earnings and better pricing.

IKISAN is an organization that uses information technology to assist farmers in all aspects of their businesses, from planting seeds to selling seeds. It offers information on the market, the pricing of goods, the weather, and various farm management approaches, among other things.

MAHINDRA AND MAHINDRA GROUP

In the year 2000, the Mahindra & Mahindra company established two divisions, one of which was named the Mahindra Krishivihar in Madhurai, with the intention of providing farmers with agricultural extension services as well as purchasers of a great deal of product. The second one is called "MAHINDRA SHUBH LABH," and it is a farm tools division that offers tractors, ploughs, disc harrows, power tillers, fertilizer seed drills, and other similar products.

UZHAVAN APP- is a new app that was just released by the government of Tamilnadu. It is available in both Tamil and English. The system is built on android mobile applications, and it provides farmers with all of the market information and extension services they need.

NAPANTA APP- is an internet-based application that was developed with the intention of assisting farmers located in the rural areas of Andhra Pradesh and Telangana. More than 95 different commodities' price trends and graphs over the last three concurrent and consecutive years might be supplied, together with market statistics for more than 3,650 agricultural marketplaces. The languages Telugu and English were used in its creation.

CHALLENGES FOR E-MARKETING OF AGRICULTURAL PRODUCTS:

(1) Some of the farmers do not have any understanding of computers and are unable to use android mobiles since they do not understand how they work. Therefore, it is possible for there to be problems with them regarding the selling of agricultural goods.

(2) Competition on a global scale may be summarized as follows: there are numerous vendors from a variety of geographical locations and nations. Therefore, it is impossible to anticipate the sale of Indian farmers' goods at the appropriate price at the appropriate time.

(3) There is no security, and farmers may sometimes visit fraudulent web sites or false internet portals. This will be a waste of both our time and our efforts.

(4) One cannot completely rely on online marketing since a large number of buyers still prefer to buy things in person. Therefore, it is vital to rely on offline markets to some degree as well.

3. RESEARCH METHODOLOGY

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3.1 RESEARCH DESIGN

3.2 DATA COLLECTION

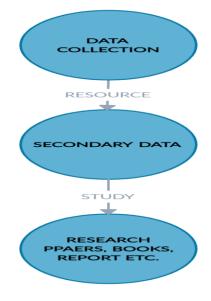


Figure 3. Data collection flow chart

3.3 THE 4Ps MODEL

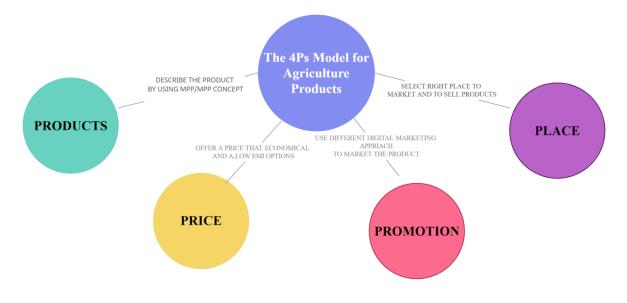


Figure The 4Ps Model

In order to effectively advertise a product or service, it is necessary to give careful attention to each of the four Ps and to put those concerns into practise in a strategic manner. These aspects include the product, the pricing, the location, and the marketing.

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The marketing mix often refers to the four Ps as the individual components. When marketing a product, a variety of factors, such as what consumers want, how the product or service meets or fails to meet those wants, how the product or service is perceived in the world, how it differentiates itself from the competition, and how the company that produces it interacts with its customers, are taken into consideration.

- Production
- Price
- Place
- Promotion

Product- Understanding the product being marketed is the first step in developing an effective marketing strategy. Who needs it, and why do they need it? What is it that other product on the market cannot accomplish, but this one can? Here this paper is for agriculture so we know that our product is produced by farmer, product may be Wheat, Pluses, Rice, Vegetable, etc. It's possible that it's an entirely new product that has a design or function that is so enticing that customers will feel compelled to purchase it as soon as they see it. The role of the marketer is to present the product to the customer while simultaneously defining the product and the features it has.

Price- The price of a product is the amount of money that customers are willing to pay for that thing. Marketers have a responsibility to establish a connection between the price of a product and both its actual and perceived worth, all while taking into account other factors such as supplier costs, retail markup, seasonal discounts, and pricing offered by rivals. If a company wants to portray the impression that their product is exclusive or luxurious, they may choose to sell it at a higher price under certain circumstances. Alternately, they may reduce the price to entice more customers to give it a go.

Place- Here place is Manipur, Place is the consideration of where the product should be sold, both in physical shops and online, as well as how it will be exhibited in those locations. Place may refer to both offline and online locations.

Promotion- The purpose of promotion is to convey to customers the message that they have a need for this product and that the price is reasonable for doing so. When a product is being introduced to the market, promotion includes not just advertising and public relations but also the overarching media strategy. When trying to target their primary customers, marketers often combine several aspects of

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promotion and placement into a single strategy. For instance, in this day and age, "location" and "promotion" are considerations that are just as important online as they are out. In particular, the location of a product inside a company's website or social media platforms, as well as the particular kinds of search operations that will result in the display of targeted advertisements for the product. The choice is quite important: the manufacturers of a luxury cosmetic product would want to have their products sold in stores such as Sephora and Neiman Marcus rather than in stores such as Walmart or Family Dollar. The promotion of a company's wares to customers who are most likely to make a purchase is always the primary objective of executives in charge of running a firm.

4. RESULT AND DISCUSSION

4.1 MAJOR FINDINGS

The style of marketing that is used for items and services has been altered as a result of developments in technological advancement. Digital marketing offers a variety of advantages that are attracting an increasing number of businesses. These advantages include cost and time savings, as well as affordability and flexibility. However, in the agriculture industry, a significant number of farmers are unaware of how digital marketing might help them sell their goods. This research seeks to determine the attitudes of farmers and dealers, as well as the degree of awareness about digital marketing in the agricultural industry, as well as its positive and negative impacts. The purpose of promotion is to convey to customers the message that they have a need for this product and that the price is reasonable for doing so. When a product is being introduced to the market, promotion includes not just advertising and public relations but also the overarching media strategy.

When trying to target their primary customers, marketers often combine several aspects of promotion and placement into a single strategy. For instance, in this day and age, "location" and "promotion" are considerations that are just as important online as they are out. In particular, the location of a product inside a company's website or social media platforms, as well as the particular kinds of search operations that will result in the display of targeted advertisements for the product.

5. CONCLUSION AND FUTURE SCOPE

This study aimed to explore the digital marketing practices for agricultural business in India and the findings revealed that the most significant advance for farmers has been the introduction of Android smartphones, which allow for the digital marketing of agricultural goods via the use of applications and other internet-enabled services. It gives comprehensive information on the selling prices, weather data, a bundle of techniques for crops, as well as the supply and demand of the crop or farm product. As a result, farmers are receiving the prices they anticipated for their crops and the profits

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they anticipated from their agriculture. The traditional method of selling agricultural products is no longer viable due to the high level of distortion caused by the middle men and the expenditures associated with marketing. It is imperative that we further liberalize the agricultural sector and work toward making digital marketplaces more farmer and consumer friendly. In addition to this, it is recommended that agriculture be approached as an industry, since this allows for accurate estimations of investment, profit, and loss. If this happens, farmers will be able to cut costs that aren't absolutely required for the production of crops. The majority of the time, crop cultivation and agricultural businesses should be organized in such a way as to get greater levels of profitability. In order to maximize earnings, it is important to implement a strategy that will both lower the cost of cultivation and raise the amount of crop produced. The governments of India and its individual states need to formulate plans and policies with the goal of fostering the growth of a digital agricultural industry that is sustainable. It is necessary to build effective models for the uplift of rural farming communities and also for the economic success of rural farming communities. This may be accomplished by commencing the construction of digital marketplaces in close proximity to farmers.

Internet infrastructure, smart technologies, Internet of Things in agriculture, and agricultural digital marketing infrastructure all need to be improved.

An ambition of the federal government is to double the revenue from farming, and digital marketing plays a big and vital part in achieving this goal.

REFERENCES

- I. Acharya, M. (2019, November 11). How incubators are driving the agri-tech sector in India. Analytics India Magazine.
- II. Adarsh, A., Pranav, P M., Manjunath, C. R., & Soumya, K. N. (2018). Fruit farm surveillance using drones. International Journal of Trend in Scientific Research and Development, 2(4), 351–357.
- III. Agarwal, A. (2016, January 2016). Big data analytics in agriculture. Agriculture Today, pp. 38–39.
- IV. Ai, F.-F., Bin, J., Zhang, Z.-M., Huang, J.-H., Wang, J.-B., Liang, Y.-Z., Yang, Z.-Y. (2014). Application of random forests to select premium quality vegetable oils by their fatty acid composition. Food Chemistry, 143, 472–478.

Research paper

© 2012 IJFANS. All Rights Reserved, UGC CARE Listed (Group -I) Journal Volume 11, Iss 10, 2022

- V. Alexander, D. (2019). 9 robots that are invading the agriculture industry. Interesting Engineering. Applegate, L. M., Lakhani, K. R., & Bucala, N. (2015). Podium data: Harnessing the power of big data analytics.
- VI. Arokiaraj, D., Ganeshkumar, C., & Paul, P. V. (2020). Innovative management system for environmental sustainability practices among Indian auto-component manufacturers. International Journal of Business Innovation and Research, 23(2), 168– 182.
- VII. Babu, S. C., Paul, N., & Kumar, A. (2020). Understanding food policy process in India: An application to food security act of 2013. In R. Saleth, S. Galab, E. Revathi (Eds.), Issues and challenges of inclusive development (pp. 121–140). Singapore: Springer.
- VIII. Bagchi, A. (2018). Artificial intelligence in agriculture. Retrieved from <u>https://www.mindtree.com/about/resources/</u> artificial-intelligence-agriculture. Accessed on June 16, 2021.
 - IX. Balamurugan, S., Divyabharathi, N., Jayashruthi, K., Bowiya, M., Shermy, R., & Shanker, R. (2016). Internet of agriculture: Applying IoT to improve food and farming technology. International Research Journal of Engineering and Technology (IRJET), 3(10), 713–719.
 - X. Bambara, J. J., Allen, P. R., Iyer, K., Madsen, R., Lederer, S., & Wuehler, M. (2018).
 Blockchain: A practical guide to developing business, law, and technology solutions.
 McGraw Hill Professional.
 - XI. Barton, D., & Court, D. (2012). Making advanced analytics work for you. Harvard Business Review, 90(10), 78–83.
- XII. Beecham, R. (2014). Towards smart farming. Gloucester, MA: Beecham Research Ltd.
- XIII. Borah, S., Hines, E., & Bhuyan, M. (2007). Wavelet transform based image texture analysis for size estimation applied to the sorting of tea granules. Journal of Food Engineering, 79(2), 629–639.
- XIV. Bordoloi, B. (2017, January 13). Big Data for the next green revolution. The Hindu Business Line.
- XV. Brini, M. (2019). Digital agriculture: In a nutshell digital agriculture: In a nutshell.Marco Brini, Brock, J. K.-U., & Von Wangenheim, F. (2019).