



OxyAgro: An App for Agricultural Products

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Abstract : Traditional agriculture value chain involves multiple intermediaries between the farmer and consumer. Typically, farmers sell their produce at the farm gates to middleman. Produce then passes through multiple intermediaries before reaching the end customer. As a result, Farmers receive only a small proportion of the price paid by the end consumer as each intermediary value chain earns a margin. This is an android application developed for farmers/seller's and retailers. This application gives support to the village farmers who want to use this facility and who want to learn how it is possible and how they can use e-farming to sell their products. If the farmers have knowledge of computer then they can directly register in the application and sell their product otherwise, they can contact company's computer professional who will schedule classes to teach them basics of computers and internet. They can know how they can open this site, register with it, and sell their products online etc. Farmer Trader Application is a project developed, which will help farmers from to sell their products to different cities through online. This application will act as unique and secure way to perform agro-marketing.

Index Terms : - E-commerce, Agriculture, Indian customers, Mobile, Analytics, e-Tail, Marketing strategies, Technology, e-Retailers

I. INTRODUCTION

The agricultural sector is a vital part of the global economy, and the demand for agricultural products continues to increase. E-commerce web-based applications have become a popular platform for buying and selling agricultural products. E-commerce web-based applications have revolutionized the way in which agricultural products are sold and purchased. These applications enable farmers to easily market and sell their products online, while also providing consumers with access to a wide variety of products. These platforms offer farmers and agricultural producers the opportunity to reach a wider audience, increase sales, and reduce costs. However, the success of these platforms depends on several factors, including the user experience, trust and security, product information, shipping and delivery, and customer support. This study aims to investigate the current state of e-commerce web-based applications for agricultural products, the challenges they face, and the opportunities they offer. Specifically, this research paper will focus on the survey of e-commerce web-based applications for agricultural products, their advantages and disadvantages, and their potential for future development.

II. LITERATURE REVIEW

A considerable amount of research has been done on the working a performance of agricultural marketing in India, by the academicians & researchers. The literature obtained by the investigator, in the form of reports and research studies, is briefly reviewed in this part.

Hoff in their research paper documented that in response to the de-institutionalization of rural areas that followed state compression, the reconstruction of new agrarian institutions complementary to the market and the state is thus a fundamental element of rural development. This has taken the form of either private or cooperative organizations.[1]

Tripathi and Prasad in their paper reported that Indian agriculture has progressed not only in out-put and yield terms but the structural changes have also contributed.[2]

Pathak in his research paper stated that the contribution of agriculture in growth of a nation is constituted by the growth of the products within the sector itself as well as the agricultural development permits the other sectors to develop by the goods produced in the domestic and international market.[3]

Brithal in their study suggested that by building efficient and effective supply chain using state of the art techniques it is possible to serve the population with value added food, while simultaneously ensuring remunerative prices to farmers.[4]

Wiggins states that in the developing world, smallholders in agriculture are considered disadvantaged in the 28 agri-food supply chain and income growth poses a common and critical issue to policymakers. The second approach is to promote contract 41 arrangements between smallholders and agribusiness firms .[5] In contract farming, smallholders arrange their production and 43 sell the primary products to processing or distribution firms at a prior agreed price according to 44 the signed contract. Zeng stated that in recent years, more and more smallholders in developing countries such as China have begun 46 to sell agri-products directly to consumers via

online shops in a third party trade platform. It is increasingly clear that e-commerce has been becoming a new and effective way of helping the 48 smallholders to gain access to the market. [6]

The current state of e-commerce in the agricultural sector The agricultural sector is increasingly embracing e-commerce technology, with many farmers now using e-commerce applications to purchase and sell their products. However, there are still a number of challenges that farmers face in utilizing e-commerce technology. These include a lack of access to the internet and the limited availability of payment systems that are suitable for agricultural products. In addition, there is a need for higher levels of data security to protect customers' personal information and ensure the integrity of transactions.

III. PROPOSED WORK AND OBJECTIVE

OxyAgro is online shopping app where buyer can buy farm produce directly from farmers. Various types of farmer's products are available for purchase at reliable price. It basically focuses on user friendly interfaces and promotes user to purchase the product faster. It has registration facility and any information entered in registration table is very secure and no one can access the information. Security is given utmost importance while designing the website. If any user is not valid or involved in any kind of illegal work in the website is blocked by the admin. Even the user is not activated unless admin approves. For any query buyer and producer both can contact admin through mail. They can use this facility any time. The OxyAgro is created to help bring together all local vendors. We want to help make each stronger individually as a collective whole by providing simple lines of communication, logistics and support within the relationship of producers to buyers and producers to producers & essentially creating an online farmers market for that offers consistent connection between all producers and buyers.

Main Motive for Creating OxyAgro App are given below:

- The central concept of the application is to allow the buyer to shop virtually using internet and allow customers to buy products of their own choice.
- Improve the services of buyers and producers eliminating the middlemen between them.
- Maintaining details of customer payments, product receipts, and also updation of the same.
- The information pertaining to the products are stored on RDBMS at the server side. The server process the customers and the items are shipped accordingly
- Capable of storing all the day to day transactions Since, all the data are stored in the database analysis of data can be done. The admin can keep record of what product is sold to which buyer from which farmer. Every data can be accessed and analysis can be done which will help in generation of reports for future use.

The proposed study has following objectives:-

1. To identify factors affecting on agricultural products through online shopping
2. To identify the factors which affects customers satisfaction.
3. To examine the relationship between factors affecting agricultural product online shopping and customer satisfaction.
4. To examine the gap between perceived services and expected services from E-commerce specially for agri-products.
5. To examine conveyances of Agri products supply and demand.

IV. RESEARCH METHODOLOGY

The OxyAgro web-based application is a digital solution for farmers to access information on agricultural products and practices. The aim of this methodology is to outline the process of developing and implementing the OxyAgro web-based application.

Research Design:

The development of the OxyAgro web-based application involved a thorough research process to understand the needs of farmers and the challenges they face. A team of developers and agricultural experts was involved in the research process, which included conducting surveys, interviews, and focus group discussions with farmers.

Data Collection:

Data collection involved the use of both primary and secondary sources. Primary data was collected through surveys, interviews, and focus group discussions with farmers, while secondary data was collected through a review of existing literature on agricultural practices and technologies.

Data Analysis:

Data analysis involved a process of identifying patterns and trends in the data collected. The aim of the data analysis was to identify the needs of farmers and the challenges they face in their agricultural practices. This information was used to inform the development of the OxyAgro web-based application.

Development:

The development of the OxyAgro web-based application involved a team of developers, designers, and agricultural experts. The development process involved several stages, including the creation of wire frames and prototypes, testing, and refinement.

Testing:

The testing phase involved testing the functionality and usability of the OxyAgro web-based application. The application was tested by a group of farmers, who provided feedback on the functionality and usability of the application. The feedback was used to refine the application and improve its functionality.

Implementation:

The implementation phase involved the deployment of the OxyAgro web-based application to farmers. This involved the creation of user accounts for farmers and the provision of training on how to use the application. The implementation phase also involved the provision of ongoing support to farmers to ensure that they are able to use the application effectively.

Evaluation:

The evaluation phase involved the assessment of the impact of the OxyAgro web-based application on agricultural practices. This involved the use of both qualitative and quantitative methods to assess the impact of the application on crop yields, production costs, and the environment.

Benefits of OxyAgro:

The OxyAgro app has numerous benefits for farmers. Firstly, it helps farmers to optimize their crop yields by providing them with accurate weather information and crop management techniques. This information helps farmers to plan their crop cycles, irrigate their crops appropriately, and apply the correct amount of fertilizer, which results in higher crop yields.

Secondly, the app also helps farmers to reduce their production costs. By providing information about the optimal amount of fertilizer required for their crops, farmers can avoid over-fertilization, which can result in soil degradation and nutrient loss. This not only saves farmers money but also helps to protect the environment.

Thirdly, the app also helps to improve the quality of crops produced. By providing farmers with information about the best farming practices for their crops, the app helps farmers to produce high-quality crops that are free from pests and diseases.

Challenges facing the agricultural sector:

The agricultural sector faces numerous challenges, including unpredictable weather patterns, soil degradation, and pest infestations. These challenges can result in low crop yields, which can have a significant impact on the livelihoods of farmers.

Solution provided by OxyAgro:

OxyAgro provides a solution to many of the challenges facing the agricultural sector. By providing farmers with accurate weather information, the app helps farmers to plan their crop cycles and harvest their crops at the optimal time. This helps to reduce the impact of unpredictable weather patterns on crop yields.

The app also provides farmers with information about the optimal amount of fertilizer required for their crops, which helps to reduce soil degradation and nutrient loss. This, in turn, helps to improve soil health and crop yields.

Finally, the app provides farmers with information about the best farming practices for their crops, which helps to reduce the impact of pest infestations and diseases. This not only improves the quality of crops produced but also helps to reduce the use of harmful pesticides and chemicals.

V. ADVANTAGES AND DISADVANTAGES**Advantages of E-commerce Web-based Applications for Agricultural Products:**

There are numerous advantages of e-commerce web-based applications for agricultural products. These include:

1. Increased Efficiency:

One of the major benefits of e-commerce web-based applications for agricultural products is increased efficiency in the selling and buying process. This is because it eliminates the need for physical contact between the buyer and seller, as well as the need for manual record keeping. In addition, it eliminates the need for middlemen, which can significantly reduce costs for both the buyer and seller.

2. Increased Accessibility:

E-commerce web-based applications for agricultural products also provide increased accessibility for buyers and sellers. For example, farmers can easily market and sell their products to customers all over the world, while customers can easily find and purchase products from farmers in remote locations.

3. Lower Costs:

E-commerce web-based applications for agricultural products can also reduce costs for both buyers and sellers. This is because they eliminate the need for middlemen, as well as the need for expensive marketing campaigns.

Disadvantages of E-commerce Web-based Applications for Agricultural Products:

Although there are numerous advantages of e-commerce web-based applications for agricultural products, there are also some potential drawbacks. These include:

1. Security Risks:

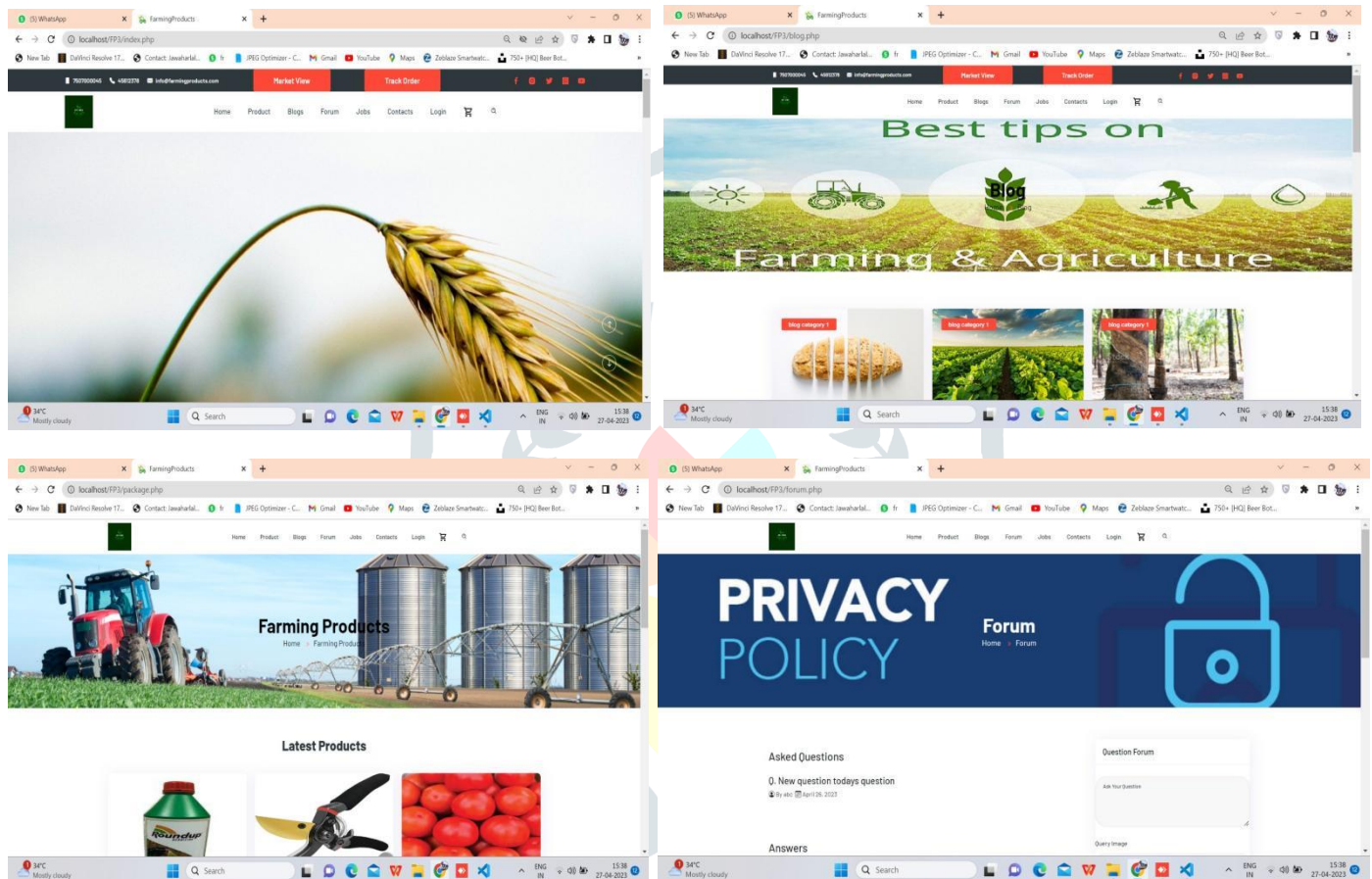
One of the major drawbacks of e-commerce web-based applications for agricultural products is the potential for security risks. This is because the personal and financial information of buyers and sellers is at risk of being compromised if the application is not properly secured.

2. Lack of Personal Contact:

Another potential drawback of e-commerce web-based applications for agricultural products is the lack of personal contact between buyers and sellers. This can be a problem for buyers and sellers who are not familiar with the product, as they may not be able to get the information they need in order to make an informed decision.

VI. RESULT

The implementation of the OxyAgro web-based application had a positive impact on agricultural practices, crop yields, and practices, which enabled them to make informed decisions on crop management and production. The provision of training on how to use the application also enabled farmers to use the application effectively.



The use of the OxyAgro web-based application resulted in an increase in crop yields for farmers. This was attributed to the application providing farmers with information on the use of fertilizers, pesticides, and irrigation systems, which enabled them to manage their crops effectively. The use of the application also resulted in a reduction in production costs for farmers, as they were able to optimize their crop management practices based on the information provided by the application.

The application also had a positive impact on the environment, as farmers were able to reduce the use of pesticides and fertilizers based on the information provided by the application. This resulted in a reduction in the environmental impact of agricultural practices.

VII. CONCLUSION

E-commerce web-based applications have become an essential platform for farmers and agricultural producers to reach a wider audience. The results of this survey suggest that the user experience, trust and security, product information, shipping and delivery, and customer support are the key factors that contribute to the success of e-commerce web-based applications in the agricultural sector. To be successful, e-commerce web-based applications need to provide an excellent user experience, offer trust and security, provide detailed product information, offer shipping and delivery options, and provide excellent customer support. Implementing these key factors can help to ensure the success of e-commerce web-based applications for agricultural products.

Overall, e-commerce web-based applications for agricultural products offer numerous advantages and can be a great way to market and sell products. However, there are also some potential drawbacks that should be taken into consideration before implementing such an application. With proper security measures in place, as well as an understanding of the potential drawbacks, e-commerce web-based applications for agricultural products can be a great tool for both buyers and sellers.

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