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Citizens' Expectations from Rural Telecentres: A Case Study of Implementation of Common Service Centres in Mushedpur Village, Haryana, India

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Abstract**—**Setting up of rural telecentres, popularly referred to as Common Service Centres (CSCs), are considered one of the initial forerunners of rural e-Governance initiatives under the Government of India's National e-Governance Plan (NeGP). CSCs are implemented on public-private partnership (PPP) — where State governments play a major role in facilitating the establishment of CSCs and investments are made by private companies referred to as Service Centre Agencies (SCAs). CSC implementation is expected to help in improving public service delivery in a transparent and efficient manner. However, there is very little research undertaken to study the actual impact of CSC implementation at the grassroots level. This paper addresses the gap by identifying the circumstances, concerns and expectations from the point-of-view of citizens and examining the finer aspects of social processes in the context of rural e-Governance.

Keywords**—**Capacity Building, Citizens' Participation, e-Government, NeGP, PPP, Rural Telecentres

I. Introduction

A popular study[7]suggests '…the majority of Information and Communications Technology (ICT) based initiatives end in total failure of a system that never works; partial failure in which the major goals are unattained or in which there are significant undesirable outcomes'. In the context of developing countries a substantial gap exists between the design and reality of the systems [3]. Researchers observe that 'technology cannot thrive unless it is people centered, inclusive, participative, and equitable and improves the quality of life' (Pujar, Kamat, Bansode, Kamat & Katigennavar, 2008). E-Government initiatives are failing due to a lack of understanding of effective planning, development and deployment [6] and varied sustainability challenges [12]. These faults and failures of ICT implementations have brought to the fore certain key issues one of the main being that these solutions currently being used in developing countries are often replicas of the solutions designed for regions of the developed world [2].

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Despite the need, social scientists too have not paid enough attention to the phenomenon of e-Governance especially in developing countries [1]. Possibly, in a rush to follow global trends, the contextual diversity at the rural grassroots level of a developing country like India seem to have been either under-estimated or completely ignored by the social scientists, policy makers and the software designers alike. This paper attempts to explore these gaps in the implementation of rural ICT initiatives from a socio-technical point of view; which puts citizens' expectations from such initiatives as its core focus.

A. Background of the Initiative

Initiated under the umbrella scheme of NeGP (Government of India, DIT, 2006), Common Service Centres (CSCs) had been implemented in Haryana on public-private partnership (PPP) in Mushedpur village of Gurgoan district of Haryana in September 2007 with knowledge and strategic support from Infrastructure Leasing and Financial Services Ltd. (IL&FS). IL&FS serves as the national level Program Management Agency to assist all Indian States, including Haryana in carrying out the activities related to pre-implementation and implementation phases of the CSCs under NeGP (IL&FS, 2006). CSCs in Haryana are locally known as *E-Disha Ekal Seva Kendra* (*electronic direction — common service centres*). While Haryana Electronics Development Corporation Limited (HARTRON) is the State Designated Agency (SDA) for planning the roll-out strategies for these CSCs in Haryana, a private company '3i InfoTech' is the Service Centre Agency (SCA) that makes the financial investments in partnership with HARTRON. The district administration authorities are expected to support the process of its implementation at the grassroots with strategic inputs from IL&FS. The CSCs are primarily run by the village level entrepreneurs (VLEs) who are paid a fixed monthly salary.

The various services being offered from these CSCs comprise of several government-to-citizen (G2C) and business-to-consumer (B2C) services. G2C services include providing caste certificate, '*nakal'* (copies of various government documents), domicile certificate, income certificate, application collection and submission for subsidy on housing schemes, *Laadli* scheme for the girl child (*Ladli* referring to 'dear one') and Indira Gandhi *Vivah Shagun Yojna* ('Marriage gift scheme)'. B2C services such as computer education, mobile top-ups, railway/air ticket booking, Internet surfing and downloads of various applications/forms used for government services are being delivered through these centres.

Under the project, one CSC is catering to the needs of citizens in six adjoining villages.

B. Reasons for the Selection of Haryana State and Mushedpur Village

The State of Haryana was chosen for the study of awareness and acceptance of CSCs in rural areas as Haryana had initiated enthusiastic action in this direction and been recognised as one of the three leading States (the other two states being Jharkand and West Bengal), which reported 100% CSC rollout in the country (DiT, 2009). Another motivation for us had been that Haryana is primarily a Hindi speaking state, which being the mother tongue of the first author provided ample scope for free flow of conversations with the inhabitants of the village. The particular village of Mushedpur in the Gurgoan district was chosen due to availability of some local contacts there and also because IL&FS was in the process of undertaking some basic assessment of its CSC project in this village during the same period as this study (February-March, 2008).

II. Methodology

The following research questions directed the focus of the present study, and served as the guiding framework for its conduct.

Research Question 1: Have the existing rural telecentres, especially the CSCs under the NeGP scheme, been able to capture the governance needs and expectations of the rural citizens?

Research Question 2: Do contextual factors pertaining to the rural reality have any influence on the design and implementation of rural telecentres?

Research Question 3: Would rural citizens' participation in design and implementation of rural telecentres help to increase its perceived usefulness?

A. Data Collection Techniques

As evident from the afore mentioned research questions, the primary aim of the study was to understand the social context of the rural reality in order to get specific responses of the citizens on their expectations from such an initiative as well as to understand the level of citizens' satisfaction from the existing rural telecentres. Such a multi-disciplinary and the socio-technical nature of the study warranted 'a multiplicity of approaches and instruments' [10]. Both qualitative and quantitative methods had been used to collect data through observational visits comprising of 5-days stay in the villages, and group interactions with the villagers by the first author. With case study approach as the focal technique, we used qualitative (field research using field-observations, semi-structured/unstructured interviews and focus group discussions) and quantitative (personal interview surveys) approaches for data collection. Interviews were conducted with various stakeholders such as union leaders, *panchayat* (village level governing bodies) leaders, members of marginalized communities, representatives from self-help groups and non-governmental organisations, field workers and rural entrepreneurs/telecentre operators. Semi-structured and unstructured interviews that were more of 'guided conversations' (Babbie, 2004) were utilized. The observational visits and the stay were to develop familiarity with the village and its inhabitants. It was also undertaken to fully understand the implementation process and service delivery through the newly established CSCs. For the personal interview surveys, a special instrument — 'Needs-based Assessment Instrument' (NbAI) designed by the first author was used to capture the following details:

Respondents' Profile:

- The citizens' profile including their most preferred activities.

Governance Concerns in the Village:

- Governance needs and expectations of the citizens.

Social Set-up Support for the Local Bodies:

- Existing forums for social awareness generation.
- The social aspects of the village including list of the most respected people in the village and reasons for the respect.
- Prevailing social dynamics by understanding the types of meetings held in the village and the social issues addressed at these meetings.

Infrastructure and Services available at CSC:

- Services desired from CSCs.
- Levels of CSC awareness.
- Current levels of footfalls to the existing CSC.

The data captured were analysed and graphically represented using spreadsheet software. The results obtained were collated with other findings from qualitative analysis. The latter analysis included informal interactions with various community groups, IL&FS representatives, SCA officials, VLEs, *panchayat* members and village elders to get an overview of the social dynamics and local strengths of the region.

B. Sample design

NbAI was administered on 190 villagers of Mushedpur village by actively conducting door-to-door visits. The respondents were identified with the help of community elders, *panchayat* members and some young informants of the village. The respondents were chosen through stratified random sampling method, where the available village population were categorised into homogeneous subgroups of farmers, labourers, housewives, students, unemployed, artisans and shopkeepers; and within each of these subgroups a simple random sample was chosen. The idea was to represent not only the overall village population in a non-discriminatory manner but also to represent the key subgroups, especially the smaller minority groups such as artisans. 168 responses were found to be complete and valid to be considered for further analysis.

III. Observational Findings

1. *Governance Concerns in the village:* The initial observational visits to the village brought to light the poor physical infrastructure including bad condition of roads and a complete lack of *pucca* (cemented, permanent structures) toilets in the entire village. The observational visits and detailed discussions with the villagers revealed that due to poor sewage and sanitation facilities, the villagers were persistently suffering from mosquito-borne diseases including viral fever, diarrhoea and dengue fever.
2. *Social Set-up Support for the Local Bodies:* The local rural bodies that were found functioning in the village were *gram panchayat, gram sabha* (village communities) and some political groups. However, there was an equally strong presence of social institutions — the local places of worship, government school, the village *chaupal* (local gathering place), senior citizen groups coupled by village entertainment sources including the cable TV network, and annual *mela* (fair), playing a leading role in spreading social awareness in the village. The village had many elders who were respected for their advice and cooperation and were available for all sorts of help. They were also concerned and proactive citizens of the region. They were active in initiating community meetings, including *gram sabha*, *gram panchayat* and political meetings, and were regular in participating in these meetings. Most of the village elders were considered social assets. Women in general were observed to be quite active in raising awareness about social issues such as alcoholism among their men-folk, need for community toilets, spread of computer-literacy among their children etc.
3. *Infrastructure and Services available at CSC:* Various G2C services being offered at the CSC included payment of utility bills, railway reservation services, filling of passport and PAN (Permanent Account Number) card forms. B2C services such as payment of insurance premium, purchase of movie tickets, mobile recharge facilities, dish Television subscriptions and online matrimonial alliance services are also being offered. Discussions with the VLE revealed that coaching classes for management courses were also being proposed. In the immediate future they also had plans to conduct computer awareness classes at highly subsidised rates, the content for which was to be provided by the private partner '3i Infotech'. The CSC was found to be well equipped and well established with trained and enthusiastic VLE manning the centre.
4. *Limited Basic Awareness about CSC:* As discussed with the villagers on various occasions including some discussion conducted by the first author with the IL&FS officials, it was found that the majority of the villagers present in these interactions were aware of the existence of CSC as a single-stop delivery point for several G2C and B2C services. However, the personal interview survey, conducted using NbAI, indicated exactly the opposite, as detailed later in the paper.

Findings using Needs-based Assessment Instrument (NbAI)

The data captured using NbAI was analysed for understanding the facts related to the social capital including the existing resources and strengths; the existing levels of awareness about CSC in the villagers; the governance needs the rural citizens would like to address through such an ICT initiative and lastly to understand the sustainability challenges of CSCs from the citizens' point-of-view. The findings are presented herewith:

Respondents Profile:

Of the 190 villagers interviewed, 70% were males and 30% females. They belonged to varied background — 31% farmers, 34% labourers, 29% housewives, 2% students, 1% artisans, 2% shopkeepers and 1% unemployed (Figure 1).

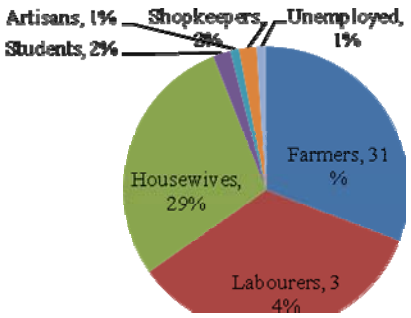

Figure 1 Sample Composition of Mushedpur Respondents

Most Preferred Activity of the Villagers

India is a country known for its strong religious beliefs; hence it was no surprise that the majority of the respondents (63%) mentioned 'they like visiting place of worship the most' when queried about 'what do you like doing the most'. The next best thing was 'visiting CSC' preferred by 20% of the respondents. Rest of the chosen activities were 'farming activities', going to 'school' and indulging in 'village sports'. 'Other activities' that 9% of the respondents showed preference for was visiting the market, watching television, going to annual fair, educating co-villagers and so on.

Local Governance Issues of the Village

The villagers were asked to comment on the specific problems related to local governance in the region. The main thing that came up was the very poor sanitation, infrastructure and electricity supply. Expressing displeasure, 44% of the respondents complained about 'poor sewage and drainage systems', followed by 25% expressing dissatisfaction on the 'erratic electricity' in the region. Another 8% complained about lack of availability of public transport. 8% of respondents complained about the lack of schools followed by 6% raising issue of poor condition of 'village roads' (Figure 3). Lack of any land-allotment for the poor people was brought to notice by 4% and only 3% of the respondents found 'health facilities' to be inadequate. It is obvious more efforts

would be required to implement CSCs in regions where the basic physical infrastructure is poor.

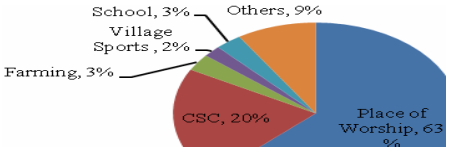

Fig. 2 What Villagers Liked the Most

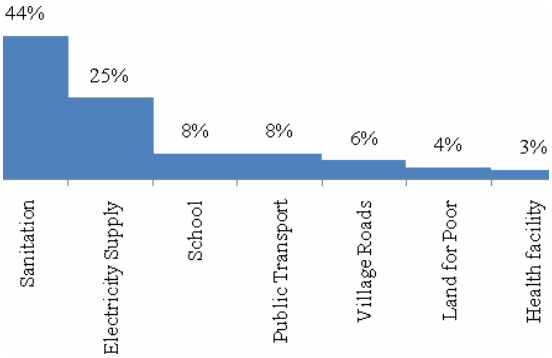

Fig. 3 Governance Issues Raised by Villagers

Villagers' Expectations from CSCs

Having studied the governance issues of the region, questions were directed to understand the prevailing needs of the villagers that could best be addressed by CSC. To the open-ended question 'What will you like to use CSC for?' the villagers, without any cue could only recall those services that had been popularised in awareness drives being conducted in the recent past. 26% conveyed that they would like to use CSC for 'phone recharge', followed by 18% expressing their preference for the possibility of 'payment of premium for insurance policies' (Figure 4). Another 15% articulated the desire for making 'utility-bill payments' including water and electricity; whereas an equal number aired their inclination for the possibility of undertaking 'other' activities such as payment of bank loans, Internet-surfing, railway booking, information about *mandi* (the local market place) rates, photocopying and so on. While 11% of respondents expressed their keenness to have 'all kinds of services', 7% specifically wanted information related to agriculture (31% farmers in the sample) and 8% wanted to learn computers at the CSC (only 2% students in the sample).

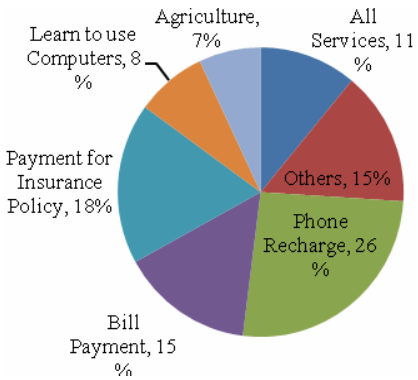

Fig. 4 Expectations of CSC-Services as Reported by the Villagers

These preferences expressed by the villagers were by and large reflected in the usage pattern of the CSCs as verified from the bill-books maintained by the VLE for the months of February and March 2008. Of all the chargeable activities of the CSC, mobile recharges, followed by photocopying were found to be the two most popular activities.To further understand the expectations of these villagers to be addressed through CSC i.e. the perceived usefulness of the CSCs by the villagers, the respondents were asked a direct question on felt governance-related needs of the village that might be addressed through CSC. These felt needs to be addressed by the CSCs as perceived by the villagers were classified as 'Education', 'Health', 'Information related to Business and Agriculture', 'Financial activities including availability of loans/ premium-payments' and 'Other Job Opportunities'. Preference was taken for any one of these needs from each of the respondents, who were segmented in various age groups.Health seemed to be the paramount concern of the villagers since 56% of them wanted their health issues to be resolved through CSCs. However, if this fact is studied in conjunction with earlier mentioned governance issues (Figure 3), only 3% of the respondents had complained about health facilities as a concern. It could be interpreted that though the existing health infrastructure is satisfactory, there still remains unresolved health concerns in this village. On discussions, the women revealed that while in general they were happy with the public health centre (PHC) facilities available, they (29% housewives and 15% labourers) wanted access to Internet at the CSC for answering queries related to chronic health problems such as rheumatic arthritis, gastric problem, back-ache and gynaecological issues, which they were otherwise hesitant to ask the male doctor at the PHC. IL&FS confirmed that they were proposing to make a telemedicine application available through CSC.Enumerating further the governance needs of the region, 16% of the respondents expressed that there was need for 'information related to business and agriculture' (this was expected as 31% of respondents were farmers and 2% shop keepers), followed by almost an equal number of respondents expecting CSC support for 'financial concerns' including availability of loans/premium-payments, 'computer education' and for finding appropriate 'job opportunities'.

If these felt-needs expressed by the respondents are viewed age-wise, then the most surprising part of the survey was that 15% of youngsters in the age group between 15 and 24 years, wanted 'health' related information to be provided by CSC. However, as expected, 6.5% of this age group was the only respondents in the whole sample who insisted on better availability of 'computer education' through CSC, whereas 5.3% of this age group wanted information related to 'business and agriculture' to be provided through CSC and another 3.5% wanted that CSC should focus on information related to 'job opportunities'. In the next age group (between 25 and 39 years), 8.3% demanded information related to 'business and agriculture' but what remained unanswered was the fact that none of them were looking forward to new technologies for job improvement by not expressing any need for 'computer education' or for 'information related to job opportunities'. This could be ascribed to the fact that the sample comprised of 34% 'labourers' and 31% 'farmers' who would not have any implicit need for computer education or better job opportunities that are conventionally advertised on Internet websites. When the young literate respondents were queried about their apparent disinterest in locating job opportunities using CSC, they expressed that the jobs advertised on the Internet did not suit their profile as these were usually white-collared jobs in nearby cities offering salaries of Rs. 3,000-5,000, far less than the amount they would be required to spend on travel and accommodation.

Villagers' Awareness of CSC Services:

It was soon realised during observational visits that despite all awareness drives initiated by several stakeholders, there was a need for more capacity building initiatives both for the villagers as well as VLEs. The level of awareness was the highest, obviously on the day of filling out the questionnaire as 35% of the respondents were able to relate to the perceived usefulness of the CSC. The reason for such a high level of awareness could be attributed to all the preparations and discussions immediately preceding the final leg of the survey. However, of all the respondents who were queried almost a fortnight ago, only 15% were actually aware of CSC, whereas a month ago the same set of questions were successfully answered by 27% of the respondents, when the initial announcements and news making the rounds circulated in the village about the arrival of the research team. The respondents were specifically asked 'Since when you have been aware about the existence of CSC in your village?' Only 6.5% of them were aware of the CSC two months prior to the survey, whereas about 14% admitted of being aware of it since the time it was implemented. On assessment of the overall impact of the awareness level of CSC programme in terms of averages, it would suggest that the awareness level has been 20% since inception. This clearly highlights the need for better awareness drives and campaigns, which may be conducted alongside some community activities by the concerned stakeholders to popularise the CSC.

This was reconfirmed during discussions with the VLE and on inspection of the log-book maintained by the VLE to monitor the footfalls per day at the CSC. A steady upward trend of CSC usage had been observed in the four weeks of the survey (10 footfalls per day in the first week of survey followed by 15, 21 and 30-35 in the subsequent weeks). In line with the previous findings, the steady increase in the number of visitors to CSC not just shows the growing curiosity about the initiative in the region but could also be attributed to the increased awareness and acceptance resulting from any activity related to CSC. However, this increased interest could only be sustained if some relevant G2C and B2C applications that could facilitate the livelihood options and enrich the social lives of the villagers are provided through these initiatives.

IV. Discussion

The CSC project implemented in Haryana is moving at a commendable speed, but as certain critical concerns and expectations of the citizens still lie unaddressed, its adoption by the citizens is still at the nascent stages. Some of the core concerns as perceived by the citizens and revealed in the study are encapsulated herewith:

A. Needs and Expectations of Rural Citizens

Need for Relevant Content and Services: Though a number of B2C services were advertised to be offered and G2C services were expected to be added along with content for computer literacy, delay in provision of the same adversely affected the footfall to the CSC. Although the State government and the SCA had proposed the provision of some relevant G2C services through CSC, none of them had been designed, developed or implemented.

Expectations of Marginalised Groups: Marginalised communities such as people with disabilities, women and scheduled caste villagers were found to be absent in almost all the meetings conducted by the SCA, IL&FS and the researcher. This only goes to show that the CSC activities either do not interest them or they have not been involved in the awareness generation process.

B. Contextual Factors

Electricity Supply and Internet Connectivity: Though the physical infrastructure and technical infrastructure of the CSC were found to be adequate in terms of space and computers, poor Internet connectivity and frequent power supply disruptions seemed to be major problems of the area. Initially, more transactions were reported at the CSC, but the major cause of its subsequent decline had been mainly attributed to poor Internet connectivity. The VLE had complained about deteriorating quality of Internet connectivity and that in the last few months of its implementation the Internet service provider (ISP) was frequently changed by the SCA. The VLE also raised concerns about high Internet expenses, exorbitant cost of connection and misuse of Internet by the youth. The villagers on the other hand complained about the monopolistic attitude of the VLE for permitting the usage of Internet to a selected few. Though Internet connectivity seemed to be good and could prove to be useful, the villagers felt that, no

apparent advantage could accrue to them due to the bias and restrictive practices of the VLE.

C. Social Dynamics and Citizen Participation

Interface with Local Bodies: It was found that the *gram panchayat* was not particularly keen to encourage CSC awareness, and informal discussions with the villagers confirmed that the *panchayat* was not very enthusiastic to spend much on CSC activities. Despite being representatives of citizens and chief stakeholders of CSC, *panchayat* members did not feel responsible to view the CSC project as promoting socio-economic development. Without considerable support from these rural local bodies and the village elders, the present interest of the villagers cannot be sustained. Even the various government public service departments operating in the village including the local municipality department involved in sanitation and garbage cleaning, were not found to avail CSC for broad-basing their outreach to the masses.

Citizen Participation: VLE in the village is found to be entangled in several bureaucratic procedures related to setting up better IT infrastructure for CSC. Such cumbersome implementation processes for CSC are contradictory to the basic objective of using CSC scheme as a step to bring bureaucracy closer to the common man. All the implementing agencies seemed to be oblivious of the fact that the needs of rural citizens are dynamic in nature and the rigid implementation structure of the CSC constrained it from responding to such changing needs. The study also revealed that there existed a diverse understanding amongst the SCA regarding the importance of citizen awareness in increasing the footfalls at the CSC. The employees of SCAs shared that though enabling citizen participation was critical, in practice the manner of implementation was too complex and rural citizens were being left out of various processes. Lack of a common agreement amongst the implementing agencies about the common definition/understanding of the term 'citizen participation' and the expected role of citizens in the context of CSC project, could possibly lead to unanticipated failure of the initiative.

Preparedness of VLEs and Capacity Building of Citizens: Detailed discussions with the VLE pointed out to a need for extensive operational and management support to VLE from SCA. Though the VLE had been observed to be an enthusiastic young person, since he is the first generation entrepreneur without any formal training in entrepreneurial skills, accounting and marketing strategies and advanced IT skills, the CSC was not found to be well managed. Consequently, the footfall from nearby villages was observed to be adversely affected. Apart from this, the rural people were not trained to use CSC meaningfully for livelihood options. Inadequate CSC awareness amongst the rural masses could also be attributed to high percentage of illiteracy amongst the rural community that finally led to a lackadaisical approach of villagers towards implementation of CSC in the village.

V. Conclusion

The qualitative field research carried out in the CSC study confirms the importance of contextual factors in the implementation of rural ICT/e-governance initiatives; this issue emerges as an important aspect that needs further investigation. Overall, it is realised that the implementation of CSCs in rural India is not free from challenges. With some improvements such as more proactive grassroots collaboration, and with complete support and involvement of local bodies, the citizens themselves as well as VLEs could generate better avenues for information access and sustainable livelihoods through CSC. It emerged that the initiatives lacked a substantial basket of relevant services expected by the rural citizens. It is also clear that conducive social dynamics, involvement of local bodies and citizen participation are necessary conditions for sustainable citizen interest in ICT initiatives implemented in rural areas. Contextual factors such as availability of maintenance services for infrastructure, regular power supply, capacity building of rural citizens and VLEs, and support provided by local bodies are probably central to the success of e-Governance initiatives in rural areas. There is also a need for each stakeholder to understand their individual role and role of others in the implementation of the e-Governance initiatives. This would lead to creation of an enabling social dynamics resulting in effective implementation.

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