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KNOWLEDGE FOR DECISION MAKING - SOME EFFORTS FROM KERALA

INDIA

Knowledge for decision making-Some efforts from Kerala
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Kerala is one of the southern states of India lying nearly 9 to 13 degrees North and having a population of nearly 30 million persons out of which more than three-fourth live in rural area. Apart from an elected State Legislature, the State also has multi-layered elected local bodies. There are 992 Grama Panchayats (Village level councils) and 58 Municipal Councils and Corporations representing the rural and urban areas respectively. Kerala, known as "God's own country" for its natural beauty and which makes it as one of the top tourist destinations of the world, has also initiated various programmes/steps to make the benefits of information technology reach common people through innovative projects. However, with less than 1% of the population connected to Internet, the issues relating to lack of connectivity remain a big problem.

2. The Internet doubtlessly has potential to become an important medium to bridge the development divide provided a solution is found to the problem of access. The World Bank's annual development report, Knowledge for Development (1998), also stressed the importance of leveraging new media technologies like the Internet in developing countries for areas like lifelong learning, training and retention of skilled workers, transparency of government and financial institutions, and rural as well as distance education. Therefore, the issue that calls for attention is whether and if so how this new technology could bridge the gap between the industrialized and developing countries when much of the population cannot afford even a telephone.

3. The cost of online access also remains unacceptably high in most developing world and Kerala is no exception. Typically, the cost remains around

US\$1/hour for Internet access which also happens to be the per day income of the family to be classified as above poverty line in India. With one-third of population still below poverty line, their ability to access Internet still remains an elusive dream even in areas where there is connectivity. Furthermore, even where the line exists, the quality of service is another problem. Apart from this, there are issues like regional imbalances; urban/rural imbalances as also gender imbalances.

4. Amazon.com's founder and CEO, Jeff Bezos, at the "Creating Digital Dividends" conference in Seattle, USA, October, 2000, "emphasized that developing regions could leapfrog traditional development by skipping entire layers of [ICT] infrastructure". But so is the concern that developing countries will be "left behind" if they don't participate in the global information society. For example, a 1996 World Bank report (Increasing Internet Connectivity in Sub-Saharan Africa) stated that "If African countries cannot take advantage of the information revolution and surf this great wave of technological change, they may be crushed by it".

5. The digital divide is soon becoming the most visible component of the development divide. For developing countries, digital divide unless tackled has several potentially harmful consequences, including further marginalisation (increased gender, rural-urban and poor-rich gaps) as access to opportunities for wealth creation is reduced or polarised and potential losses of considerable development opportunities as productivity and efficiency gains are not transmitted from rich to poor countries. This paper proposes to examine issues relating to bridging the digital divide through Information kiosks with specific reference to the efforts being taken by Keltron, a public sector company in this regard so that the gap between those who share in the digital revolution - and the increased productivity and wealth that it creates - and those who live on the other side of the digital divide, is narrowed.

6. The Information kiosks model apart from bridging the digital divide has been successfully used to address various social issues like unemployment of

youth, empowerment of women through greater participation in decision making, bringing in attitudinal change in street children, structure networks for e-care and e-support especially for patients of diseases like AIDS etc.

7. Some of the other advantages of the Information kiosk model is that it allows decentralized functioning, so that local preferences are addressed. Besides, it empowers the local community not only to use ICT in future applications but also to express, share, gather, collect, disseminate, accumulate, distribute, analyse information and knowledge. The model provides the platform for creating partnerships with public, private NGOs for developmental needs.

8. The relevance of the Information kiosk model arises not only from the advantages it offers with respect to access to common man but also the constraints that other models have in a developing country. Technological change is one such constraint. Processing and transmission speeds having multiplied every year leading to tremendous advancement in ability to compute and process data and thereby use the ICTs for greater and larger number of applications. Health medicine or e-commerce have been becoming more and more acceptable for this reason. These advancement in technologies have consequently demanded change in hardware configuration and also change in software configuration in short span of time. This poses a dilemma for decision makers in actual work situations. Most end to end solutions of ICTs are capital intensive, technology intensive and time intensive. Given the decision-making structures prevalent in Governments, undertaking such projects lead to large delays in finalization of project and much more in finalization of the implementation contract. Due to this delay, changes taking place in technology result in change in choice of hardware and/or software or even the system design itself. This leads to re-initiating the decision making process with redefined specifications with no guarantee that further changes will not take place. Also since end to end solutions are capital intensive, non availability of funds often affect project implementation and lead to time delays. Years pass after an ICT project is conceived and the implementation process is started without any

benefit reaching the people and thereby leading to frustration and at times even doubting the suitability of adapting the ICT for providing better services.

9. Therefore, technology appropriation at each stage is equally if not more, important than adaptation of latest technology. It is pertinent to note that very many examples of technology appropriation have not been those based on most advanced technologies but have had tremendous impact none the less. Besides, latest technology requires high bandwidth communication infrastructure, which is not available in many developing countries. Creation of such infrastructure involves huge capital outlays and mobilisation of such capital has policy issues relating to private sector participation which are still not an accepted way of life in some developing countries. Such hurdles further obstruct use of ICT for the benefit of common man.

10. It would be relevant to list out some of the successful models which provide encouragement for undertaking other similar projects in other fields, in other countries and in greater numbers reaching larger number of peoples. The sheer variety of sectors and objectives served by different projects point to the near universality of the approach for societies wanting to leap frog the traditional development paradigm.

FarmNet in Uganda...for information on markets, improved agricultural technologies and weather conditions for farmers.

Tortas, Peru- an e-commerce portal for homemade cakes made by Peru womengiving them supplementary incomes.

Kothmale Internet Community Radio- offers ordinary people a gateway to the global knowledge society by combining local radio and locally produced content in local languages with ICT applications in a wide range of social, economic and cultural areas.

The Sapphire AIDS Victims Fund – marketing of artisan products and use of funds for supporting women, children and orphans who have AIDS.

Centre for Mayan Women Communicators in Guatemala- women sell locally made handicrafts on-line, thus providing additional income for their families.

ASAFE (Association pour le Soutien et l'Appui à la Femme Entrepreneur, Cameroon) offers women entrepreneurs who live and trade in Cameroon, Chad, Mali, Guinea and Benin various business services and support for their businesses.

The Bankilare Experience – Niger -A Community Information Centre (CIC) providing services like announcing weather conditions or alerting the community to potential disasters such as fires as well as providing information on topics such as health, nutrition, trade, environment as well as offering entertainment.

Across Borders – Palestine- connects Palestinian refugee camps in the West Bank, Gaza, Jordan, Syria, and Lebanon for the first time to the Internet

Nakaseke Multipurpose Community Telecentre and Library Pilot Project – Uganda- offers services including computer applications, training, Internet, and e-mail, along with several business services such as photocopying, telephone and fax.

TARAhaat.com – India- Information and Marketing Services using e-business to rural India.

InfoDes - Cajamarca, Peru- increasing the production levels of small farmers and the management skills of local governments, through the provision of information and communication tools.

Market Watch - Gobi, Mongolia- a multi-media price information and analysis service produced and delivered by the Gobi Regional Economic Growth Initiative,

Pondicherry – India- to enable rural families to access modern information and communication technologies in order to train and educate youth and women.

NairoBits: African Youth Online - Nairobi, Kenya teaches young Africans from slum areas the technical and creative skills of web design enabling them to express themselves through the Internet.

Street Children Telecentre - the Esmeraldas, Ecuador provides computer skills and Internet tools to street children and introduces alternative skills and lifestyles to support them in the search for better opportunities.

Virtual Souk - E-commerce for unprivileged Artisans - Middle East and North Africa aims to bring the artisans' crafts onto the market, without standardizing their techniques, and provide them with a return in profits without too much intermediation, and thus improving their income.

Chapter 2 Network - South Africa provides support to civil society organisations involved in advocacy in South Africa.

Grameen Bank's Village Phone Programme: a Multi Media Study - Bangladesh telecommunications in enhancing rural social and economic development.

Kothmale Internet Project - Kothmale, Sri Lanka uses community radio as an interface between the community and the Internet.

Gyandoot Project - Dhar - Madhya Pradesh, India a unique form of Government to Citizen (G2C) e-commerce activity

Healthinfo-Ethiopia Ethiopia promotes ICT among health professionals as well as acquires and disseminates health-related information about Ethiopia/Africa to Ethiopians/Africans in the continent and the Diaspora.

Village Leap - Robib, Cambodia women are able to sell their traditional silk-woven scarves to customers all over the world through the village web site.

Akashganga - India offers the Dairy Information Services Kiosk, which offers a multitude of animal husbandry related services, besides maintaining databases and offering Internet connectivity to the Dairy Cooperative Society.

11. The above examples show that information kiosks have been used effectively both by governmental organizations and non-governmental organizations for achieving desired results. For a government which gives importance to services it provides to its citizens, the kiosk model becomes all the more relevant as a tool for G2C transaction. (Government to citizen). To plan for a successful kiosk based ICT application with the objective of improving services to common man, the following step wise approach is proposed:

- i. Identify specific information needs or services which are proposed to be provided through the project. The identification of these needs/services should involve the targeted beneficiary group and a participatory need appraisal with the help of trained consultant is recommended as this is the most crucial aspect in the success of the project.
- ii. Identify the activities, which will be done using information technology in the chain of events, which results in service being given to the user. The front end of the system would normally be computer based so that the human interface, which is one of the major irritant is avoided.
- iii. Design of software and hardware taking into consideration constraints like costs, connectivity etc. The costs of software can be very high and therefore wherever possible freeware software may be used.
- iv. Development of software and procurement of hardware and their installation
- v. Integration of remaining activities in the chain of activities of the system through physical manual processes. These manual processes can slowly be taken up for computerization in one or more phases based on availability of resources, development of infrastructure and experience gained from the earlier phases.

12. Some of the examples where such an approach has been successfully adopted in Kerala are discussed below:

FRIENDS

13. A Single one-stop stand alone service center powered by twenty high-speed computers, FRIENDS delivers easy and efficient services through a single point interface. It promotes improved coordination between government departments and simplifies interaction between the citizen and the department. So paying bills, obtaining applications and remitting registration fees is quick, simplified and done through a single window. Friends make life easier for over one million people annually. The FRIENDS kiosks provide the following services: electricity bill payment, water bill payment, telephone bill payment, property tax remittance, professional tax remittance, Traders license fee remittance, Building tax remittance, Basic tax remittance, Revenue recovery, Remittance of fee for new ration card, One time vehicle tax, Motor vehicle tax, Fee for licenses from Motor Vehicle Department, Fee for permits from Motor Vehicle Department, Registration fee for Motor vehicles, University exam fee, General fee for Kerala University, Fee for trade licenses.

14. FRIENDS very appropriately integrates the existing manual systems of various utilities/agencies with information technology intervention so as to make a much needed service to common man, particularly in urban areas.

Keltron Information Kiosks (KIKs)

15. KIKs are a one-stop networked facility for various services and information needs. The objective of these centers is to enable common man to access modern information and communication technologies and to enable government to provide quality services to common man using the strengths of ICTs. The focus of KIKs is to generate content which is locally specific. KIKs are cyber cafes providing various services related to Government through Internet and LAN and catering to everyday needs of the masses. These kiosks have already been set up in Trivandrum district and are proposed to be set up in all the districts of

the State in a phased manner. The strategy for setting up of a network of kiosks throughout the State involves public-private-community participation. Local bodies will also be partners of this network.

16. The network configuration in each district is that there will be a server at each district headquarter. The headquarter server for Trivandrum has already been set up at Vellayamablam. Kiosks owned by Keltron have been set up at strategic locations. The kiosks provide a comfortable ambience with high speed connectivity to 10 to 20 users at a time. However, future kiosks, which are going to be based on franchisee arrangement with PCOs, envisage kiosks with even facility for one or two users at a time at each PCO kiosk. The PCO booth owners are licensees, licensed to operate telephone services levying a nominal user charge and have been extremely successful in generating employment and providing telecom connectivity throughout the state. It is proposed to leverage the strength of this large PCO network and to integrate these PCO booths to act as KIKs, wherein the booth owner will now be able to provide, apart from mere telephone connectivity, internet connectivity and various other value added services. This would thereby address the problem of access to a large segment of the society. The PCOs also address the issue of last mile connectivity- a ticklish issue in any networking problem. For the PCO owner, the only investment that would be required would be that of a Pc or a server or a modem, an investment that he would be able to recover easily from the services rendered by him.

17. The PCO booths will be connected to the district server through dial up connection. The PCO owner can go for a server based kiosk or a PC based kiosk depending on the number of users he expects to entertain. If he goes for a server based system at his end, it would enable faster access and quicker response and would be more suitable for urban locations, whereas the PC configuration would be suitable for the rural areas. The district servers are going to be interconnected to other district servers using broad band connectivity which would be available

through the optical fibre cable network being laid and is expected to be operational by the end of the year.

18. The crucial aspect has been the content development for the KIKs. Content for certain services has been developed and for other is in process of being developed. During the project formulation phase, Keltron carried out a PRA exercise involving all stakeholders. The selection of the services was the result of this interactive exercise and was based on the advice and the felt needs of the users and the stakeholders. However, it has also been realized that that development of content is an evolving process and the content itself will have to be updated, modified or amended from time to time, based on the requirements of the stake holders. The services, which have been identified for first phase of the project, include:

- i. Excellent ambience for operations
- ii. High speed connectivity to the Internet with facilities for browsing, chatting, video conferencing, web hosting, photocopying, scanning etc.
- iii. Basic training for the aforesaid mentioned activities to enable users to develop their own content on the Internet.
- iv. Facilities for online application for PMRY scheme- an employment generation scheme for unemployed youth and display of status at various stages of processing of application.
- v. Facilities for online application for provisional registration of small scale industries
- vi. A user friendly module for counseling farmers regarding their agricultural needs, disease diagnostics, treatment, fertilizer application, soil fertility etc.
- vii. Public grievance redressal with specified departments
- viii. Online furnishing of sales tax returns for all sales tax payees

- ix. Information related to 2001 census
- x. Details of major schemes and programs of various departments of the government.
- xi. Online availability of various forms seeking assistance's under various government schemes
- xii. Information regarding availability of food articles through Public Distribution System- online details of releases made to Authorized Ration dealers.
- xiii. Below Poverty Line list

19. Apart from the existing services, the KIKs are planning the following services in near future. The project has been conceived in such a manner that it allows serial integration of services.

- i. e- Education
- ii. Income Certificate
- iii. Domicile Certificate
- iv. Caste Certificate
- v. Local e-mail
- vi. Employment news

20. The strength of these kiosks is their commercial viability. As a stand-alone project, the Banks and financial institutions can finance these kiosks. The only investment required is for setting up the district servers, the network and the development of content. But as a single stop service center for various governmental related subjects, the kiosks become the centers of e-governance for the common man. Government also saves in terms of cost of providing

separate kiosks/centers for disseminating information for common people. And this is therefore a win-win situation.