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# A New Method of Rural E-Business, Information and Communication Technology (ICT) Development in India

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**Abstract** In this research, to make available a practical new model of e-business for rural and small cites areas of India Our study is based on quantitative and qualitative methodologies. The qualitative methods included of open-ended interviews with officials and telecom operators. In this study, Rurale-business services are part of the IT application services at the Rural ICT Centre's which supply services; Internet services, Post Services, Insurance and Internet Banking Services, Communication Services.

**Keywords** E-Business, ICT, Rural ICT, ICT Centres, Telecom Operators, E-Government

## 1. Introduction

The growth of information and communication technologies (ICTs) has recently helped to accelerate social innovation. ICT enables social innovation practitioners to better manage and transfer knowledge (Bolisani and Scaeso, 1999).

Outcomes of social innovation range from improving the life conditions of disenfranchised individuals to meeting unmet basic needs for society as a whole, with final goals including justice, fairness, welfare, environmental preservation, improved health, arts and culture, better education, and eradicating poverty (Phills et al., 2008; Pol and Ville, 2009).

Rural e-business, as a special form of ICT, has an increasingly important role in prompting and supporting social innovations, as it offers a platform for communication and cooperation, human development, and the trading and delivery of goods and services, thus fostering economic growth and improving living conditions for those previously in poverty.

Subscription rural ICT experiences are a very important issue. Limited access to Information and Communication Technology, ICT, means that rural communities lack basic information that could assist them in improving their livelihoods. ICT services can support development in rural areas.

In many countries various centers of information and communication services like Telecoms, IT Centers, Information Kiosks, Information Access points (IAP), Coffee-nets, and Telemedicine Centers have been create to give communicative services to villagers.

ICTs can enable rural communities, particularly in developing nations with an opportunity to meet development goals such as poverty reduction, basic health care, and education far more effectively than ever before. Using ICTs in rural areas for enhancing agricultural production is suggest to immensely beneficial as most of the poor live in rural areas (Stufflebeam, D.L., McCormick, C.H., Binkerhoff, R.O., & Nelson, C.O.1985). Moreover, ICT application in rural areas can give them a voice and improve their employment.

The ICT centers are public places where people can use computers, the internet, and other media; get training and obtain a variety of other communication-related services. The ICT centers were also to create an enabling environment for research and tele-working to increase employment opportunities (UNESCO, 2010).

ICT centers are able to influence a range of development issues such as business and education development to the extent to which information and communication is important to users (UNESCO, 2010).

The National e-Governance Plan (NeGP) of India has been adjusted by the Department of Information Technology and Department of Administrative Reforms & Public Grievances comprising 27 Mission Mode Projects and eight components.

The NeGP was approved on May 18, 2006 with an outlay of 25,000 crore rupees with the goals of creating the right governance and institutional mechanisms and to set up the core infrastructure and policies. Apart from the Mission Mode Projects, three other major components of NeGP include creation of a state Wide Area Network; State Data

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Centre and 100,000 Community Service Centers. Now every state of India has an IT Policy in place and is involved in the development and implementation of new projects across the various departments of the government viz. land record, agriculture, finance, insurance, banking, education, etc. (National e-Governance Plan).

In September 2007, the Indian government approved a city special ambitious programme covering 323 cities in the country to provide e-governance services. These e-governance services enable citizens to: get birth and death certificates; pay property taxes, water and power bills; and submit building plans online, anywhere anytime. (Gupta, Kumar & Bhattacharya, 2004).

**Table 1.** States Portals

| State | URL |
|---|---|
| Andhra Pradesh | http:www.aponline.gov.in |
| Arunachal Pradesh | http:www.arunachalpradesh.nic.in |
| Assam | http:www.assamgovt.nic.in |
| Bihar | http:www.gov.bih.nic.in |
| Chhattisgarh | http:www.chhattisgarh.nic.in |
| Goa | http:www.goagovt.nic.in |
| Gujarat | http:www.Guharatindia.com |
| Haryana | http:www.haryanagovt.in |
| Himachal Pradesh | http:www.himchal.nic.in |
| Jammu & Kashmir | http:www.jammukeshmir.nic.in |
| Jarkhand | http:www.jarkhand.nic.in |
| Karnataka | http:www.karnataka.gov.in |
| Kerela | http:www.kerela.gov.in |
| Madhya Pradesh | http:www.mp.gov.in |
| Maharashta | http:www.maharashta.gov.in |
| Manipur | http:www.manipur.nic.in |
| Meghalaya | http:www.meghalaya.nic.in |
| Mezoram | http:www.mezoram.nic.in |
| Nagaland | http:www.nagaland.nic.in |
| Orissa | http:www.orissagov.nic.in |
| Panjab | http:www.panjabgovt.nic.in |
| Rajsthan | http:www.rahsthan.gov.in |
| Sikkim | http:www.sikkim.gov.in |
| Tamilnadu | http:www.tn.gov.in |
| Tripura | http:www.tripura.nic.in |
| Uttarkhand | http:www.ua.nic.in |
| Uttar pradesh | http:www.upgov.nic.in |
| West bengal | http:www.wbgov.com |

Source: National Portal of India.

In fact site of e-governance and ICTs in development in India within a right to information framework would offer possibilities for the transformation what largely remains technology-led schemes into a social scheme that is committed to leveraging information and knowledge in the context of social change.

## 2. Review of Literature

This is some study of ITC includes that: (e.g., Bagchi, 2005; Billon, Marco, & Lera-Lopez, 2009; Chinn & Fairlie, 2007; Kauffman & Techatassanasoontorn, 2009; Norris, 2001; Quibria, Ahmed, Tschang, & Reyes-Macasaquit, 2003; Vagliasindi, Güney, & Taubman, 2006). A cross-country analysis assumes that all sampled countries are alike after controlling for several characteristics.

This paper also belongs to the vast literature on economic and social inequality.

Rural–urban inequality in living standards in Thailand, however, has significantly narrowedsince the early 1990s (Fang & Sakellariou, 2013), while it has increased in other Asian countries (see, e.g., Akita, Lukman, & Yamada, 1999; De Haan & Lipton, 1998; Le & Booth, 2010). Inclination for adopting EC technologies, (Premkumar et al 1994, Beatty et al 2002, Chwelos et al 2001, Mehrtens et al 2001, Iacovou & Benbasat 1995, Crook & Kumar 1998).

## 3. Research Method

In this research is based on quantitative and qualitative methodologies. The qualitative methods consist of open-ended interviews with officials and telecom operators.

A qualitative method of enquiry adopted in view of the lack of literature and the nature of the research questions (Strauss & Corbin, 1998; Yin, 2003). Qualitative methods have been productively applied where there is a need to describe and explain the phenomenon under study (Kerlinger, 2000; Markus, 1997; Yin, 2003).

## 4. Methods

There does not out to be a universally accepted definition of a telecom beyond the general concept of a physical place providing public access to communication and information services. This report is based on qualitative and quantitative research methodologies. The qualitative methods consisted of open-ended interviews with officials and telecom operators. The quantitative methods consisted of detailed interviews with telecom users, a questionnaire, and data from other sources.

India's rural ICT network began its development in 2006, In September 2007, the Indian government approved a city special ambitious programme covering 323 cities in the country to give e-governance services (National e-Governance plan).

This plan is the main study of a national project known as 100,000 Rural ICT Center, which was started in 2007. Telecoms can be publicly or privately owned, be part of a public or private partnership, or be provided by international generous. They range from phone shops to cyber cafés, cottage telecoms for tele-working to custom multi-purpose community telecom (MCTs). Some even provide advanced services such as medical diagnosis and tele-medicine.

A number of qualitative and quantitative parameters together describe a Telecom. Here these parameters classified as telecom general indicators. Telecom site, origin, ownership, and management, facilities and equipment, services, and staff are some of these indicators (Financing ICT for Development in Asia and the Pacific, 2010). In our research we consider these indicators to recognize of society parameters:

1. Population size, age, gender, marital status, children.
2. Main economic activities (sectors), products.
3. Settlement type, geography, environmental setting.
4. Income distribution, savings, credit.
5. Geographic location of the society.
6. Commercial activity, businesses, trade patterns.
7. Occupation, employment status.
8. Physical infrastructure, services Level of education.
9. Population growth rate, life expectancy.
10. Distance to other services (medical, government, communications, libraries, education, markets, etc.)
11. Schools, other educational facilities.
12. School enrolment, drop-out rates and completion rates.
13. Adult literacy rate.
14. Main institutions, organizations.
15. Water, sanitation services.
16. Healthcare programs, facilities, vaccination rates.

## 5. Model of Rural E-Business

To determine the kinds of electronic services this can be given through rural e-business, information services and universal experiences making used. According to the studies on the given services via websites of public and private agencies, these services are grouped into several categories. This categorization helps to better analyse the services and lead improvements in performance and execution levels.

The main rural electronic services in India are regardless of in the four fields: e-government, e-education, e-business and electronic agriculture. In the Figure 1 showing that which can be in accordance the rural information and communication technology (ICT) office. These services are categorize in three parts of basic services, information and personality services of the offices. The basic services are available in all rural ICT offices.

In fact these services are the main work of the rural offices and directly associated with Department of Information Technology and Department of Administrative Reforms & Public Grievances.

The National Portal of India has been developed as a Mission Mode Project under the NeGP. The objective behind the portal is to provide a single window for access to the information and services being provided by the Indian government for the citizens and other stakeholders. An attempt has been made through this portal to providea comprehensive, accurate, reliable, and one-stop source of information about India and its various facets. The National Informatics Centre (NIC) has developed the portals for 28 states and seven union territories. The states and union territories (UT) further comprise 626 districts, out of which 566 have websites. Links have been provided at various places to other Indian government portals and websites (National Portal of India, 2010).

Personality services:

| Agricultural Services |
|---|

| Tourism Services | Business Services |
|---|---|
| Education Services | Health Services |

Basic Services:

| Bank services | Post Services |
|---|---|
| Computer services | Telecommunication Services |

Information Services:

| Announcement of Security Services | Announcement of Health Services |
|---|---|
| Announcement of Education Services | Announcement of Business Services |
| Announcement of Registration Services | Announcement of Judiciary Services |

**Figure 1.** Services in rural ICT offices

**Table 2.** Sample business of offices in state section

| GroupCod:G02 | Service group: Business Services | |
|---|---|---|
| Current services | | |
| Kind of service | Title of service | Code |
| | Investment in the villages | G0201 |
| | Registration and payment of portfolios | G0202 |
| | Registration of homes and villas project | G0203 |
| | Employment of rural inhabitants in industrial sectors | G0204 |
| Future services | | |
| Kind of service | Title of service | Code |
| | Online financial guidance | G0230 |
| | Guide about investing in rural areas | G0231 |
| | Remote working in villages | G0232 |
| | Announcement system for indoor and outdoor organization employment of province | G0233 |

Source: Business State in India.

Some of the problems that caused personality sector have low interest to invest in the villages and push the investment in the field of agriculture and forming brokers and agents are: scattered population of villages, outlaying of villages, not appropriate roads, unsuitable geographical conditions, low demands to get services and not enough information about the profit of the services. However, considering the execution of samples of such activities in some states of India show in that rural area development is in the need of government support.

# 6. The New Model for E-Business in India

In this section, a suggestion model for e-business through offices with the role of each nominee was described and e-business presented. Developing of services in rural ICT offices is a cooperative process in which various organizations work in the form of a unique process for giving services to rural residences. Public and personal organizations which give services are associate with this process to offer their services intermediation offices, and the ICT Committee is on the other side of this process which is compose of national informatics center (NIC), related banks and post offices.

Controlling and coordination of the process of giving services is done by rural ICT Committee in province. The operators of offices, by employing and managing required people in the offices give the services to villagers. The generation and patronage of electronic services in the offices can be activated from the private sector, but with the supply of the Committee of offices. In Figure 2 we will show that the relation between endowment of developing e-services in rural offices of states, from specification level to the level of giving service. After specification of the services with the endowment, evaluations of the service will be do.

In the new performance structure, transferring the ownership of mobilizing to the correspondents of offices which is according to the policy of government was carried out by the Committee of ICT. This Committee concentration the parameters and by using determination tools, determines the suggested services and finally decides which services could be given through offices. However, all the e-services was defined in the form of agreement between the organization which gives the service and the Committee of ICT.

After description and software measurement, the service can be given and each of the endowed is responsible to this service. The correspondents of e-service system are responsible about updating the software which be used for giving services and they are playing the intermediate role between correspondent of offices and the public and personally brokers which one given services. The correspondents this part of work according to the tariff classification which is approve by the Committee. This tariff includes the amount which charged to customers for a given service, and the amount which should be paid to the correspondent of offices and the brokers which are present the services. For each given service, a distinct bill should be given which is present according to the tariff. The Committee of ICT are control the given services as the regular organization of services Financing ICT for Development in Asia and the Pacific (2010).

The described procedure is a new empirical in the e-business area. In fact, each of the endowment may have their own cause in development giving services via offices. These cause the corresponding of brokers and offices to usually increase the earnings but the purpose of Committee is often development of offices and making this part as an interesting section which will finally lead to an increase in investment in this area. Public agencies may consider the offices as an appropriate organization for increasing the availability of services for rural residents which will help to reduce migration to the cities and villages. However, development in this area is in need of collaboration between both public and personality section and to achievement this, beneficiaries should have as much as cooperation and inflection with each other.

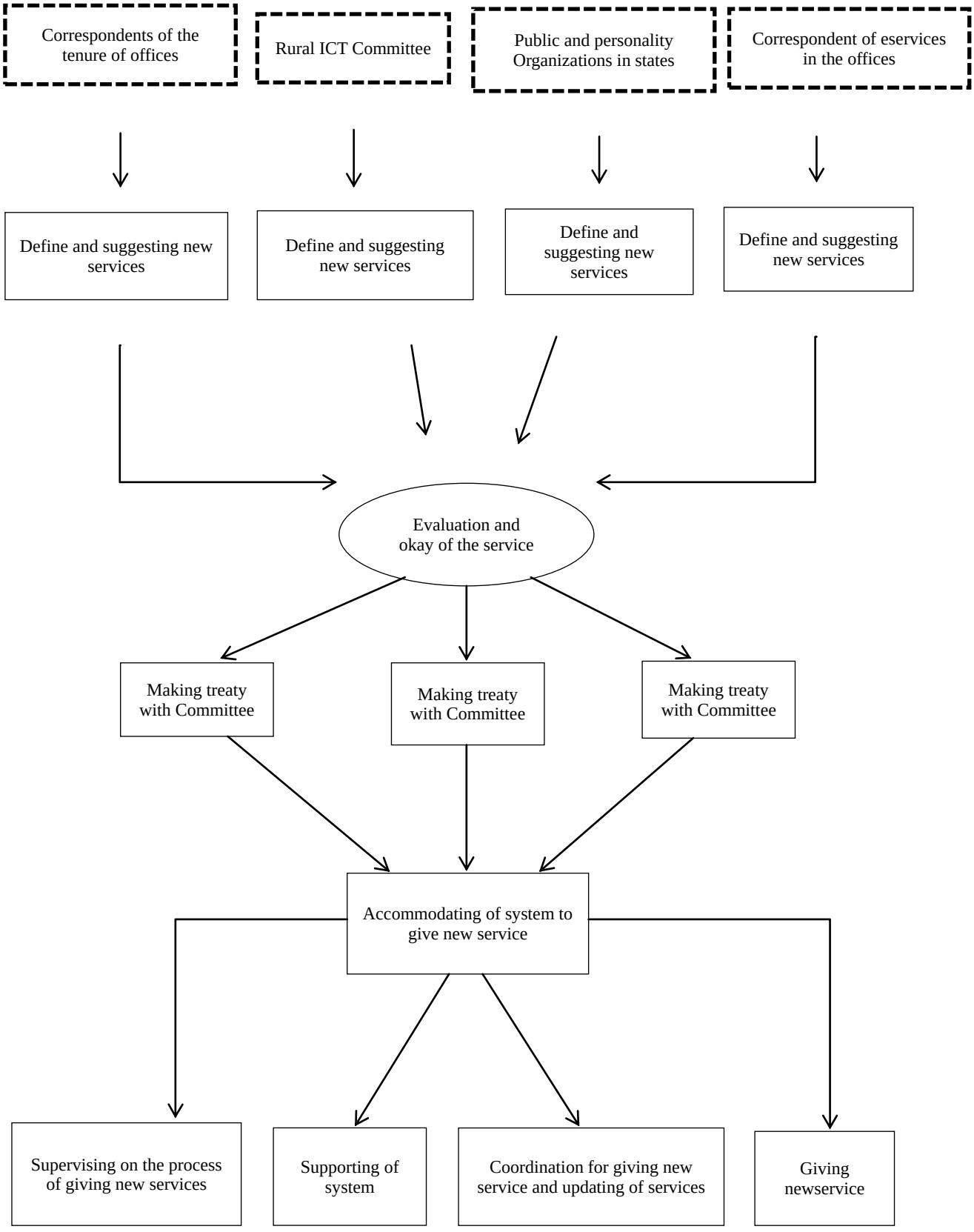


**Figure 2.** Flowchart of new model

## 7. Experience Project in India

Considering the situation in the growth of ICT offices in which the technical and communication structure is made or can be made by government, four main challenges exist. These challenges are human resources, economic and cultural conditions, and required laws. Human resources play an important role in development of e-business but as education is still low in the villages, ICT offices face a shortage of correspondents and expert operators. This style is known as a fundamental and effective subject in the development of e-business.

The situations of rural ICT offices in the country show that the knowledge of correspondent of offices in the field of e-business and information technology is low and they do not have the required knowledge and skills for development of e-business which is one of the main challenges in e-business development. A. Dymond, S. Oestmann (2004).

The government can design and carry out the programs to increase knowledge of correspondents in the field of information technology (IT) and development of e-business (DE). These educational programs can include in vain education, Distance education and workshops about e-business, security of bargain and making information announcement websites for rural ICT offices. Finally, educational programming in this area should follow and complete the Finance Strategy for development of e-business. For India villages is necessary in vain education because many poor population live in this country. Also to present patronage services for e-business, e-educations, e business, and etc, like designing and planning websites can be performed by government.

For example, in Ghana, the people who are poor and young are under the education designing websites. R. Dossani, D. C. Misra, R. Haveri, R. Jhaveri, (2005).

It could be taken into attention that the experiments of countries which are members of the Organization of Economic Cooperation and Development (OECD) shows that even the best strategies of electronic sales cannot turn the table of current business alone. However, as giving services through ICT offices are new using introduction programs and providing sufficient education in the rural area is inevitable.

Increasing the culture for development of e-business is the other effective subject. One of the main issues which have caused development of information technology and e to stay weak is the lack of understanding of the importance of e-business.

## 8. Conclusions

International policies always call on under developed countries to create simple tools for local development. The Indian government has made a significant offering in growth of the web portals at national, state and district levels. there are more portals for citizen-centric and thus provided an affective facility in responding to data and information needs of the citizens and people of live in village and E-transaction services have to improved.

In India, information technology service-providing centers and centers for rural communications were established thanks to popular support and backing from state-run organizations. More than hundred thousand telecoms are currently active.

The following listed recommendations to develop countries like India.

1. The First culture of ICT use in the villages to be institutionalized.
2. Use of Telecentresin remote villages field with more of the city 's application.
3. Since the opening of telecentres, the people, and the government have to beinvolved.
4. Government has to be made strategies planning for telecentres.
5. Farmers should be invited for investment in telecentres in any way they can. Telecentres have to become self-reliant.
6. The Growth of e-business the absorption of young people and prevent immigration gets.
7. Virtual work makes economic growth gets villagers.
8. Villagers should learn the information technology.
9. Annual Studies should be conducted on the economic impacts of ITC in the villages.
10. The make Security product sales create villagers.
11. Agricultural insurance is provided by ITC in villages.
12. Health insurance is provided by ITC in villages.
13. Governments have to offer facilities to ITC to encourage the villagers.

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