Impact of Information and Communication Technologies (ICTs) on Rural Marketing & Development with Reference to selected Villages in India

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Abstract

Information is power and power is information. Without information there can be no growth. Now information is penetrating into rural India as well, because without its presence there, we cannot think about development of the entire country. India is in the midst of a knowledge revolution, complemented by the opening up of entirely new-vistas in information and communication technology. Information and Communication Technology (ICT) has emerged as an effective facilitator in the development of any society and is a prime driving force in the growth of rural economies. The Rural Market of India is showing an impressive growth largely due to changing lifestyle patterns, better communication network and rapidly changing demand structure of consumers of rural area. With the changing patterns of Rural Market, the role of ICT has increased from providing only the Networks to set-up the basis of updated technological programs in the rural area. It is widely believed that Information and Communications Technologies (ICTs) are effective tools in the development of rural India. Rural people are less knowledgeable rather than their city counterparts. Thus, technological advancement is necessary for every nook and corner of India.

Key words: Information and Communication, Technology, Rural Marketing, Development, Growth, Economics, Facility of Rural areas.

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I. Introduction

Information and Communication Technologies (ICT) are a diverse set of technological tools and resources to create, disseminate, store, bring value-addition and manage information. Knowledge thereby becomes the fundamental resource for all economic and developmental activities in the society, of which rural poor form an equal part. Rural India is in urgent need of knowledge empowerment and the challenge before us now is to enlist technology as an ally in the movement for economic, social and gender equity. ICT has emerged as a new way of reaching out to the people at grass root level. ICT applications into the domain of Indian rural development dates back to 1986 when the Computerized Rural Information Systems Project (CRISP) was launched in 1986by the Ministry of Rural Development. Under this project, every district in the country was provided with computers and a software called CRISP (now re-named as Rural Soft) to help District Rural Development Agencies (DRDAs) to manage Ministry of Rural Development's programmes more efficiently. Indian Government has realized the role of the rural development and the contribution of I.T. in the development of Rural Markets. In recent years information and communication technologies (ICTs) have been deployed in numerous initiatives in rural communities in the country. There are many projects underway that are using ICT to reduce poverty, overall rural development and promote good governance.

Objectives of the study

The objectives of the study can further be described as:

- To know various initiatives taken by government, corporate, NGOs, etc. related to ICTs
- To know various challenges and possible threats to implement ICTs into rural areas.
- To explores the possibility to implement various ICTs initiatives in all villages of India.

Limitations of study:

- The study is based on secondary data only.

Major ict's Initiatives in india

Despite the huge potential to harness ICT for agricultural & rural development, only a few isolated projects have been initiated in India. Many of these projects were started by NGOs, private organizations, cooperative bodies and governmental organizations. There have been some initiatives in India, using ICT for agricultural & rural development. Indian experiences with IT projects are Gyandoot project (Madhya Pradesh); Warana Wired Village project (Maharashtra); Information Village project of the M S Swaminathan Research Foundation (MSSRF) (Pondicherry); iKisan project of the Nagarjuna group of companies (Andhra Pradesh); Automated Milk Collection Centres of Amul dairy cooperatives (Gujarat); Land Record Computerisation (Bhoomi) (Karnataka); Computer-Aided Online Registration Department

(Andhra Pradesh); Online Marketing and CAD in Northern Karnataka (Karnataka); Knowledge Network for Grass Root Innovations - Society for Research and Initiatives (SRISTI) (Gujaral); Application of Satellite Communication for Training Field Extension Workers in Rural Areas (Indian Space Research Organization); In addition to the above, a few non-governmental organisations (NGOs) have initiated ICT projects such as Tarahaat.com by Development Alternatives (Uttar Pradesh and Punjab); Mahitiz-samuha (Karnataka); VOICES -Madhyam Communications (Karnataka);. Brief description of some programs run by the Government &NGOs is as follows:

AGMARKNET

AGMARKNET is Agricultural Marketing Information System Network that links all important Agricultural Produce Market Committees (APMCs). State Agricultural Marketing Boards/Directorates and Directorate of Marketing & Inspection (DM1) Through this web based information system, farmers now have choice to sell their produce in the nearest market at remunerative prices.

Agricultural Resources Information System (AgRIS)

Agricultural Resources Information System (AgRIS) is the Central Sector Scheme for strengthening / promoting Agricultural Information System. It develops a comprehensive database on various parameters related to land use, inputs (seeds, fertiliser, agricultural technology, and agricultural credit) use, water use and decision support systems (DSSs) packages for strengthening advisory services to farmers. The AgRIS is a step towards establishing a location-specific e-Government mode! For the Poor.

Aksh

Aksh is a fibre optic cable company with its core competence in lay down and maintenance of cable. It has the license to lay down the cables in the rural areas. The bandwidth delivered by Aksh supports a large variety of services (including video interactions) which will lead to increase the level information exchange in between the people living in several areas of rural India.

Akshaya

Akshaya is a project of Kerala government to extend the benefits of new ICTs to all its citizens. This is part of the Akshaya Project to bring e-Literacy to its people. The project involves setting up around 3000 multipurpose community technology centres called Akshaya e-Kendra's across Kerala. These e-Kendra's have the potential to provide G2C, G2G, andC2C. B2B and G2B services and act as decentralized information access hubs and service delivery points.

Drishtee

Drishtee is a commercial organization, which was previously named as Cyber Edge with specific social objectives of targeting benefits to the rural poor built into its vision and strategy. It has the main work of developing the modules for the poor section of the society who cannot understand the international language. Various local language software applications have been developed, for E-governance, market price information, buying and selling etc. Drishtee is present in 5 States and is currently available in six districts.

E-Cooperatives and Coop Net

This is an Internet enterprise development programme for fostering agricultural and rural industries. Rural Connectivity is the lifeline of rural economy. This network covers 100% villages and 85% of rural households, and occupies a key position in agricultural development with respect to resources use, inputs use, harvesting of water resources, marketing channels, storage facilities, distribution channels, value addition, market information, and a regular monitoring network system.

E-Mitra

E- Mitra is Rajasthan State Government started projects in year 2002 to deploy the I.T. enabled benefits, two projects came into existence namely under E-Mitra; Lok Mitra and Jan Mitra. Jan Mitra is an integrated electronic platform through which the citizens of Rajasthan can avail the benefit if getting the desired information regarding any Governmental Department. Lok Mitra is an urban electronic Governance Project which was launched in Jaipur city in year 2002, which helps the citizens to pay their bills online (land, Water, Bus Tickets and BSNL) leading the citizen to save the waiting time.

e-NRICH

e-NRICH is another ICT solution that has been developed as a Community Software Solution Framework addressing the needs of rural people. Through its customizable local language sensitive interface, eNRICH truly puts ICTs in the hands of its users.

Gyandoot

It was established in January in year 2000 by the Government of Madhya Pradesh. It is an e-governance based module designed for the rural citizens. It caters the need of the villagers by providing the information related to the prevailing rates of the agro-based commodities, Income Certificate, Domicile Certificate, Caste Certificate, Driving License, information regarding Rural Markets, the rate of land, etc.

Cyan Sanchar

It is designed to bring affordable and cost effective services to rural India. It is a partnership project, between Bharat Sanchar Nigam Limited (BSNL), Government of Madhya Pradesh

(GoMP) India and a Canadian business team comprising IBM Business Consulting Services and Sasktel International. The objective of this project is to develop a model for sustainable expansion of telecommunication services and ICT applications in rural India.

IKisan Project

IKisan is the ICT initiative of the Nagarjuna group of companies, The major objective of iKisan is to provide need based wholly agricultural expertise at village level, to increase the productivity of selected crops in selected regions.

Land Records Computerization

The project is a collaborative effort with Ministry of Rural Development providing funds to states for datac ollection, collation and site preparation etc. The States of Madhya Pradesh, West Bengal, Rajasthan. Maharashtra, Orissa, Uttar Pradesh, Sikkim, Andhra Pradesh, Pondicherry are already in an advanced stage of computerization of land records.

Lokvani

Lokvani is another e-Governance effort initiated by District Administration of Sitapur, Uttar Pradesh in collaboration with NIC. Lokvani provides citizens an opportunity to interact with government without actually visiting the government offices.

n-Logue

The main impetus for n-Logue came from the IIT Chennai research group headed by Professor Ashok Jhunjhunwala. It follows a franchise model which provides an info kiosk (personal computer with Internet video conferencing facility, a scanner and a photocopier) at a low cost in the rural areas.

Panchayats Informatics

Government of India has also initiated efforts to provide ICT solutions for streamlining the functioning of panchayats to enable easy access to information and services by the common man., through InfoGram includes Registration of Births/Deaths, House Tax, Licenses, Certificates (e.g. Income, Caste etc.), Accounts and Panchayat Information etc. InfoGram has been implemented in 20 Village Panchayats in Goa and some more are likely to be added to the list of implementations.

Participatory 3D modelling (P3DM)

Participatory 3D modelling (P3DM) was introduced to Sasatgre, a village in the West Garo Hills in North Eastern India,. P3DM integrates all aspects of the mapping process - participatory resource mapping, data collection and model building - as well as applications of the mode! For decision making, and for monitoring and evaluating changes in land use.

Property Registration
Property Registration Systems aims at setting quality and time standards for all registration services.

Rural Bazar
Rural Bazar is an e-commerce solution developed by NIC to address the marketing needs of the rural producers. The software provides provision for simple showcasing of the products, off-line payment as well as on-line payment. It has been implemented in the States of Tripura, Goa and Tamil Nadu.

Rural Digital Services
Rural Digital Services provide a single window for all government services at village level. In the first phase of the project, the services offered include Birth/Death Registration and Certificates (Caste, Income, Widow, Unemployment, No Tenancy etc.)- The application developed allows Biometric Authentication (using Finger Print) for login. The software is operational in Karnataka and is currently available in Kannada and English.

Rural e-seva
It was initiated by Andra Pradesh Government to deliver e-governance facility. The centres are designed with the view to provide better governance facilities to the people of the Rural India. It is related to payment of electricity bills, telephone bills and local governmental bills to provide the benefits at their doorsteps.

Rural soft
It helps capturing monthly progress of various poverty alleviation schemes sponsored by the Ministry of Rural Development and State Rural Development Departments. The aim of this programme was to facilitate the monitoring and planning exercises in the area of poverty alleviation.

TARAhaat
It was developed with the vision to bring internet facility to the rural India. It is a franchisee based business model that attempts to generate revenues by focusing on the marketing services at local levels. It provides the information in the local language and it provides many services like TARAbazar (for product information), TARAdhaba (for providing connectivity), TARAvan (delivery of orders at remote areas), etc.

The Simputer project
Scientists from IISc and the Encore software brought this idea into practice. This project grew out of the dare need for an affordable access device for the rural population in the country. The

in built Smart Card feature enables the Simputer to be shared by a community. Approximate cost has been fixed to half that of the normal PC.

The Universal Service Obligation Fund (USOF)

The Universal Service Obligation Fund (USOF) of Government of India will spend ₹ 5,000 crore to ensure cellular connectivity in rural areas across the country. USOF had set up 7,800 towers for the spread of cellular network. USOF had a fund availability of ₹ 14,000 crore aimed at increasing the teledensity.

Warana Wired Village Project

The Warana "Wired Village" project was initiated in 1998 by the Prime Minister's Office Information Technology (IT) Task Force. The project aims in fact at giving villagers access to information in local language about crops and agricultural market prices, employment schemes from the government of Maharashtra, and educational opportunities. The project has already increased the efficiency of the sugar cane growing and harvesting process, both in terms of time saved by the farmers on administrative transactions as well as in terms of monetary gains.

Corporate initiatives in bringing technology to rural india

Microsoft, Hewlett-Packard and IBM, apart from other IT companies, are creating technologies specifically for the Indian subcontinent. Putting computers in place is only a small step in a long journey for IT in rural areas. One community computer is simply not sufficient to meet the requirements of villagers. A number of factors are responsible for the digital divide - multiplicity of languages, cultural diversity, low literacy rates, price sensitivity, and the low usage of personal computers but technology majors are keen to establish direct contact with potential customers in rural areas, and setting up computer kiosks is an important step in this direction. They are focusing on ways and means to make IT accessible to common man.

There are many initiatives taken by major IT companies in this regards like Indian Telecom Company Bharti Airtel entered into the rural telecom market with the setting up of 4,000 Airtel Service Centres (ASCs) in the remotest villages of Maharashtra and Goa telecom circles.

Bharat Sanchar Nigam Ltd offered broadband connections to rural population at a discount rate after showing a strong presence in rural India. Bangalore based Comat Technologies has launched an employment training programme for rural youth.

Ericsson IBM's India is working on speech recognition, which aims to 'provide an easy interface for interacting with computers, particularly for those unfamiliar with computers and/or English' It is extending IBM's Via Voice recognition technology to build a speech recognition system for the Hindi language. Like HP1 s Script mail, this will also eliminate the keyboard.

Infosys BPO, the back office outfit of Infosys Technologies Ltd proposes to tie-up with the rural BPOs, besides setting up a separate delivery team of 500 employees to service the local market.

Intel focuses to improve rural education; it would help the government equip 100 mobile computer labs in vans throughout the country.

Reliance Communication has formed a joint venture with Krishak Bharti Cooperative Ltd (Kribhco) for offering value-added services to mobile users in villages.

Microsoft also showed its presence in rural India by setting up different kiosks. . Microsoft is working at tying in banks, financial institutions and other companies that might want to offer their products and services through these kiosks.

Anticipating a strong business potential in rural market, Nokia team up with some micro finance institutions to get into the rural areas. In order to strengthen its hold on the rural markets, "Nokia India launched Nokia Life Tools, which are "a range of agriculture, education and entertainment services designed especially for the consumers in small towns and rural areas of the emerging markets"

Last but not least, conceived by ITC in June 2000, e-Choupal has already become the largest initiative among all Internet-based interventions in rural India. Tata Consultancy Services, Tata Teleservices (TTSL), Venture InfoTech etc., who are also taking initiative to implement ICTs for betterment of rural infrastructure in the country.

FUTURE PROSPECTS OF Information and Communication Technology (ICT) IN RURAL INDIA

There is great diversity in local conditions in rural India and the local needs are highly specific. The ICT implementation for rural marketing in India has to face the following challenges:

- Illiteracy ¡V you cannot use much of textual information
- Middlemen - physical distances makes it difficult to provide proper price information.
- Alternate media ¡V not available.
- Language - multiplicity and highly specific local languages
- Easy loans - Reluctance of banks to provide soft loans to farmers.
- Affordability ¡V any new technology must be economical.

In the absence of timely and correct information about prices, arrivals and market trends, compounded with the problems of low cash-at-hand and proper advice, farmers are forced to sell their produce at lower-than-expected rates. The result is that the benefits of the ¡¥green revolution have not really percolated down to the farmers. There is a need to build partnership with rural clients for a sustainable business relationship and sustainable marketing relationship. There should be a long-term relationship between the firms and farmers for agro business projects, which are risky, long drawn and technical in nature. The presence of a number of desired features in a website leads to higher user satisfaction. Such features are broadly aimed at satisfying one or the other of the following immediate user objectives:

- Ease of access.

- Up-to-date content.
- Layout, design, consistent themes.
- Easy navigation.
- Higher interactivity.
- Access through multiple media.
- Higher use of non-textual information.
- Multiple languages.
- Lower cost of transaction

The Web will have a great impact on the way rural marketing would be conducted in the future. The implementation of ICT in rural India must be carefully localized. The data collected may only be a snapshot of the websites for rural marketing but the challenges explored need to be addressed in order to make this tool effective for the development of rural India. The factors socio-economic, political and psychological, are very specific and the results in one market may not be applicable even to similar markets elsewhere.

Conclusion

This study helps to prospective researchers to know various initiatives taken by government & corporate which are undergoing a paradigm shift from being a regulatory requirement or a social obligation to being a viable business proposition. Further this study helps to get an insight about the certain issues of rural development with special emphasis on challenges for India to implement the same. The objective of this research paper is to know various initiatives taken by government, corporate, NGOs, etc. related to development of information and communication technology (ICT) which are in the forefront for rural development in India. This study looks at the challenges and possible threats to implement the same into rural areas. This study also explores the possibility to implement these initiatives in all villages of India as these initiatives are only taken in specific areas in certain states. "There is strong possibility to implement various ICTs initiatives taken by government, corporate, NGOs, etc., in all villages of India in terms of value creation and sustainable development,"

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