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INNOVATION IN INFORMATION COMMUNICATION TECHNOLOGY IN  
INDIAN RURAL MARKET

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*Abstract*

*The recent innovations in data communication technologies (ICTs) like telecommunication and e-commerce provides monumental opportunities for rural development. Since ICT is time saving, more informative and less expensive its use is growing day by day. Generally, experts claim that ICT is the most powerful tool in the development of the rural markets. Countries like Republic of India wherever sixty eight.84% of individuals sleep in rural areas ICTs become an awfully vital resource for the makers to arrange their methods for promoting and promotions of merchandise. Modern innovations in ICTs and web-based promoting produces an excellent hope for the socio-economic developments for rural undeveloped lands in Asian nation Most of entrepreneurs agree that web about to be going to play a crucial role of the long run development of rural promoting. In this paper, we are going to discuss concerning the innovations and methods enforced by the govt. and MNCs publically services and rural market development in Bharat. This paper additionally focuses on space of concern and researchers projected a model for the event of the agricultural farmers of Asian nation.*

*Keywords: Information and Communication Technology (ICT), Digital Divide, e-Farming*

## I. INTRODUCTION

The importance of harnessing science and technology for development of rural India remains the major focus for policy makers. Technology makes a huge difference to the way we look at rural India. The rise of Internet era was a technical boom which shrinks the whole world to a personnel computer and creates the concept of e-commerce by enabling people to sale and purchase of product on Internet which is very cost effective and time saving. People can access whole world on a single PC. Due to the increase in popularity and the usage of the internet many social networking media come into exercise like MySpace, Face-book and Twitter etc. These social media provided a new platform for marketing and advertisements, which is more reachable and convenient than the traditional way of marketing. Today, we are living in the age of information expansion, which is made possible by ICTs. It provides a cost effective reach ability to wide range of information resources and enhances the communication. The telephony and web-based technology usage for innovative interventions have been quite a boon to people. There are many companies like Nokia, Tata, BSNL, ITC, Reliance, HLL and other NGO's and



almost every state government is experimenting with ICT in rural areas. It becomes clear that rural information and communication technology is successful. What is required is the public/private partnership and innovative and sustainable approach to look towards the rural market. With the use of information and communication technology, villagers can find buyers and sellers all over the world. It may seem self-contradictory that country where millions of people lack basic needs, the modern information technology and markets and capital-intensive methods of production has any relevance. Nevertheless, innovative approach and help of ICT's can be used as a powerful tool to develop rural India. There are a number of ways in which ICTs can boost and increase the development process. Moreover, many past experiences show that ICTs have increased proper implementation of government policies and provides a base to build the required infrastructure for education and health-based services.

## **II. CURRENT ASPECTS AND OPPORTUNITY IN RURAL MARKET**

Current aspect - the Government of India has taken number of steps to bridge the gap between urban and rural India (digital divide).

- Planto cowl four-hundredth of the agricultural space with telecommunication facilities by the year 2014 and supply broadband coverage to all or any the two.5lakh panchayats by the year 2012.
- C-DAC'S India development gateway and digital mobile library project, the centre for developing advanced computing (C\_DAC) currently playing a key role to bridge the digital separation between rural and urban. It developed a search engine with the help of DIT (Department of Information Technology). This portal will help the rural population by giving them information related to important sectors like agriculture, health, rural energy, education and e-governance.
- Relaxation in income tax for companies, which build roads and bridges or building infrastructure facilities for rural and remote areas with their interest.
- The State Bank of India has started a zero balance account program (tiny account) for rural people, this program has no physical branches or officials, and it only has a volunteer with a small box (enabled with biometric finger reader) and a cellphone. At the time of account opening, it confirms the account holder's identity. Cellphone enable communication with the zonal office to check on available balance in the respective account. Payments beneath programs like the MNREGS and pensions square measure created on to these accounts.
- In telecom sector, service providers are focusing in villages. Where the large number of users available and according to industry estimates. Larger percent of mobile users is coming from rural India.
- Mobile device manufactures are also focusing on this market and setting new outlets especially for this market. For example, in India a large number of people are lacking electricity facility, taking this advantage in innovative way Nokia made a handset with a torch facility and an alarm clock which becomes very popular and attracted a large



number of people across whole India. In December 2008, it went one step further with the launch of Nokia life tools. According to Nokia Company's report, "life tools could be a variety of agriculture, education and amusement services designed particularly for the shoppers in little cities and country of rising markets. This area unit aimed toward providing timely and relevant info made-to-order to the user's location and private preferences directly on their mobile devices. Nokia life tools are the first step towards bridging the digital divide.

### III. FUTURE ASPECTS AND OPPORTUNITY IN RURAL MARKET

According to Census 2011, 68.84% people of India live in rural area, taking the demographic advantage where 63.6% people are aged between 16 and 64. This data shows that a large number of people are living in rural India. There is enough scope to create products and services that there oriented towards rural population. Some of the areas are discussed below:-

**Entertainment and Advertising:** With the launch of DTH (Direct to Home) service, remote areas are now not isolated from rest of the world and people living in the villagers are taking advantage of various government schemes and latest trends in farming to increase productivity. It is known fact that almost everybody watch TV, this can be taken as an advantage by the advertising industry to focus on rural population with FMGS providing companies and other service provider to promote their products and services.

**Value Added Services:** Rural India shares a 35.60% of overall telephone/mobile subscribes with the monthly growth of 1.20%, where tele-density is 40.60% (according to TRAI official data August 2012). There is substantial scope for both mobile operators as well as manufactures to invest in rural areas. Telephone service providers can provide value added services in regional language to get a large number of literate as well as illiterate people. The services not only work as global connect for villagers as well as various companies can advertise their product and services through mobile phones.

**Electronic Service Delivery Bill:** Government of India proposed bill for public opinion for providing all possible government services through electronic mode. This bill may increase efficiency and transparency, which will also facilitate rural as well urban Indians to utilize their resources efficiently without leaving their residence.

### IV. PROPOSED MODEL E-FARMING

In this paper we are proposing a model that will be useful for rural people in conducting their farming and marketing of produce with the help of ICT. This model can be implemented through PPP mode public private partnership or private interest of individual firms. With allowing the FDI in multi-brand retail up to 49%, the scope of investment in rural India has



been increased; the maximum advantage can be taken by using information and communication technology in an innovative way.

**i. Requirement Analysis**

According to World Bank report, India lack proper supply chain for their a market as a result of it a large amount of vegetables, fruits, grains and other materials get spoiled. Farmers need to travel from their home village to nearest market to sell their products; they need to be physically there to sell their products. It increases travelling expense and cost. System has to be development for maintaining good supply chain. Not possible for a small farmer to sell large amount of product (vegetable, fruits, etc.) individually at once, as cost of transporting from village to nearest market is high. A cost effective and time-efficient system is required to overcome these problems.

**ii. Specification of Proposed Model**

**Infrastructure Required**

A small centre with computer and internet connectivity having at least a single computer operator, who can access a website that is especially designed for the farmers and retailers, well-organized information system that provides information on all agricultural technologies available and make people aware about the latest technologies in the market.

A transport media could be a van, tractor, truck or any other kind of vehicle to transfer produce from village to the nearest market. The same transport can be used for bringing the demanded product from nearest market to village.

Website to be specially designed to serve as mediator between nearest market and village (also acts as mediator between farmer and retailer).

**Payment mode**

- Payment of money can be possible in 2 modes either directly into bank account or through cash mode from centre (amount exceeding up to some limit will be paid directly through bank account only).
- Selection of payment mode is choice of farmers/ sellers with their convenience.
- Each centre has a bank account in their nearest city/ block level bank branch.

**Website Component**

Website should contain the features given below:-

- Farmer details and products ranging from food items, grains, rice, seasonal vegetables, fruits etc. with their prices and quantity available in stock.
- Farmers/ sellers get automatic notification if their available product range and requested product range of farmers/sellers match together. It enables farmer and sellers to avoid extra searches. In other side, searching is also available.



- Retailers contract details for farmers if they want to contact retailer from their village, with list of requested products.
- Transaction details  
Each and every purchase or sale transaction will be stored in website with their respective farmers/ sellers account. All the transaction history can also be printed for their personal use in regional language.  
Receipt of each transaction in regional language is also given to farmers/ sellers.
- List of schemes of Government of India to empower rural people (with details in regional languages)
- List of products provided by the similar centre across s state (for sharing experience among them).
- Products list of all the products provided by urban sellers (in case there are nearest market sellers) or those who want to sell the products to villagers on demand.
- Farmer can demand for products (small FMGS products) which are available on website, provided by sellers of the nearest market.
- Private companies can post their advertisement on the site for the promotion of their products, which can help to generate some revenue for the maintenance of the site.

#### **V. WORKING PROCEDURE**

- Farmers and retailers, wholesalers must need to register.
- Demanded product will be available to farmers in the same transport media, while returning back from market to village, to reduce cost.
- As the requirement matches an automated notification is generated at both farmers end the operators end (centre operator).

#### **VI. ADDITIONAL FEATURES OF MODEL**

Centre may serve as small banking solution for farmers for deposit fund, fund transfer to someone's account. Private online service providers such [www.flipkart.com](http://www.flipkart.com), [www.snapdeal.com](http://www.snapdeal.com), [www.amazon.com](http://www.amazon.com) can also be invited for using these rural centers (established under this model). Investment/ saving scheme can also be implemented.

#### **VII. ADVANTAGES**

- As e-farming saves the time of travelling from village to nearest market, the saved time can be utilized by farmers in various useful activities such illiterates can become a part of "sarvashiksha abhiyan" a government initiative to provide education for all.
- The e-framing center established under this mode can be used as banking service (up to limited extent as mentioned above), if there is no bank branch available in village of their locality.



- As there is no private courier provider available in rural areas, by the e-farming distribution center with collaboration with online marketing service providers such as [www.amazon.com](http://www.amazon.com), [www.snapdeal.com](http://www.snapdeal.com), etc. can reach up to rural India (As these Internet marketing service provider does not use government service as postal) or post office of government for their product delivery), the e-farming center can serve as their service delivery channel. It will generate a large number of customers for their business.

#### **VIII. AREAS OF CONCERN**

- Since millions of people in India are lacking the basic needs like electricity, government has to provide basic infrastructure to fulfill the implementation of the ICTs-related plans.
- Mostly the government strategies failed due to the improper implementation of plans due to corruption.
- Multiparty system and vote bank politics also create hindrances in implementation of public schemes.
- Orthodox thinking of people and gender discrimination heavily affects the overall development plans in rural areas.
- Lack of awareness also causes improper implementation of public schemes.

#### **IX. CONCLUSION**

Some initial steps to become a developed rural India have been taken. There is a long path to reach the final destination. ICT is the way through which our country can become the world leader, if innovation and sustainable approach with emphasis on rural India remains the key term in policy development and implementation. Government as well as private corporate houses need to work together to deal with current technical as well as social-economic issues for individual growth.

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