INTEGRETING E-COMMERCE IN AGRICULTURAL SECTOR FOR PROMOTION OF ORGANIC FARMING

[1]Mayuresh Kailas Sambhudas,   [2]Prof. Altaf Taher Shah,   [3]Prof. Shabnam Sharma

[1]BCA (Mobile Application & Cloud Security Scholar), [2,3]Associate Professor
Ajeenkya D Y Patil University, PUNE, INDIA

Abstract: India is an agriculture based developing country. Information broadcasting to the knowledge intensive agriculture sector is upgraded by mobile-enabled information services and rapid growth of mobile telephony. It bridges the gap between the availability of agricultural input and delivery of agricultural outputs and agriculture infrastructure. E-commerce refers to the use of the Internet to market, buy and sell goods and services, exchange information, and create and maintain web-based relationships between contributor entities. Based on its demonstrated impact in industrial retail markets, e-commerce is believed to have the potential to increase profitability in agricultural markets by increasing sales and decreasing search and transactions costs. The creation of electronic markets that are expected to be more transparent and competitive than physical markets may attract more consumers by increasing demand and improving the firm's strategic position with customers seeking specific position products or having geographical restrictions. However, due to the relatively new state of e-commerce in agriculture, its impact has not been widely measured and documented. Adoption of E-Commerce Practices among the Indian Farmers. According to analysis of the supply chain process of agricultural products, the IT application requirements of the market entities participating in the agreement-based circulation of fruits and vegetables have been discussed. The strategy of supply chain management basing on E-commerce service platform for fruits and vegetables has been proposed in this paper. The architecture and function composing of the service platform have been designed. With the E-commerce service platform, the supply chain management for circulation of agricultural products of vegetables and fruits can be implemented.

Keywords: Android Apps, Mobile computing, Machine learning, Cloud computing

1. Introduction

Agriculture is main occupation in India, This Agriculture is the primary occupation of the larger part of Indian population. 65-70 % of Indian population is being depends on agriculture for their living. The challenging task for farmers is to sell the vegetables and fruits which they have been farmed and also, they are unaware of the market rates and Ups-Downs of market. Even they are having a premium quality vegetables and fruits then also they were not getting the price according to market and they have to spend lots of money and time to sell it.

If we think about today then Yes! There are lots of companies and sites are providing the home delivery of vegetables and fruits. But they are either taking it from a retailer or from a market seller(wholesaler), But anyhow they are not directly connected to the farmer and also it has been affecting on the price and the quality of that food items.

Mobile computing, cloud computing, machine learning and soft computing are the immerging techniques which are being used in almost all fields of research. Apart from this, they are also useful in our day-to-day activities such as education, medical and agriculture. This paper explores how Android Apps of agricultural services have occupied the farmers in their selling activities.

The progression in the agriculture production straight increases the Indian Economy and vice-versa is also true. Mobile apps in the arena of agriculture can be the best option to increase countries 'agriculture production. The inventions in technology in agriculture domain are not getting to the farmers; because of either most of them are illiterates or due to unawareness of the location from where they can have information. Hence, utmost of the farmers is being failed in acquisition of the possible production rate.

New opportunities are shaped by smart phone technology for farmers. Farmers are capable with a low-cost smart phone and the particular software to gain facilities which couldn't available on their hands before. In the days of financial crisis, farming is becoming more and more dynamic and much more important to be completed efficiently during the time period. Several mobile applications have been developed for selling their products online. This paper deals with the android application android-based applications which are useful for farmers.

2. Literature Review

A Survey of Trichy District in the State of Tamilnadu, India [1] Agriculture has been a prime source of employment in India since ancient times. Presently it contributes to the 14.2 per cent of India's GDP and provides employment to around 58 per cent of workforce of the country. It is an important sector not only forms the part of economy but also meets the food demand of huge population of the country.

The Market for E-Commerce Services in Agriculture [2] Farmers have generally been open to adopting information technology, even if they have done it more slowly than the overall population or other industries. Particularly relevant observations come from adoption of technologies that help to manage financial or environmental risk. USDA's annual national Agricultural Resource

Management Study, showed 29 percent of farms had Internet access by 1999 and about 15 percent of those had conducted some business (E-Commerce) over the Internet, mostly to purchase crop inputs (Morehart and Hopkins 2000). Retail sales via the Internet are about 1 percent of all retail sales in the American economy (DOC 2001). Although data on the extent of E-Commerce conducted by traditional agribusiness is still limited or speculative, agribusinesses experience with some types of electronic markets is not new. A commercial cotton exchange was established in the late 1970's, and university-run exchanges in beef cattle (and dairy cattle for beef) demonstrated the viability of electronically oriented marketplaces (Sporleder, 1983). However, current electronic markets have features that differ significantly from those early efforts: the open access nature of the Internet; reasonable hardware costs; and the (usually) increasingly low (and declining) cost of access.

On the Supply Chain Management Supported by E-Commerce Service Platform for Agreement based Circulation of Fruits and Vegetables [3]. The agricultural products of fruits and vegetables are very easy to rot and difficult to store. These properties of the fruits and vegetables require that to make the bargain rapidly, and to dispatch the products into the consumption areas as soon as possible to reduce loss. The process of supply chain of agricultural products consists of a chain of transactions and logistics activities. In traditional pattern of supply chain of agricultural products, the flow-of-exchange which often followed by many unnecessary logistics activities took fruits and vegetables into consumption areas overtime. This means that it is more important and necessary to build supply chain management for agricultural products of fruits and vegetables. As all known that the supply chain management emphasizes the collaboration of the enterprises in the supply chain by information sharing and resources optimization allocation. A lot of research works had been done to propose the solutions systems of source chain managing for agricultural products basing on E-commerce, and the E-commerce applying schemes had been discussed in many papers, such as in. However, these schemes hardly took the business processes of the circulation of agricultural products of fruits and vegetables.

The Internet plays a role in agribusiness both as a new market place and as an information resource. Numerous applications have been developed by different interest groups.Applications in the market place can be categorized from a farmer's viewpoint, including services, outputs, factors of production and inputs. Services, inputs, and production factors are generally purchased via the Internet at a fixed price, whereas outputs are generally traded through on auction. This is perhaps because many of the outputs are perishable and therefore the market price is more sensitive to supply and demand. In recent years, e-commerce has found its way to agriculture. Involvement in e-commerce requires that both buyers and sellers have access to the Internet and that they are able to use the required hardware and software effectively. At the level of business–to–business, common agribusiness, B2B transactions such as buying, selling, trading, delivering, and contracting seem to be natural targets for conversion to e-commerce. In agriculture, the B2B and B2C categories of transactions have used Internet in Agriculture, Remote service, and Maintenance referred to as agribusiness –to–agribusiness (A2A) and agribusiness-to-grower (A2G). The development of e-commerce in agriculture is of course strictly linked with the adoption of the Internet mainly by the farmers.

At present, China has more than 6000 agricultural websites. But with the development of network technology, further perfect the logistics distribution technology and the consumer is the pursuit of personalized demand situation, agricultural e-commerce website will have great development space, through the investigation of related domestic website found that domestic agricultural e-commerce is still in the primary stage, there are some problems of agricultural products has delayed their 'through e-commerce, mainly because standardization degree is not enough. So, the comprehensive evaluation of agricultural e-commerce sites is of great significance for the development of agricultural e-commerce. Based on the analysis of agricultural electronic commerce development present situation and influence factors on the basis of exploratory analysis of the agricultural products ecommerce sites evaluation related theory research, aimed to provide theoretical reference for relevant departments agricultural e-commerce sites, to speed up the development of China's e-commerce of agricultural products.

The main problems existing in the development of e-commerce of agricultural products

1. Insufficient understanding to the development of agricultural e-commerce.
2. Play a leading role of government in agricultural information construction is not enough.
3. Agricultural structure system is not sound and information utilization efficiency is low.
4. The lack of professional talents.The lack of perfect credit environment.

3. Propose Enhancement

3.1 Working Architecture

In this application, first, the customer has to sign up using their mobile number and other details.Then the user will get a login id so further they will just login for their account. After login, main menu or home screen will appear where the usercan see the displayed list of products. The user can either select their items from the displayed list or can search their desired product and then select it. The selected items will be added into their cart. Cart is an option given by the app to store or remove selected items. The cart will allow the user to finalise their selected products before final payments. Then the user will get a screen where they willhave to fillthe delivery details like the address where the products are to be delivered and the name of the person to whom the products will be delivered OR the user can just select their app account which already has the details of the user given at the time of signing up. Then the delivery details will be there and they will get the details about the delivery. This app will work only on the basis of cash on delivery for payments. Once the product reaches the user and the user is satisfied, then the user can pay for the product. At last after delivery customer have an extra option to review the delivery and product for customer satisfaction details for the business. All the offers and latest content will be notified to the customer directly by this application.

3.2 Advantages

1. Majority of farmers in the state or country are not aware that mobile phones can be used to conduct businesses and receive information. Mobile phone costs should be lowered to enable majority of farmers for having access to the current information about agribusiness within the state or country.

2. e-Agriculture has not been implemented because farmers in the country have not been sensitized about it & young farmers were in lack of information about the agriculture such that e-agriculture might provide them useful information's regarding the plantations that they have grown.

3. The government should also conduct sensitization to create awareness for the farmers on how best they can use information technologies to conduct agribusiness.

4. In addition, some evaluation indexes are in general, is not easy to grasp. Based on the current agricultural e-commerce sites evaluation problems, it requires a set of reliable evaluation system. Such a system can science reflects the website service quality, which can provide decision support to the development of agricultural e-commerce sites.
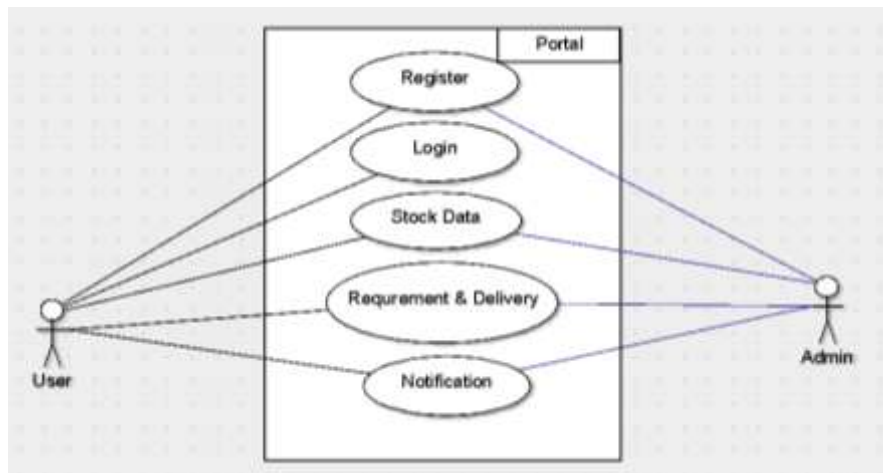
3.3 Use Case Diagram

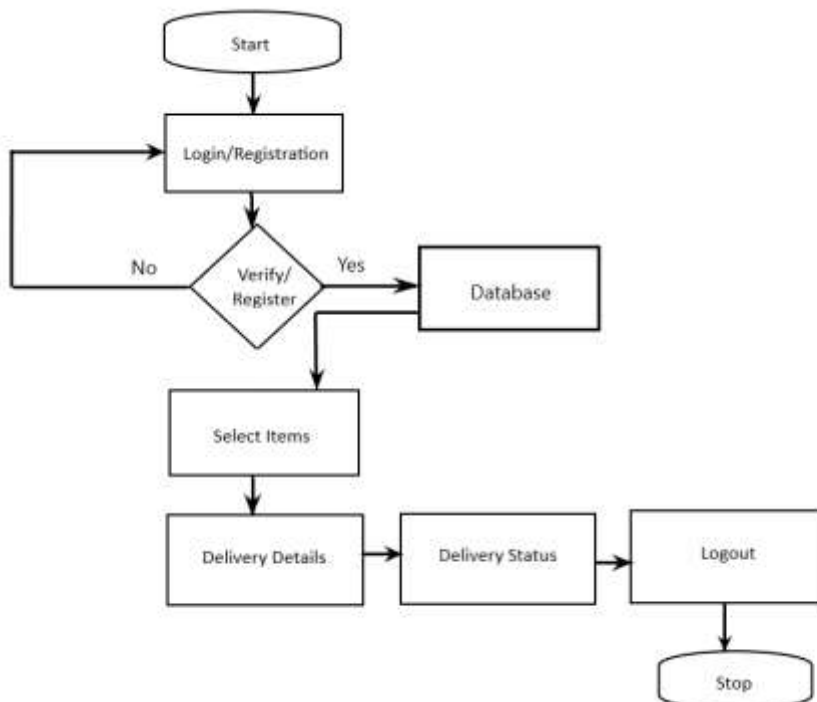Figure 3.1. Use Case Diagram of The System

4. Flow Chart

Figure 4.1: Flowchart of Proposed Technique

5. Design

Figure 5.1: Flowchart of Proposed Technique

6. Conclusion&Future Scope

Through the E-commerce service platform, no matter whether the market entities of the supply chain participating in the management of the circulation of agricultural products would be extended from the internal business process of the market entities to the wholeprocess of the supply chain of fruits and vegetables. The supply chain management can be realized basing on the E-commerce service platform to harmonize the production and circulation of fruits and vegetables, shorten the circulation time and more benefit can be obtained.

In future this application can be modified like application can fetch real time location of user& also payment gateway feature can be applied.

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