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Rajanish Dass
Atashi Bhattacherjee

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Rajanish Dass
rajanish@iimahd.ernet.in

Atashi Bhattacherjee
atashib@iimahd.ernet.in

Indian Institute of Management, Ahmedabad

Abstract

The Common Service Centre is a 1.2 billion USD initiative by the Government of India. It is an integral pillar of the Government's National e-governance Plan. The project was started in the year 2004 with the vision to develop these centres as the front-end delivery points for government, private and social sector services to rural citizens of India in an integrated manner. However as on 31st May, 2010, six years after the initiation of the project, only about 50 percent of the States had reported success in achieving 70 percent rollout status of these centres. Even the successful States were being plagued by issues which were hindering the operation and threatening the sustainability of these centres.

In this paper we have discussed the current status of implementation of the CSCs across the nation and the pertinent issues that are being faced by the various stakeholders in the project. It was interesting to find out that though the country wise rollout had not yet reached the cent percent mark there were some states that were doing well, compared to others, despite the fact that some of these failing states were the first to initiate the exercise. We have also conducted field studies in the states of Jharkhand, Uttar Pradesh and Meghalaya in order to understand the ground level issues and challenges hampering the implementation of these centres. This paper is an attempt to understand the various challenges and bottlenecks that are being faced in making these common service centres sustainable. Given that the CSCs are designed to provide the last mile linkage to G2C and B2C services, the importance and impact of these centres are immense and the program has the potential to overturn the issues related to accessibility that pulls back the sizeable percentage of the populace. It is however, noteworthy that these perceived benefits to the citizens from this project can only be accrued when these centres are operational. Thus it becomes imperative to study the factors that are hindering the setting up and the functioning of these centres. The study also reveals that there was lack of fool-proof planning at the government's end in terms of having no structured framework for roll out and no risk mitigation plan in place for a project of this dimension. Moreover, the study shows that there has been a substantial evolution in the business model (based on PPP) that was being used initially across various states in the country to a business model (based on PPP) that is emerging to be more successful and sustainable than what was initially planned for.

Key Words: *e-Government, Developing Countries, NeGP, Common Service Centres*

1. Introduction

The Government of India as a part of the National e-governance Plan had decided to set up a hundred thousand Common Service Centres (CSC) in six hundred thousand villages at different states across the country. The CSCs were envisioned as the front-end delivery channels for delivering government services to the rural citizens in the remotest corners of the country. The project was initiated in the year 2004 and was expected to be completed in the next four years. However as on 31st May, 2010, a total of only 79 000 centres had been rolled out across the 29 States and Union Territories. Interestingly, as mentioned above, the common service centres (CSCs) had been designed to provide a plethora of services with the bouquet of services consisting of both B2C and G2C services in top of other localized services (like payment of insurance premiums and electricity bills), all of which had not necessarily been *online* services.

The CSC was the last league in the implementation of the National e-governance Plan of India and a critical pillar to ensure successful e-Government roll out in the country. It was through these centres that the government wanted to make its services accessible to the rural poor. However, it was found that only a few states had succeeded in rolling out all their centres. Even in states that have *officially* achieved complete rollout, all the centres are not fully operational. A number of them had been opened at one point of time and then had got closed and a large chunk of the centres were found to provide offline services, primarily non G2C in nature. This was either because of lack of connectivity or lack of e-government services or lack of adequate training of the people running these centres. Given that the benefit, both direct and indirect, from such centres can only be accrued if they are fully operational, it becomes imperative to study the factors that are hindering the setting up and the functioning of these centres.

In this paper we have discussed the current status of implementation of these CSCs and the pertinent operational and tactical issues that are being faced in various states for rollout and sustenance of these telecentres and also about the type of services that they are able to cater to. It is noteworthy that in this project there has been a delay of over three years in the complete rollout of the planned government project.

The rest of the paper has been arranged as follows. The following is a brief section on the methodology of the study. The third section focuses on the existing theoretical background for the studies done on telecentres of various governments across a number of developing countries focusing on the importance of such centres and causes for unsuccessful rollout. The fourth section gives a brief about the structure of the CSC program, the services that had been proposed to be rolled out at these centres, the proposed capital cost structure of the centres and the provision of connectivity at these centres. Section five deals with the current status of these common service centres and their roll out in India and analyze the same. In section six, the findings of the primary research that was conducted by way of semi-structured, in depth interviews with the SCAs of some of the states have been presented. The paper concludes with possible next steps and areas of future research.

2. Methodology

This paper has been based on a full scale secondary as well as primary field based research. As a part of the secondary research, several website linked to the common service centre program including the website of the Ministry of Information and Technology (www.mit.gov.in), Government of India, the common service centre website (www.csc-india.org) along with several such websites reporting the

status of these CSCs have been referred to. After analyzing the data available from these websites, we have also interacted and conducted in-depth interview with the Service Centre Agencies (SCA) present in various states and responsible for successful rollout and ongoing operations of these centres (definition and role of the SCAs has been provided in section 4). The SCA contact list was downloaded from the Common Service Centre website. Introductory emails were sent to all the 15 listed SCAs, letting them know about the study being conducted. Semi structured interview was conducted with all the SCAs who responded to the email. A thematic framework of a host of issues that came up as the telecenters opened and started functioning was developed through the use of content analysis of the interviews conducted. Thematic content analysis 'connotes the analysis of story-like verbal material, and the use of relatively. comprehensive units of analysis such as themes'((Smith 1992). The content analysis was conducted using the following steps. First, all the data collected from the interviews and conference was examined. A group of themes were then identified while reading through a set of interviews. The other interviews were then examined to identify similar or new themes .Issues that were referred to most frequently were then aggregated and are presented in this paper.

To have a field based view as well and interact with the people running these centres (the village level entrepreneurs or the VLEs), the state of Jharkhand was selected for a field visit in order to understand the ground level issues. Jharkhand was chosen because it was the first state that had officially claimed to have achieved complete rollout of its centres. Since Jharkhand is also one of the lesser-developed states in India with poor infrastructure and bad connectivity options, understanding how it had achieved complete implementation would be interesting to look at. After interview with the various stakeholders in Jharkhand, the emerging issues were identified with the help of content analysis. Increasing the understanding of these issues and the way in which they can be addressed becomes crucial to the sustainability of these centres.

3. Previous Work Done

Countries across the world are increasingly adopting e-government initiative through telecentres in an effort to reach out to their citizens, provide them access to various government services and increase transparency in the process of delivering these services, is a commonplace knowledge. Telecenters are not a particularly new phenomenon in developing countries. As early as 1994, the Buenos Aires Action Plan called for multipurpose community telecenters in rural and remote areas (Grace, Kenny et al. 2004).

E-government services across countries are being delivered mostly through telecentres. A common definition of telecentres is 'a physical space that provides public access to ICTs for educational, personal, social and economic development' (Gomez, Hunt et al. 1999). A telecentre is a common point of access for multiple users (often an entire community or a locality) providing a range of ICT services including Internet access, fax, word processing, and even specialized information retrieval or applications (e.g., distance education)(Caspary 2002). (Ernberg 1998) puts the case of telecentres as tools for providing universal access to communications. (WorldBank 1998) describes telecentres as a "powerful engine in rural development and a preferred instrument in the fight against poverty". The first few years starting from 2000 onwards saw more than one hundred donors funding ICT and development projects with some billions of U.S. dollars worth of investment poured in (Wakelin and Shadrach 2001). Many leading agencies (for example UNESCO, the World Bank, the International Telecommunications Union, IDRC's [International Development Research Centre]v Acacia Programme) rolled out telecenter programs Initial research on telecentres largely emphasized their benefits, which foremost emphasized the advancing of governance as part of the development strategies of a country

(Madon 2005). As it was (Madon 2005) noted there is a 'good governance' paradigm associated with the studies of telecentres, which includes using constructs such as the digital divide, promoting democracy, and encouraging greater private sector involvement in civic affairs and in poverty reduction.

However, the initial optimism with regard to telecentres started diminishing when authors started to realise that the social benefits of these telecenters were not accruing because of the hugel implementation challenges of such telecentres across developing countries like India (Cecchini and Raina 2005), Bangladesh (Islam and Hasan 2008), Pakistan (Mahmood 2005), South Africa (Benjamin 2001), and Jordan (Mofleh, Wanous et al. 2008). People did not negate the positive role that these telecenters could play in rural development. Experiences in Brazil, India, Chile and other countries have shown that governments in the developing world can effectively take advantage of Information Communication and Technology (ICT) (Ndou 2004) However,doubts were raised about the efficacy of telecentres in meeting their objectives because of the implementation challenges (Ernberg 1998). (Dagron 2001) mentioned that only one out of every one hundred telecentres was really useful for the local community when they had been set up, in terms of supporting development and social change. Of the over 70 community telecentres established since 1997 by the South African Universal Services Agency, only 40 per cent remained open four years later, with only 3 per cent making enough money to cover costs (Girardet 2001).While practitioners are still trying to find out the factors that lead to successful telecenters, such telecenters continue to burgeon in developing countries.(Bailur 2007a)

While making an attempt to study the challenges in the implementation of telecentres projects across various countries, it is imperative that a demarcation is made between the implementation of such projects in developed and developing countries. This is because of the fact that there are vast differences in the socio-economic and infrastructural parameters between developed and developing countries, which in turn affects the implementation process in these countries.

(Heeks 2002) had indicated that in developing countries, 35 percent of any information systems project ended with total failures, 50 percent ended in partial failures and only 15 percent have succeeded. This was due to a variety of factors as was evident in the work of various authors. Researchers have argued that most of these projects fail either totally or partially due to 'design-actuality' or 'design-reality' gaps (Heeks 2002), long-term sustainability problems (Aichholzer 2008), or lack of commitment on the part of political leadership and public managers ((Bhatnagar 2000). (Jaeger and Thompson 2003) assert that an e-government project would fail if the government did not take an active role in educating its citizens about the benefit of the e-governance project. Most of the developing countries have low literacy rates and lack educational institutions. Unless citizens know what is available from the e-government they are not likely to use the e-government services, defeating the purpose of development of e-government information and services. Another issue that has been highlighted in developing countries is the issue of connectivity. (Odedra and Straub 2003) state that developing countries had severe limitations in terms of connectivity, which lead to a low user base as the system would not be equally accessible to all citizens. The connectivity issue has been highlighted by a number of other authors like (Basu 2004; Ndou 2004; Cecchini and Raina 2005).

The Multi Community Telecentres (MCTs) in Bangladesh were facing the challenge of very low literacy rates and an even lower rate of computer awareness (Islam and Hasan 2008). These were centres designed to offer communication facilities, training in IT and non-IT related subjects and serve as local hubs for government information and services and for commercial activity (Madon 2005). A study of similar telecentres in Pakistan reveals that two-thirds of the villagers could not even write their name in any language. Women who were almost half of the rural population were only ten percent literate. The

majority of the rural community in Pakistan were unaware of the services and benefits of new ICTs regarding their needs. The Internet was perceived in rural areas as an entertainment medium and youngsters mostly used it to see pornographic sites. Therefore, the elders did not like their women or children to have Internet access (Mahmood 2005).

Moreover, the responsibility for the success of e-government projects does not with solely lie with the government (Edwin Lau 2003).In most countries e-government projects are being implemented in Public-Private-Partnership (PPP) model. Developing countries might lack sufficient resources to adequately fund e-government initiatives and more often do not have the necessary expertise and project management skills. These countries therefore, actively explore possibilities for working in synergy with the private sector when implementing e-government projects. PPPs can leverage limited government funds to achieve far greater impact, apart from improving the viability and reducing the risks of such initiatives. Collaboration and co-operation at local, regional and national levels, as well as between public and private organizations, are important elements in ensuring the success of such PPP inspired e-government projects (Heeks 2002). Achieving this collaboration is not an easy task. Governments often exhibit considerable resistance to open and transparent systems as they try to preserve their authority, power and hierarchical status(Clift 2002) . Citizens distrust their governments, especially where there has been a history of dictatorship, political instability or large-scale corruption (Clift 2002). To ensure that the public and stakeholders will be partners in the e-government effort, it is important to try to build trust in government. Collaboration between the private and public sectors is needed too, in order to provide resources, skills and capabilities that the government lacks (Ndou 2004). Some authors have stated in their work that taking a stakeholder approach encourages social responsibility and collective action on the part of governance. Stakeholder theory is a widely acknowledged argument for introducing more collective responsibility, especially in emergent network relationships (Wong, Fearon et al. 2007). This theory suggests greater participation by the stakeholders in decision making as this would ensure greater collective responsibility among stakeholders for decisions taken. In the case of e-governance, for example, both citizens and government as participants and decision makers would have collective social responsibilities for developing IT literacy, providing and gaining access to resources and being proactive in promotion and use of ICT(Wong, Fearon et al. 2007). Also, it has been observed that Implementing e-government projects in developing countries requires tremendous change in the mindset of the stakeholders involved (Bhatnagar 2000). The following table provides a brief about experiences of e-government, especially through telecentres, in various countries.

Name of the Author	Paper	Year	Country studied	Issues discussed
Cecchini and Raina	Electronic Government and the Rural Poor: The Case of Gyandoot	2004	Madhya Pradesh, India	• poor infrastructure • Low literacy • Lack of computer skills • lack of basic training to the kiosk operator • lack of co-operation from the government officials especially those at the lower level • low usage of kiosks • uneven spread o f kiosks • lack of awareness • Gender and caste are barriers • no demand for services being offered • reduced corruption among govt officials • services not revenue generating
Valentina (Dardha) Ndou	E-government for Developing	2004	Study spanning nine developing	• lack of ICT infrastructure • policy issues (legislation)

	Countries: Opportunities and Challenges		nations China, India, Brazil, Chile, Jamaica, Argentina, The Philippines, Columbia, Guatemala	• lack of computer skill • change management (culture, resistance to change) • lack of co-ordination among stakeholders • Weak leadership • lack of awareness with respect to the project
Khalid Mahmood	Multipurpose Community Telecenters for Rural Development in Pakistan	2005	Pakistan	• low literacy. • Wrong use of internet by youngsters in villages • Initial infrastructure cost too high • lack of political will. • local governments with a low budget concentrate on addressing other basic needs
Rajendra Kumar and Michael L. Best	Impact and Sustainability of E-government Services	2006	Tamil Nadu, India	• lack of adequately trained personnel • lack of sustained public leadership, commitment and institutionalization • lack of consistent evaluation and monitoring • lack of involvement of all stakeholders • shift in existing power relationships due to the kiosks; power has shifted from the government officials to the kiosk operator
Md.Shariful Islam Md.Nazmul Hasan	Multipurpose Community Telecenters in Bangladesh: Problems and Prospects	2008	Bangladesh	• poor literacy rate • language barrier • lack of computer skill • lack of awareness about the benefits of technology • lack of sufficient funds for running the MCTs • lack of reliable communications infrastructure • an unreliable supply of electric power • lack of coordinated government initiatives: local governments of Bangladesh did not take any initiative to establish MCTs.
Samer Mofleh, Mohammed Wanous and Peter Strachan	Developing Countries and IT Initiatives: Lessons Learnt from Jordan's Experience	2008	Jordan	• lack of a long term implementation roadmap • short term planning • inadequate strategy of implementation • lack of focus: Too many It initiatives at the same time. • no co-ordination between government departments • Not understanding the real needs of the people from e-government projects.

Table 1: Research Papers and their Findings at a Glance

To summarize, most research on this topic have identified certain parameters, which contribute to the under-performance of telecentre projects. Poor infrastructure and low levels of literacy are the major drawbacks of most of the developing countries studied. The cost of setting up telecommunication infrastructure in rural areas is prohibitively high. On top of that if the infrastructure is poor then it leads to huge operational costs of telecentres in the developing countries that affects the financial sustainability of such telecentres especially in the initial years of operation, when the revenue earned is substantially lower. Poor literacy level creates issues of awareness. Alternate advertisement methods need to be experimented with in order to make the people aware of such government projects. People in developing countries generally have lesser computer literacy, especially in rural areas. The rural poor cannot easily adapt to a computer at the telecentres. The services rolled out in the telecentres sometimes do not match the needs of the people it is trying to reach and thus the telecentres do not generate enough revenue. Most government projects do not have a robust monitoring and evaluation framework. A robust monitoring and evaluation ensures accountability on the part of the stakeholders of a project and also helps in making constant improvement through feedbacks. In many of developing countries a number ICT projects are being run at the same time and the government often loses focus. There is lack of co-ordination between the government departments and stakeholders refuse to take ownership of the project. In the countries studied it was found that lack of leadership is another factor leading to the project's under-performance. Another area where governments fail to make such projects successful is where they do not have a clear method to manage the change. Often the participants in the project are not given enough time to absorb the change brought about by the deployment of ICT systems and this leads to de-motivation on their part. There has also been no attempt to manage the change in the power from the government officials to the kiosk owners. One way to ensure smooth transition is through the process of continuous training for all the entities involved in the project.

With respect to India and e-government, most of the research has been done is specific to certain State level projects like the Gyandoot project or the e-government project in Tamil Nadu (Cecchini and Raina 2005; Kumar and Best 2006). (Bhatnagar and Rao 2007), asserted that respondents indicated an overwhelming preference of the computerized service delivery. However, most of these studies have studied study projects that are smaller in scale. In this paper we have made an attempt to identify the challenges and issues of the Government of India's Common Service Centre Project, which has been implemented across the country, is of a very big scale and has private sector participation.

4. Common Service Centre

The Common Service Centres (CSCs) is a strategic cornerstone of the National e-Governance Plan (NeGP) in India, as part of its commitment in the National Common Minimum Programme to introduce e-governance on a massive scale.

The government of India approved the National e-Governance Plan (NeGP), comprising of 27 Mission Mode Projects (MMPs) and 8 components, on May 2006. The Government has accorded approval to the vision, approach, strategy, key components, implementation methodology, and management structure for NeGP.[1] The CSCs were set up to provide high quality and cost-effective video, voice and data content and services, in various areas of e-governance as well as other private services. Though the CSCs were to be set up in the urban areas also, initially the focus was on setting up the CSCs in the rural areas in order to make government services accessible to even the most remote village. The CSC Scheme had been approved by the government of India in September 2006 with an outlay of Rs. 5742 crores over a period of 4 years.

To this effect, in August 2005, the a "Draft Framework for Establishment of 100,000 Common Services Centres", that outlined the policy framework, structure, roles and responsibilities of stakeholders and contours of financial support of government, for rapid proliferation of CSCs across the country. It was intended that this framework would create an enabling environment for establishment of 100,000 Common Services Centres in the rural areas by the year 2007, to provide all possible government and private services.[2]

A typical CSC was to be a retail outlet of services that offered in a structured framework of ICT Infrastructure (PCs, printers, scanners, digital cameras, projection systems, tele-medicine equipments, etc.), rural entrepreneurship and market mechanisms. The CSC was established through a bottom-up approach and was customer centric and a single window for all G2C services and other retail functions. The CSC had been visualized as a self-sustaining viable rural business, with neither capital cost nor operating subsidies.

The CSC was envisaged to offer different kinds of functions as given in Table 2 below:

• Providing e-governance services within easy reach and thereby saving consumer's costs on distant and repeated travel
• Providing critical information on available government developmental programmes, beneficiary criteria and present beneficiary list to bring in transparency and efficiency in the programmes and an opportunity for development of the marginalized sections of the community
• Providing information and opportunities for income enhancement/generation • Providing the platform for e-communication
• Providing avenues for e-marketing and e-shopping
• Providing other services required by the community and linked to the usage of the ICT infrastructure[3]

Table 2: Services tobe Rolled out in the Common Service Centres
Source: www.csc-india.org

The CSC scheme was to be implemented in a PPP framework. This model envisaged a 3-tier structure consisting of the CSC operator called Village Level Entrepreneur (VLE), the Service Centre Agency (SCA), who would be responsible for a division of 500-1000 CSCs and a State Designated Agency (SDA) identified by the state government responsible for managing the implementation over the entire state.[4]

- Village Level Entrepreneur (VLE): At the first level was the local Village Level Entrepreneur or the VLE, who was in charge of servicing in a cluster of 5-6 villages. Because a VLE possessing the correct entrepreneurial skills is essential for the ground level success of the project, their selection and training was very important.
- Service Centre Agency (SCA): At the middle level was the Service Centre Agency or the SCA (loosely analogous to a franchiser), to train, manage and build the VLE network. The SCA was the key to the whole CSC structure.
- State Designated Agency (SDA): At the third level was the State Designated Agency or the SDA. The SDA facilitated the implementation of the Scheme and also provided policy, content and financial support to the SCAs. [5]

Implementation of a mission-oriented project of this size and scope poses significant challenges of project management at the national level. Further, many of the potential citizen-centric services would lend themselves to aggregation at the national level. To serve the above objectives and to enable the state-specific implementation plans to benefit from such economies of scale, aggregation of best practices, content providers, etc., DIT selected IL&FS as the National Level Service Agency (NLSA) for this project.

Before rolling out a project of this dimension, the Government of India wanted to conduct a feasibility study in every state in order to find out where the centres should be located, what are the services that could be offered and more importantly at what costs should the services be offered so that the CSCs would be viable business entities.[6]ORG Centre for Social Research, a division of AC Nielson ORG MARG Pvt. Ltd., was asked to conduct the study. The report of this study was intended to provide the initial direction and guidelines pertaining to the establishment and operation of the CSCs. This was part a detailed study which was to be conducted across different states in India. All states and union territories in the country, except Delhi and Chandigarh were selected for the survey. 40 percent of districts in each state were selected for the survey.

The capital cost of the rural CSCs was proposed to be financed with a mix of debt and equity. The Financial Model assumes that 85 percent of the capital cost would be raised as term loans from FIs/Banks. The balance 15 percent is proposed to be financed through the SCA's equity contribution and/or quasi-equity by way of interest-free security deposits from the VLE. [7]

BSNL Broadband was the most desired form of connectivity since in most of the remote rural areas it was the only service provider. Also in certain states like Bihar, Jharkhand and also most of the north-eastern states, there were villages which were in very difficult to reach terrain and BSNL could not provide broadband services there. BSNL had agreed to provide WiMax connectivity in those areas. The SCAs in the states were exploring various other connectivity options. In areas where phone lines were not available and BSNL had not yet provided the WiMax Services, the SCAs had been giving data cards of various service providers to the VLEs.[8]

The basic premise G2C Service Delivery, which was formulated at the start of this project, was to integrate any G2C service module with the CSC scheme. In order to do this, connectivity between the CSC and the taluka/tehsil/district/state office was to be ensured. The National Informatics Centre (NIC) had provided the application required to deliver the G2C services. This would enable the CSC operator to provide real time information from the taluka/block/district database to the citizen. However, the lack of digitization of the government departments and poor connectivity in most areas was not making the planned process possible.[9]

5. Status of CSC Rollout in Various States in India

Though the Common Service Centre Project received approval on September 2006 with the initial understanding of rolling it out over the next couple of years, two years after the approval, went by in laying the groundwork for the successful implementation of the project. Most of the year 2007 and 2008 went in sensitizing the various private players about the project, holding meetings with them and initiating the bidding process. The timeline for complete rollout of the centres was 18-24 months after the agreement between the States and their respective SCAs were signed. In the year 2008, only 10 states in India had started the rollout of the CSCs, summing to 14216 centres across these states. In the case of Jordan (Mofleh and Wanous 2008), the Government did not have any long term implementation plan and that was one of the reasons for delay in operationalization of the telecenters.

The initial stages of the project when advertisements were put for SCAs, there was great enthusiasm among the private sector players across states. More than 2300 organizations from across the country, with diverse backgrounds had responded to this advertisement. The top five states in terms of the number of responses received were Uttar Pradesh (390 responses), Maharashtra (252 responses), Kerala (221 responses), Tamil Nadu (205 responses) and Madhya Pradesh (167 responses). Of the 2300 responses received, only 1120 organizations had clearly indicated the locations where they would be interested in establishing CSCs; the other responses could be assumed to be more like grabbing the proposed new business opportunity seen in the horizon. Interestingly, among these 1120 applicant organizations, all the 591 districts had at least one potential applicant interested in establishing CSCs. Out of the top 100 respondents almost 50 percent were IT companies. The next major category was NGOs at 17 percent followed by rural ICT firms at 10 percent. Moreover, quite a number of service providers had bid for a number of states thus showing that these firms wanted to make the Common Service Centre Project an integral part of their Business Model and were keen to go ahead in the same. The states and union territories for which no responses for the SCAs were received included Lakshwadeep, Daman & Diu, Dadra & Nagar Haveli and Sikkim, indicating perhaps perceived difficulties in making the CSC model run successfully in these states due to size, exogenous variables and overall business environment.

Table 3 gives the status of the CSC rollouts across various states for the years 2008 (for five sample states for which the data is available) and 2009, and till June 2010. The table shows that most of the states had not been able to meet the rollout deadline. At the start of this project it was stipulated that SCAs should achieve the 100 percent rollout status within 18-24 months after signing the Masters Service Agreement (MSA) with the respective state governments. However, when the rollout status report was taken on June 2009 it was seen that except Haryana, Jharkhand and Sikkim, none of the states were even close to the 100 percent rollout mark. This forced the government to revise the deadline. The revised deadlines are captured in column 7 of Table 3.

Sl. No. (1)	State (2)	To be Rolled Out (3)	Status as on August 2008 (4)	Status as on June 2009 (5)	% rollout as on June 2009 (6)	Revised Deadlines as on June 2009 (7)	No. of CSCs pending as on June 2009 (8)	Rollout as on 31st May 2010 (9)	% Rollout (10)	No. of CSCs pending as on June 2010 (11)
1	Andhra Pradesh	5452		504	9	Mar-10	4948	1989	36	3463
2	Assam	4375	28	2001	46	Dec-10	2374	3723	85	652
3	Bihar	8463	641	4798	57	Dec-10	3665	6826	81	1637
4	Chhatisgarh	3385		928	27	Dec-10	2457	1976	58	1409
5	Gujarat	6000	5072	5870	98	Sep-10	130	13695		
6	Haryana	1159	1159	1159	100	-	0	1159	100	0
7	Himachal Pradesh	3366		793	24	Mar-10	2573	2562	76	804
8	J & K	1109		0	0	Jun-10	1109	350	32	759
9	Jharkhand	4562	4552	4554	100	Sep-10	8	4556	100	6
10	Kerala	3178		Bid Process on/Pre CSC Centres Existing	0			2234	70	944
11	Karnataka	5000		Bid Process on/Pre CSC Centres Existing	0			800	16	4200
12	Maharashtra	10484		2365	23	Mar-10	8119	4598	44	5886
13	M. P.	9232		6002	65	Dec-10	3230	8083	88	1149
14	Manipur	399		75	19	Dec-10	324	378	95	21
15	Meghalaya	225		81	36	Dec-10	144	175	78	50
16	Mizoram	136		0	0	Mar-10	136	37	27	99
17	Nagaland	220		52	24	Dec-10	168	52	24	168
18	Orissa	8558		2054	24	Mar-10	6504	5436	64	3122
19	Puducherry	44		LOI issued:MSA to be signed	0			8	18	36
20	Rajasthan	6626		325	5	Jun-10	6301	1310	20	5316
21	Sikkim	45		45	100	Sep-10	0	45	100	0
22	Tamil Nadu	5440		2873	53	Mar-10	2567	3952	73	1488
23	Tripura	145		133	92	Jun-10	12	133	92	12
24	Uttar Pradesh	17909		4485	25	Mar-10	13424	6936	39	10973
25	Uttaranchal	2804		309	11	Mar-10	2495	1217	43	1587
26	West Bengal	6797		4962	73	Sep-10	1835	5092	75	1705
27	Chandigarh	13		Pre CSC centres existing				13	100	0
28	Goa	160		Pre CSC centres existing				160	100	0
29	Arunachal Pradesh	200		LOI issued MSA to be signed				0	0	200

Table 3: Status of State wise CSC Rollout
Source: www.csc-india.org
(* Letter of Intent; ** Master Service Agreement)

Though the deadline was re-adjusted after the June 2009 review, none of the states (except the initial four that had already achieved complete rollout) had been able to achieve 100 percent rollout status. Even in June 2009 when the status of rollout was reviewed there were 17 states that had not been able to rollout even 50 percent of their allotted centres. Gujarat showed an almost two times increase in the number of centres rolled out as on 31st May, 2010 because the Government of Gujarat had amalgamated its e-gram centres with the Common Service Centre Project making the rollout successful under careful supervision. Also, given that the background planning and the selection of the agencies had been carefully done, it perhaps points to the fact that there have been critical problems in the setting up of the Centres.

Table 3 also highlights the fact that most states had shown an improvement in the number of centres rolled out. States like Gujarat, Sikkim and Haryana had achieved complete rollout. Jharkhand was one of the first states to declare to have achieved the same, which was revised due to some misreporting by one of the partner SCAs. In Sikkim however, the existing Community Information Centres (CICs) were transformed into CSCs and so the state did not have any problem in achieving the rollout. The lag, both in terms of the number of months past the re-adjusted deadline (as of June 2009) and the number of centres yet to be opened, was huge. Some states like Andhra Pradesh, Uttar Pradesh and Uttaranchal were very low on the rollout percentage status. Also, some of the bigger states like Maharashtra, Andhra Pradesh, Uttar Pradesh, Karnataka and Rajasthan had not even been successful in rolling out half of the targeted number of these CSCs. Rajasthan, for example, had just been able to open up just about 20 percent of the centres till May, 2010. Even in June 2009 Rajasthan had a rollout percentage of five which marginally improved to 20 by June 2010. Other than this, majority of the remotely located states like Arunachal Pradesh, Meghalaya and Mizoram had a very low rate of CSC rollout. Had terrain been the only issue for the delay in the rollout of these centres, then the rollout in states like Assam (85 percent), Himachal Pradesh (76 percent), Madhya Pradesh (88 percent), Manipur (95 percent), Meghalaya (78 percent), and Tripura (92 percent), would not have been possible. Interestingly also, in states like Karnataka and Kerala, the rollout has been slow inspite of pre CSC telecentres existing. In most of the Union Territories, either the project was still in the discussion stage or was in the midst of the bidding process.

Out of the hundred thousand Centres proposed by the Ministry of IT, Government of India, as on June 2009, the number of pending centres stood at almost sixty thousand, which came down to 45686 centres in June 2010.

However, just because a state had achieved decent rollout figures against the set target, did not mean that all its centres were fully operational. The initiating idea of the CSCs was to provide a bundle of services, mainly in the online mode that would ensure the extension of the selected government services to citizens, along with providing other services. Table 4 shows a sample set of states with connectivity figures for the CSCs. Though the Jharkhand had been successful in implementing 99 percent of its centres, only 21 percent among these centres had got any connectivity and the rest were made operational in offline mode. Some states on the other hand show a decent number in terms of connectivity. It is noteworthy that none of the 325 CSCs rolled out in Rajasthan till June 2009 had connectivity. Similarly in Uttarakhand, none of the CSCs rolled out till 2009 had any provision of connectivity.

States	Percentage of Connectivity as on June 2009	Percentage of Connectivity as on Nov 2010
Assam	70	36
Andhra Pradesh	71	74
Bihar	66	79
Chattisgarh	56	77
Gujarat	76	100
Haryana	92	74
Himachal Pradesh	43	73
Jharkhand	21	58
Meghalaya	42	59
Maharashtra	34	71
Madhya Pradesh	48	75
Orissa	71	62
Rajasthan	0	66
Tamil Nadu	71	66
Uttar Pradesh	78	42
West Bengal	80	69

Table 4: Status of Connectivity of the Rolled Out CSCs as on June 2009
Source:www.csc-india.org

That lack of connectivity is not the single inhibitor for the rollout of the CSCs becomes pertinent from the fact that in Haryana despite the 100 percent rollout and connectivity being available at 90 percent of the rolled out centres, the project progress report as in April 2010 said that due to lack of G2C services and other financial problems only 142 out of the 1159 centres were operational.[10]

One important reason for the slow rollout of these centres was the poor IT infrastructure of the states along with a poor governance mechanism and lack of a proper institutional framework for ensuring successful rollout. For example, the state governments were expected to provide premises for the setting up of these centres in their panchayat buildings or block offices. But there seemed to be scarcity of space for the same across various states. In states like Jharkhand some of the panchayat blocks did not have space. Tripura on the other hand had assigned premises in which the ceiling of the room was missing. Another problem particularly in the north eastern states as well as states like Jharkhand and Chattisgarh was the geographical terrain. Some of the villages are located in such inaccessible locations that it was impossible to set up a centre in that area. This was indeed unfortunate considering that it is the people living in such areas who have a greater need of easy access to government services. Apart from the geographical limitations another problem was the presence of insurgent groups like the Naxalites and the Maoists. In Jharkhand Naxalites often tried to disrupt the connectivity at the centres. Some of the SCAs also had to withdraw from the infested areas. Experiences of CSCs in states like Chattisgarh and Orissa were similar.

Sr No	State	Rollout as on June 2009 (%)	Rollout as on 31st May 2010 (%)	Electrified villages as on 31st March 2010 (%)	Villages Connected by Roads as on 31st March 1997 (%)	Rural Literacy Rate as in 2001	Villages with Telephone Connection as on 31st Dec 2005 (%)
1	Haryana	100	100	100	98.8	63.82	28.85
2	Jharkhand	100	100	31.1		46.26	16.58
3	Sikkim	100	100	94.4	79.5	67.67	3.13*
4	Chandigarh		100	100		76.23	
5	Goa		100	100	99.7	79.65	16.11*
6	Gujarat	98	98	99.7	94.3	58.53	25.71
7	Manipur	19	95	85.8	46.0	65.33	3.02*
8	Tripura	92	92	57.2	50.9	70.23	5.38*
9	Madhya Pradesh	65	88	96.4	28.4	58.1	20.01
10	Assam	46	85	78.6	74.6	60.92	20.96
11	Bihar	57	81	61.3	47.8	44.42	32.23
12	Meghalaya	36	78	59.3	45.3	57	0.2*
13	Himachal Pradesh	24	76	98.2	44.9	74.38	57.12
14	West Bengal	73	75	97.3	48.7	64.06	38.8
15	Tamil Nadu	53	73	100	51.2	66.66	23.42
16	Kerala	0	70	100	99.2	90.05	52.4
17	Orissa	24	64	62.6	49.1	60.44	27.96
18	Chhatisgarh	27	58	95.6		60.93	20.04
19	Maharashtra	23	44	88.3	70.8	70.84	30.45
20	Uttaranchal	11	43	96.5	100.0	68.95	18.12
21	Uttar Pradesh	25	39	88.3	50.4	53.68	16.1
22	Andhra Pradesh	9	36	100	85.9	55.33	32.49
23	Jammu & Kashmir	0	32	98.2	65.8	48.22	9.24
24	Mizoram	0	27	80.6	83.3	80.46	0*
25	Nagaland	24	24	64.4	88.8	62.99	0.82*
26	Rajasthan	5	20	69.2	52.0	55.92	26.45
27	Puducherry	0	18	100		74.28	11.41*
28	Karnataka	0	16	99.9	99.6	59.68	24.43
29	Arunachal Pradesh		0	56.8	40.6	48.34	0.08*

Table 5: States and their Infrastructure Status
Figures are for the year 1991

Table 5 gives certain infrastructural parameters across some of the States. Parameters like percentage of villages with electricity, commutable roads, phone lines, etc., tell us about the infrastructure of the rural geography of the states. It is imperative to study the infrastructure facilities of the States in order to understand whether the reason for delay in rollout across them is due to the existing poor infrastructure or more due to the mindset of the people involved in the project. Once the reason is identified then the

respective state governments can address that issue to ensure 100 percent implementation of the CSCs in their states. From the above table we see that though the States which had done well in implementing the CSCs had better infrastructure (except Jharkhand), the reverse was not true. In Jharkhand most of the centres were not operational either because of lack of connectivity or because of VLEs who were demotivated due to the lack of G2C services.

Other than Jharkhand , Orissa, Bihar and some of the north eastern States which have a large number of unelectrified villages, the other states show good figures in terms of rural electrification. Despite that, except for Jharkhand, no other state had yet achieved 100 percent implementation. The problem of frequent power failure can be overcome by installing generators and many of the SCAs across various states had done that but it becomes an issue when villages do not have the provision of electricity at all. In that case centres cannot even be opened in such villages and the entire objective of the Government to make G2C services available to the people who have the most difficulty in accessing them, is defeated altogether.

The rural literacy rate of the States, barring a few, is very low. Except for Himachal Pradesh, Kerala, Mizoram and a few Union Territories, the other States have a rural literacy rate of less than 60 percent. However from Table 6 we see that though Kerala had the highest literacy rate among its rural population it still had not been able to achieve 100 percent implementation of the CSCs. This is because Kerala was facing a different issue altogether. The State already had its existing ICT centres called the Akshaya centres and it had not yet figured out how to integrate the CSCs with the Akshaya centres. It was only recently that the Government had given the go ahead for this. Low literacy among the rural population created a huge problem for majority of the SCAs. For this reason, the SCAs were not being able to recruit skilled VLEs for running the CSCs. The VLEs were very important in the entire structure of the CSCsas they were the ones entrusted with the job of running the centres and interacting with the people. If the VLEs did not have entrepreneurial skills then sustaining the centres would become very difficult especially when most of the states did not have the complete bouquet of G2C services at their centres. The VLEs had to take the initiative to make their centres sustainable till the time the government services were rolled out. Hence, even in the States that had achieved 100 percent implementation status, not all the centres were operational because the VLEs were highly demotivated.

The percentage of villages with phone connection is also very low across all the Indian states. This created a huge problem in providing internet connectivity to these centres in the villages, as broadband could not be made available. SCAs in many states tried to explore alternate methods of connectivity with special impetus on private collaboration. However, due to lack of proper infrastructure, private players did not find it profitable enough to enter the rural villages and so the SCAs had no other option but to depend on BSNL as it was the lone service provider in most villages. In Jharkhand, Assam, Bihar, Madhya Pradesh, Uttaranchal, etc., where fewer number of villages had phone connections, the power situation was also not very good. This made the problem of providing connectivity an uphill task. In Jharkhand, Chattisgarh and some of the other north eastern states the rough terrain made things even worse. This was the reason why states like Haryana and Jharkhand which had achieved 100 percent implementation, had still not been able to provide connectivity at most of their centres. Since most of the services were to be delivered online, providing connectivity became essential to the overall success of the CSC project.

Department of Information Technology (DIT), Ministry of Information Technology, Government of India carries out an e-readiness assessment and ranks every Indian state and union territory. The e-readiness index for the year 2006 is given below. The e-readiness index developed is composed of variables that fall into the three broad categories of 'Environment', 'Readiness' and 'Usage'. The Environment sub-index is designed to measure the degree of conduciveness of the environment that a country provides for the development and use of ICT. The readiness of a state in this context measures the capability of the principal agents of an economy (individual, business and government) to leverage the potential of ICT. The Readiness

Sub-Index is composed of sub-indicators representing Individual Readiness, Business Readiness and Government Readiness. Usage aims at measuring the degree of utilization of ICT by Individuals, Business and the Government

Leaders	Chandigarh Delhi Haryana Karnataka Punjab Andhra Pradesh Kerala	Average Achievers	Mizoram Orissa Puducherry Madhya Pradesh Sikkim Meghalaya Uttarakhand
Aspiring Leaders	Maharashtra Uttar Pradesh Goa Gujarat	Below Average Achievers	Nagaland Andaman & Nicobar Island Lakshwadeep
Expectants	Rajasthan West Bengal Himachal Pradesh Chattisgarh Jharkhand	Least Achievers	Bihar Tripura Manipur Daman & Diu Jammu & Kashmir Dadra & Nagar Haveli Arunachal Pradesh

Table 6: E-Readiness Index of Indian States and UTs for 2006
Source: http://mit.gov.in/sites/upload_files/dit/files/downloads/eready2005/Chap2.pdf

From the e-readiness index given in **Error! Reference source not found.**, we see that states like Haryana and Sikkim that appeared in the leaders and aspiring leaders' category, had also succeeded in achieving a higher rollout percentage.

Other than the rollout status as reported by the Ministry of IT, the seriousness and intention of the execution agencies also needed to be looked at. Table 7 gives the States that the SCAs were present in and the number of CSCs they had to set up in each of the States as of June 2010. There have been issues in the way some of the SCAs have delivered the rollout as well.

SCAs	States Present In and Number of CSCs to be Rolled Out in the States								
CMS	Andhra Pradesh (2344)	Rajasthan (4054)	Gujarat (1473)	Maha-rashtra (2643)	Uttar Pradesh (3382)	Madhya Pradesh (2136)			
3i Infotech	Andhra Pradesh (639) (termi-nated)	Gujarat (3023) (terminated)	Madhya Pradesh (257)	Mahar-ashtra (1112) (termin ated)	Tamil Nadu (4394)	Uttar Pradesh (1688) (termin ated)	Haryana (294) (termina ted)		
Tera Software	Aruna-chal Pradesh	Himachal Pradesh (2070)	Nagaland (200)	Pondi-cherry (44)					
SREI Sahaj + Wipro	Assam (2833)	Bihar (5540)	Orissa (3648)	Tamil Nadu (1045)	Uttar Pradesh (8118)	West Bengal (4937)			
Zoom Develo-pers	Assam (1542)	Bihar (1535)	Chattisgarh (1898)	Hima-chal Pradesh (1296)	Jhar-khand (1019)	Mani-pur (399)	Mizoram (136)	Ori-ssa (32 36)	Rajas-than (2572)
Reliance Commu-nications	Gujarat (1504)	Madhya Pradesh (1765)	Maharashtra (1421)	West Bengal (1860)	Uttara-khand (2098)				
Sark Systems	Bihar (1361)	Gujarat	Haryana (598)						
COMAT + Hughes	Haryana (267) (terminated)	Sikkim (45) (terminated:r eplaced by IL& FS)	Tripura (145) (terminated:BASIX submitted bid)	Uttar Pradesh (4721) (termin ated)	Uttara-khand (706) (withdra wn)				
UTL- Orion	Jhar-khand (2943)								
Alterna-tive for India Development	Jhar-khand (600)								
AISECT	Madhya Pradesh (2916)	Chattisgarh (1487)							
NICT	Madhya Pradesh (2158)								
Spanco	Maha-rashtra (2109)								
Basix	Megha-laya (225)	Orissa (1674)	Tripura (submitted bid)						
J&K bank (April 08)	Jammu and Kashmir (1109)								

Table 7: State SCA Details and CSC Numbers
Source: http://www.csc-india.org/SCAs/SelectedSCAs/tabid/581/language/en-GB/Default.aspx

It becomes pertinent that out of the 14 SCAs across the nation, a large number of centres across various States have been entrusted on a cluster of SCAs across India. Seven out of the total 15 SCAs managing the CSCs across various States, 7 of them are present in multiple States and the rest 8 have very high location focus. For example, SREI Sahaj + Wipro consortium manages 26121 CSCs spread across 6 different States, CMS manages around 16032 CSCs across 6 different States, Zoom Developers manages 13633 CSCs across 9 different States followed by Reliance Communications managing 8648 CSCs in 5 States, 3i Infotech had started with 10407 CSCs across 7 States, but given that their contract was cancelled in states like Andhra Pradesh, Gujarat, Maharashtra, Uttar Pradesh and Haryana, they are currently managing only 4651 CSCs in Madhya Pradesh and Tamil Nadu. Similar is the case with COMAT Technologies. Because of the slow rollout, COMAT technologies had been terminated in Harayana, Sikkim, Tripura and Uttar Pradesh and had withdrawn from Uttarakhand, thereby ending their association with the CSC project. Because of the delay caused by 3i Infotech and COMAT, in the rolling out process they were served several show-cause notices. The respective State Governments also imposed penalties on them as a result of which they withdrew from the project. Also, the UTL-Orion Consortium in Jharkhand went through a troubled phase and ultimately UTL, who was the bigger consortium partner, was forced to end the association. Orion had at many times falsely reported on the number of CSCs that it had rolled out in Jharkhand. At one point they even reported that they had completed rollout of their part of the centres in the State. One reason behind this was that the Government had at the start of the project committed to providing revenue support for the lack of G2C services at these centres. In order to ensure that the SCAs were diligent in their effort to roll out the centres they decided to release the revenue support only after all the CSCs to be set up by the SCA are rolled out.[11] IL&FS took over the centres that COMAT was operating in Sikkim, and in Tripura, BASIX hadt submitted a bid to take over the centres that were being operated by COMAT.

6. Issues and Challenges

In the previous section, the status of the current rollout of the CSCs from 2008 onwards, given their stipulated time of completion; interim revision of the deadline for completion; and SCAs managing these CSCs across various States have been looked into. In order to understand the issues holding back the successful rollout of the CSCs, especially the CSCs that have connectivity, all SCAs were contacted to understand their views about the current issues and challenges. Also, given that these SCAs were managing at least 54000 CSCs across the country, it becomes critical to understand some of the best practices that have helped in rolling out and sustaining these existing CSCs.

In this connection, emails were sent out to get in touch with the SCAs across every State. The SCA contact list was downloaded from the CSC website. Introductory e- mails were sent to all the 15 listed SCAs, letting them know about the study being conducted. Out of these SCAs, five responded and consequently a semi-structured in depth interview was conducted with each of them in order to understand the implementation challenges that they faced in the various States that they were present. Two of the SCAs responded back saying they had withdrawn from the CSC project. Interview was only conducted with one of them as the others refused to participate in the study. A snapshot of the respondents is present in Table 8.

SCAs	States Present In and Number of CSCs to be Rolled Out in States				
COMAT + Hughes	Haryana (267) (terminated)	Sikkim (45) (terminated: replaced by IL& FS)	Tripura (145) (terminated: BASIX submitted bid)	Uttar Pradesh (4721) (terminated)	Uttarakhand (706) (withdrawn)
UTL-Orion	Jharkhand (2943)				
AISECT	Madhya Pradesh (2916)	Chattisgarh (1487)			
NICT	Madhya Pradesh (2158)				
Spanco	Maharashtra (2109)				
Basix	Meghalaya (225)	Orissa (1674)	TRIPURA(submitted bid)		

Table 8: Name of Respondents and the State they are Present In

Given the spread of operations of these SCAs across 11 different states of the country where the CSCs have been rolled out, the responses from them as a part of this exploratory study can be considered to be representative enough to identify the issues pertaining to the roadblocks to successful rollout and sustenance of these CSCs. The rest of this section discusses the findings from these in-depth interviews as conducted with the SCAs.

SPANCOtele is one of the four SCAs in the state of Maharashtra. Established in 1995, Spanco had been an active player in the field of ICT with dedicated System Integration and BPO arms besides strategic investments in the related field of ICT. According to the NeGP, a total of 10484 CSCs were to be rolled out in Maharashtra. These were called Maha e-Seva Kendra in Maharashtra. Out of the proposed 10484 Maha e-Seva Kendras, SPANCO had been assigned the task of opening 3689. They had been able to open only 1000 centres thus achieving a less than 30 percent rollout against the target. The major issue that they had been facing was the lack of G2C services. Because of non-availability of G2C services many of the VLEs were not showing any interest in opening the CSCs. Because of the delay in starting G2C services even in the offline mode, a lot of the VLEs got demotivated and this led to their premature exit from the project. Computer awareness in Maharashtra was low and that further created a roadblock for the CSCs there to become sustainable. In any project the initial investment is high and since SPANCOtele is a small company the investment burden was becoming too much on them. They had miscalculated the investment required from their end during the bidding process. In the offline mode their centres were issuing about four certificates under the G2C service category. On a brighter side, in order to build financial sustainability the centres were providing a wide variety of B2C services ranging from mobile recharge services to banking to matrimony to courier services. The company was also in the process of tying up with a host of other private service providers in order to add more services to their existing bouquet.

The All India Society for Electronics and Computer Technology (AISECT) is one of the five SCAs in Madhya Pradesh. It is a leading ICT based Training and Services network of India, having over 4500 affiliated centres essentially engaged in training, servicing and info services, especially in the field of Computers and Electronics[12]. When the project started they were present only in Madhya Pradesh but later on bid for two districts in Chattisgarh. The CSCs in Madhya Pradesh are better known by the name of Nagrik Suvidha Kendras. AISECT was very satisfied with its own performance in the CSCs. They claimed that across most

parameters like VLE selection, hardware installation, provision of connectivity and installation of monitoring tool, their performance could be adjudged one of the best in the country. Out of the 9293 CSCs planned for Madhya Pradesh, 2926 CSCs were to be set up by AISECT. It had almost 25 years of experience in the field of using ICT for development and this gave them an excellent foundation in terms of their knowledge in implementing projects of this nature. Despite their edge, they too had to go through the initial hiccups in implementing the project. They faced issues of lack of awareness about the project among the villagers, connectivity problems, lack of skilled VLEs because of the socio economic status of its area of operations in Madhya Pradesh and absence of adequate support from the district and block level officials. But the fact that they did not let these issues cripple the implementation of the project is evident in the fact that they had achieved 96 percent rollout in the State with their 2823 centres. AISECT was spread across 27 States and 3 Union Territories of the country and the uniqueness of the organization lay in its reach up to the grassroots including sub-block and panchayat level centres all over India. It organized several rounds of panchayat, block and district level conventions to sensitize the VLEs, Media and other stakeholders and to build awareness among them about the project. They conducted IT yatras to build awareness among VLEs not only about the CSC project and their benefits at the panchayat level but also to demonstrate technologies presently available to them. They were also constantly in touch with the State Government officials to build awareness and also to constantly create urgency in BSNL to provide connectivity. AISECT with its experience of rural ICT interventions realized that two types of services must be offered to all its CSCs—Core Services and Auxiliary Services. The Core Services include services that generated immediate revenue for the VLEs and ensured their viability like MP Online, G2C services, AISECT educational courses and IGNOU courses, and select B2C services like DTP, etc. One huge advantage that Madhya Pradesh had over other States was that they had their own G2C portal, MP Online, ready. At present about 2000 of AISECT's centres were affiliated to MP Online for offering G2C services. The second category of services offered was Auxiliary Services through which the VLE could constantly raise profitability. Broad services like banking and insurance, telecom and entertainment formed a part of this category.

Network for Information and Computer Technology (NICT) is another SCA present in Madhya Pradesh. With the motto of imparting the techno-sociological phenomenon called "Information Technology" to the masses, NICT was established by Young Students & Teachers Group of 5 in 2000 and was later supported by Bhaskar Group as part of its corporate social initiative, working in the field of ICT for development. The NICT family had now grown to 900 young team members with the mission, "To use technology for better education, health, agro inputs, livelihood skills and training, especially in rural areas"[13] . Out of the 9232 centres in the State NICT was in charge of 2158 . NICT had been successful in opening 1181 of these centres. About 250 of the initial VLEs withdrew from the project because of lack of G2C services, so NICT's number of centres in Madhya Pradesh then stood at 931. Initially, the company experimented with operating on an employee model where the company had its own employees operating the centres in the State. However, this did not work out for them and they slowly shifted to business partnerships with VLE model. They shared cost with the VLEs in the 80-20 ratio, where 80 percent of the cost was borne by the company. They faced similar issues like AISECT did when they started operations, but their experience of being in the field as an NGO helped them overcome it. NICT had experience in running 116 kiosks under the Gyandoot Project which was launched in the year 2000. They had resolved the connectivity issue in a majority of their centres by making these centres sustainable with a host of offline services. The major services running at various kiosk were banking, micro insurance, micro loans, telecom recharge, DISH TV and Tata Sky sale and recharge, sale of agro input material, etc. NICT claimed to have received unwarranted support from the State Government though they were yet to receive the same kind of support and involvement from the lower level government official. Creating greater awareness leading to greater acceptability of the project among the people was one issue they are still working on.

United Telecom Limited or UTL was the largest SCA in Jharkhand. UTL is a Bangalore based, 3-decades old ICT Solutions Company with wide experience in setting up telecom networks, e-governance networks and

solutions including the transport sector.[14] The major problem that they faced in Jharkhand was building awareness about the project among the rural population and the Government. Connectivity was another major problem there as a lot of the places in Jharkhand were extremely remote and in a very rough terrain. UTL had to open about 2943 centres Jharkhand and they were short by 800 odd centres. But a large number of the remaining 800 centres were in almost inaccessible terrain and so they were not very confident that they would be able to set them up. Jharkhand lags behind other States in various socio economic parameters. It had an average literacy level of a little more than 50 percent and this made recruitment of VLEs with adequate entrepreneurial skills a major challenge. Since VLEs had the primary role in running the CSCs efficiently in order to ensure their sustainability, picking the right VLE and then effectively training became very important. UTL also did not get sufficient co-operation from government officials at the district level. Although the State had almost been successful in rolling out 100 percent of its centres, only about 21 percent of the rolled out centres had connectivity options.

COMAT Technologies was to set up almost 6000 centres spanning Sikkim, Haryana, Tripura, Uttar Pradesh and Uttarakhand. COMAT eventually withdrew from the project. It faced huge infrastructure issues in the States that it was in, especially in the north-eastern States. They also claimed to not have received adequate support from the Government. Consequently, their rollout process in these States got delayed and they were served several show-cause notices, and huge penalty was imposed on them. It was not that COMAT did not have experience in handling rural projects. The company had been working with the rural poor for a long time, providing easy access to essential information and transformational services. However, their experience failed to compensate for the issues of lack of support and poor infrastructure and connectivity that they were facing in most of these States. The company felt that the it was a victim of widespread corruption, and handling government officials with no involvement in the project and hence no interest in resolving its issues. They also claimed that the infrastructure was so poor that they could not do anything from their end to improve it. Most of the government premises that were given to them in Tripura did not even have a ceiling and so they could not install VSAT in order to overcome broadband connectivity problems. In Sikkim, the company was given the infrastructure of the already existing Community Information Centres (CIC). However, most of their equipment was non-functional and COMAT also had to handle the burden of extra staff. Most centres required two people to operate, but at the CICs there were three people working—two operators and one peon. In some other States which already had an existing e-governance project (like e-district in UP), the government was usually more keen on making the State project successful. Like so many other SCAs the non presence of G2C services was always an issue. COMAT had not gone for negative bidding but had asked the government for revenue support. However, the revenue support was not released and also with the added burden of the penalty for delayed rollout, COMAT had to incur huge losses and ultimately withdrew from the project.

Bhartiya Samruddhi Finance Limited (BASIX), is a livelihood promotion institution established in the year 1996, to promote a large number of sustainable livelihoods, including for the rural poor and women, through the provision of financial services and technical assistance in an integrated manner.[15] They started their CSC operation in Meghalaya in the year 2008 and in Orissa since January 2009. They had got the mandate to re-set the centres of COMAT Technologies in Tripura. BASIX was not the first SCAs in either State. Nevertheless, they had done tremendously well. Their experience in the rural area gave them the understanding of the fact that at the initial stage of the project the amount of investment to be incurred was pretty substantial. BASIX had always believed that company owned centres were the best business model in the operation of the CSC. All the centres under BASIX were owned by the company. They had provided for the infrastructure and had discouraged the VLEs from taking any loan. They also provided for the operational expenditure so that it became easier for these centres to become self sustainable. Rather than depending just on the G2C services BASIX had gone for what they call ‘inclusive growth’. They concentrated not only on delivering certain set services from the centres but a range of services starting from the basic G2C services to banking to agricultural services. In Orissa they helped the farmers with

mushroom cultivation and also helped them sell their produce in the market. They had also tied up with banks in order to provide loans and insurance products to the rural poor. They were using Self Help Groups and Joint Liability Groups to mobilize the G2C and B2C services to the rural poor. The senior management of the company felt that their being in the rural field for the last one year had helped them make the common service initiative successful.

Name of the SCA	**Issues**	**Best Practices**
SPANCOTELE (2109 CSCs in Maharashtra)	• Lack of G2C services • Demotivated VLE due to lack of G2C services • Low computer literacy • Burden of high investment • Wanted to win the bid and under-quoted	• B2C services • Expandable bouquet of services
AISECT (2916 CSCs in Madhya Pradesh and 1487 CSCs in Chattisgarh)	• Lack of awareness about the project • Connectivity problems • Absence of support from district and block level officials	• Conscious awareness building through conventions, IT yatras, demonstration of IT • Proper representation to state government officials and BSNL • MP Online was ready • B2C services • Core and auxiliary services • Previous Experience in Rural operations
NICT (2158 CSCs in Madhya Pradesh)	• Lack of G2C services: VLE withdrawal • Employee model of running the CSCs did not work • Lack of awareness about the project • Connectivity problems	• Partnership with VLE-80% cost borne by Company and 20% by VLE • Previous experience of running telecentres in GyanDoot Project • Connectivity issues solved by providing offline services • Support from government

United Telecom Limited (2943 CSCs in Jharkhand)	• Lack of awareness about the project • Connectivity problems • Inaccessible terrain • VLE recruitment with right skills • Lack of co-operation from government officials at the district level • Low literacy rate in the state	
COMAT technologies (267 CSCs in Haryana: terminated 45 CSCs in Sikkim: terminated 145 CSCs in Tripura: terminated 4721 CSCs in Uttar Pradesh: terminated 706 CSCs in Uttarakhand: withdrawn)	• Infrastructure issues • Inadequate government support • Delayed rollout • Penalty imposed due to delay in roll out • Corruption at the government level • Absence of G2C services • Huge losses	
BASIX (225 CSCs in Meghalaya 1674 CSCs in Orissa Tripura: Bid Submitted)	• Substantial investment in the initial stages • Lack of G2C services	• Experience in rural areas • Company owned centres • Providing operational expenditure to the VLEs • A large bouquet of B2C services primarily agricultural services

Table 9: Issues and Best Practices of the Respondent SCAs

From the summarization in Table 9 it comes out that some of the major issues for the CSC rollout as pointed out by the SCAs are that of lack of G2C services, poor connectivity, VLE recruitment with right skill sets (not happening due to low literacy rates in the concerned areas) and lack of cooperation from government officials, especially at lower levels. In addition to these issues, lack of proper infrastructure and lack of connectivity obviously becomes the most critical issues. Without the presence of connectivity of any form, it becomes impossible to roll out online services, which, in addition to the lack of G2C services, raises the issue of the very purpose of presence of these CSCs across the nation.

Interestingly, the issues that emerged through interview with the stakeholders are some of the issues that have been plaguing the telecenters in other developing countries too. The Multi Community Telecenters (MCTs) in Bangladesh also are facing the challenge of very low literacy rates and an even lower rate of computer awareness.(Islam and Hasan 2008).Low literacy rates would mean lack of skilled man power to run the telecenters (Rajendra Kumar and Michael L. Best. A study of similar telecenters in Pakistan

reveals "Two-thirds of the villagers cannot even write their name in any language. Women who are almost half of the rural population are only 10 percent literate.

Most of them who are running these centres lack computer skills as well as entrepreneurial acumen. More than computer skills it is the low entrepreneurial skills that is becoming the challenge here. This is the reason why most of the VLEs are getting demotivated by the lack of G2C services rather than thinking of starting some new services to compensate for the lack of the G2C services. Proper training of the VLEs becomes very crucial here considering the fact that these VLEs play a pivotal role in the sustainability of these centres. The need for tele-center staff to have the ability to recognize the information and communication needs of the users and tailor the services offered to meet those needs has been highlighted by other authors too (Scharffenberger September 1999). Telecenters management and staff need to have a set of core competencies in order to effectively manage telecentre operations to enable the attainment of its objectives (Bailey 2009). (R.Colle and Roman 2002) emphasize the attention that is normally placed on computer-related technical skills, while skills related to areas of community development and socio-economic issues are neglected. They suggest training in the areas of development strategies, staff roles, production of content, marketing, evaluation, human resource management and training.

The issue of connectivity is present in other developing countries also since most of these countries have poor infrastructure (Odedra and Straub 2003, Basu 2004; (Ndou 2004; Islam and Hasan 2008) (Cecchini and Raina 2005))This makes the initial cost of setting up these centers very high thus making financial sustainability a challenge.((Mahmood 2005)

In order to make the whole initiative sustainable, some of the best practices that are being highlighted are that of the capital cost sharing (or complete sponsorship) of the VLEs and the SCAs. The models of Basix and NICT seem to be quite successful as it saves the VLEs the trouble of applying for loans and the loan approval process that had been originally planned for. These ground level innovations, interestingly, have happened without the intervention of the State or Central Government.

7. Status of CSCs in Jharkhand

In order to understand the ground level issues from VLEs' and the government officials' point of view, Jharkhand was chosen and a field visit organized. Jharkhand was among the first three states where the setting up of the CSCs was initiated. Together with Haryana, it was also one of the first States which reported achieving 100 percent rollout status. During the visit, various focus group discussions with the VLEs were held. Semi structured personal interviews were also conducted with some VLEs and some government officials. The sample of VLEs was chosen from a population of both the well performing centres as well as the centres that were not doing so well. This was done to ensure that both view points were captured. The discussions and the interviews were then transcribed and analysed to identify the issues and challenges as well as the best practices.

Figure 1: VLEs at Block Pragya Kendra in Berro

Figure 2: VLEs at Berro

Figure 3: Inside of a Pragya Kendra at Khunti

Jharkhand is one of the lesser developed States in the country. It has issues with its infrastructural facilities, its terrain and also stands low on various socio-economic parameters like standard of living, literacy, etc. These have created major hurdles in the setting up and functioning of the CSCs. The SCAs had been successful in opening up a number of centres but most of these centres did not have connectivity. This was because many of the villages in Jharkhand did not have basic amenities like electricity or phone lines. This created a major problem in providing connectivity. The SCAs were not getting sufficient response or urgency from the end of BSNL which was the sole service provider in a lot of these villages. BSNL had agreed to provide WiMax connectivity to the villages with no phone lines but that was still pending. The SCAs had approached government officials to put pressure on BSNL and ensure that it delivered, however, no substantial change has been observed in BSNL's attitude.

The centres were also suffering because of lack of G2C services. In a lot of centres the G2C services did not exist either because of lack of connectivity or because the government officials at the block level were not giving permission to render G2C services from these centres. The reason for this was that some government officials could not fathom the benefit of allowing the Pragya Kendras to render the G2C services online. They were of the opinion that the benefits from an online application system will accrue only when the back-end system is fully automated. There was also lot of resistance from the middlemen whose livelihood depended on the commission they charged from these G2C services. If Pragya Kendras

started delivering these services then they would lose their source of income and so they, with the help of block officials, did not allow Pragya Kendras to deliver the few existing G2C services.

Lack of G2C services was a major demotivating factor for the VLEs. It emerged that most of the VLEs took up this role because it gave them an opportunity to stay in their village and earn their living. They did not have to leave their families and go to cities. Also almost all the VLEs thought that becoming a VLE would make them government employees and they would get all the benefits that government employees got and also have an elevated social status in their village. To them the CSC was just another initiative by the government which provided employment alternatives to the rural poor and so they were dependent on the government for running the centres. The VLEs lacked entrepreneurial skills and lacked the will to take initiatives by themselves. There were some VLEs who despite the lack of G2C services at their centres, had succeeded in making their centres financially sustainable by providing other services like ticketing or mobile recharges or Xerox services from these centres. Through these services they built a client base which they could tap into once the G2C services started getting delivered from there. Because of lack of knowledge sharing among the SCAs and VLEs the best practices were concentrated in a few areas and they were not shared among the other VLEs.

Figure 4: Xerox Machine at a Pragya Kendra in Khunti

VLEs also were of the opinion that they were not given proper training the SCAs. A lot of the centres where G2C services were available, were not rendering such services because the VLE did not know how to render those services. The SCAs complained about the lack of availability of quality manpower. They were of the opinion that because of the poor quality of manpower, providing training even two three times was proving to be insufficient. Only some of the VLEs conducted awareness programs in their villages mostly informally by way of word of mouth. Some VLEs put newspaper cuttings in their centres that showed Pragya Kendras in the news. There was no periodical or need based awareness program conducted. This was one reason why people in the villages were unaware of the services that were being offered at these centres. The billboards that the VLEs had put in front of their centres were often misleading.

Figure 5: Board Outside a Pragya Kendra at Khunti

Figure 6: Pragya Kendra at the Ratu Block

Figure 7: Pragya Kendra at Karra

The discussion with the government officials at the block level revealed that the Block Development Officials (BDOs) that had a technology education background were more enthusiastic about the Pragya Kendra project. They comprehended the perceived benefits of the project and thus provided no resistance to the SCAs and were extremely co-operative in ensuring that the centres were set up and operated smoothly. They also proactively gave digitization work to some of the VLEs like digitization of NREGA payment data, pension data, cattle data, etc. But one disadvantage they faced was that the VLE was not doing the digitization work efficiently and they demanded that the panchayat *sevak* sit with them while they were doing the digitization work as they were not confident of doing it by themselves. This demotivated some BDOs and now they were apprehensive about giving such work to them. A lot of other BDOs did not see any benefits from the CSCs because they believed that first all the back-end systems of the government needed to be automatized.

Any project of such large dimension requires a robust and efficient monitoring system. The NLSA had designed a monitoring system which was to be installed in every computer at every centre. The SCAs were given deadlines for installing these devices at all their centres. This however did not happen. Neither the SCAs nor the government officials had an efficient monitoring system. The positioning of the centres was also wrong. Most of the boards that were set up in front of the centres gave a view that these centres were like any other photocopy centre. The government and the SCAs should be jointly responsible in holding periodical awareness campaigns among the villagers. Government officials at the state level did not co-

operate with the SCAs in reducing the resistance from officials at the block level. Neither were they ensuring that BSNL showed urgency in providing connectivity to these centres. The SCAs also complained that the Government did not provide timely response to the Pragya Kendras issues that it raised at empowered committee meetings. . The SCAs were left to themselves to handle such issues.

8. Status of CSCs in Meghalaya and Uttar Pradesh

A study done on the common service centers in Meghalaya and Uttar Pradesh respectively revealed that the some of the issues like connectivity, lack of G2C services, VLE de-motivation, lack of training for the VLEs, poor power supply, inadequate infrastructure were not just specific to the state of Jharkhand.

In Meghalaya for example, lack of connectivity and power supply were seen as the major bottlenecks in the sustainability of the common service centres. Other issues highlighted by the VLEs were the inadequate road infrastructure, lack of VLE skill and non-maintenance of hardware. .Meghalaya is one of the four tribal majority states of North Eastern Region, others being Arunachal Pradesh, Mizoram and Nagaland In the domain of rural electrification currently 47 percent of villages covering 56.16 percent of rural population have been electrified. Meghalaya does not have good connectivity based services in the state. The terrain is hilly making cable as well as wireless connectivity costly. Often satellite is the only option despite its high cost. The electricity supply is poor resulting in severe challenges for running cell phone towers. 89 percent of the VLEs surveyed, however, were of the opinion that even if connectivity problems could be taken care of, without introducing the Government Services useful for the rural population, the CSC could not generate enough revenue for the VLE to reach break-even for its company. Due to lack of uninterrupted power supply VLEs are forced to match their working hours in a week with the availability of power. The SCA had not provided any power back up facility to tackle this problem. Interview with the BASIX, the SCA in the state, also confirmed the problem of power shortage in many parts of Meghalaya. A top official of BSNL when asked for his views mentioned the Power problem leads to the failure of Connectivity. Diesel, which is the main ingredient for power back up services, was difficult to be transported from other states to Meghalaya due to poor road infrastructure. BASIX, the SCA in the state, had submitted a zero subsidy bid with the hope that G@C services would be available and they would help in making the centres profitable. However with G2C services yet to become full fledged in the state the SCA is offering a host of other services like micro-credit to make the centres profitable.

Uttar Pradesh is one of the most populated states of India. Because of its size it is also mandated to set up the maximum number of common service centres in a single state. The survey found out that in UP the biggest challenge was lack of awareness among the citizens regarding IT in general and common service centres in particular. This leads to insufficient demand for the services at the common service centres making their financial sustainability a huge challenge.The roll out status achieved by the state is also a dismal 40 per cent showing that the state is facing some serious challenges in achieving 100 per cent roll out status.Uttar Pradesh was categorized as the aspiring leader in the e-readiness index which suggests that the state has failed to utilize its complete ICT potential.

9. Emerging Business Model for CSCs

Financial viability refers to the capacity that a telecentre has for generating sufficient income to cover its costs of operation, and/or the cost of initially establishing it. Whilst this ability to pay for itself generally requires the derivation of revenue directly from those who use the services of the telecentre, it does not preclude the possibility of other continuing sources of revenue, for instance, from government (**Harris**, **Kumar** et al.) Proenza (2001, 2) in relation to financing argues that telecenters should look toward private sector cybercafé models of sustainability, as private enterprise is “the most sustainable governance

structure known." Franchising government services through public-private partnership is another potential best practice, used in the Gyandoot case.

In our study it came out that some of the SCAs have adopted alternative business models in order to ensure the sustainability of their VLEs. States where the VLE has taken loans and funded the opening of the centres were finding it extremely difficult to break even. A number of VLEs have not even been able to procure loans from the government and hence have put in either their savings or money from their other businesses into the setting up of these centres. The entire business proposition of the common service centres seemed lucrative at first and that was the reason why a number of the poor people responded to the advertisement for Village Level Entrepreneurs. The promised government revenue support was a major pull factor especially in states like Bihar, Jharkhand, Orissa etc where people would generally migrate to other states for better job opportunities. The CSC project thus looked like a good alternate job opportunity.

However as the centres started operations they faced a host of issues which made financial sustainability a huge challenge. Most centres did not have connectivity options. Even if connectivity options were available G2C services were not. Together with this the government was also not releasing any revenue support. Government had made it mandatory to install monitoring devices in all the computers at all the centres. This monitoring device would help them track the working of these centres. Once all the centres under an SCA were installed with monitoring devices only then SCAs would get revenue support from the government. But the process of installing devices also had a host of issues which caused the delay in installation and hence revenue release. SCAs like COMAT technologies incurred huge losses and withdrew from the project. Some of the SCAs who were following cost-sharing model with VLEs in the setting up of these centres did not face much difficulty in making their centres sustainable. NICT in Madhya Pradesh shared the cost of the centres with the respective VLEs in 80:20 ratios where the SCA bore 80 per cent of the cost. BASIX in Meghalaya and Orissa bore the entire fixed cost of setting up the centres. BASIX follows the employee model in running the CSCs in which they employ the VLEs and pays them fixed salaries. They also helped the centres with the initial operating expenses till the time the centres become sustainable. This provided huge help to the VLEs who did not have to take any loan and thus did not get de-motivated under financial burden in the initial stages of the project.

Such a business model is not new for development projects in India or in other developing countries.. N-Logue's partnerships with its entrepreneurs form the crux of its business. N-Logue was launched to fulfil the need for Internet and voice services in every underserved small town and village in India. Local service providers (LSPs), who are usually established businesspeople or district governments, maintain access centers and recruit kiosk operators. N-Logue acknowledges the need to help its franchisees finance the investments required to start their businesses. Most rural citizens lack the credit history or collateral required to obtain a loan strictly on their own merits. For this reason, n-Logue has partnered with the National Bank of Agricultural and Rural Development (NABARD) and Indian Bank in India. N-Logue has been successful in making both banks to put its projects on the banks' "short list," a list of pre-approved endeavours that receive expedited approval for funds. By convincing the banks of the soundness, viability and profit potential of n-Logue's business model, affiliated entrepreneurs can qualify for the loans necessary to finance their investment, whether it be in an access centre (if an LSP) or simply a computer, if a kiosk owner. Right from the beginning the working model was based on commercial lines to be self funding, with launch capital coming from the local community and ongoing support from content service fees Gyandoot, another e-government initiative in India follows a similar model where the initial assistance is given to the kiosk operator.

Few large telecenters are financially sustainable without ongoing external support. The telecenters project in Mozambique have business plans that show that the centers will take at least four years to become self-

sustaining — and only then with the capital written off. At best, these centers cover operating costs, while no major funded telecenter has been able to set aside money for depreciation of equipment, let alone generate money to repay the initial capital

In El Salvador, the franchise model of telecentre creation has been taken a step further. Infocentros, a non-profit organization established to promote the information society, borrowed $10 million interest-free from the government to build 100 telecentres within a two-year period. These for-profit telecenters were to be run as franchises-cum-business- incubators (Khelladi 2001). In an initial phase, each telecenters is established and operated directly under Infocentros' management. Only when the centre achieves profitability is it sold to a franchisee. Eventually, 90 telecenters will be run as private franchises, while 10 will remain under Infocentros' control, acting as nodes, providing assistance and services to the franchisees, e.g. training, technical support, and maintenance.

10. Conclusion

The CSC is a great effort by the Government of India in making government services more accessible and also introducing transparency in the entire delivery process. However, it has been four years since the project was sanctioned and still most of the States have not been able to complete the centre rollout. The government should now take urgent step in order to ensure that the SCAs are successful in achieving the target rollout as fast as possible.

At the same time as the centres are being rolled out, connectivity options should be provided to them because in this project, the basic service delivery requires internet connectivity. In the mean time, substantial funds have been released to BSNL for providing connectivity, without any difference in the ground level reality. Now the State Governments should take the responsibility of creating a similar sense of urgency in BSNL along with a proper mechanism for addressing pending issues and monitoring of the execution. Interestingly, with positive State Government intervention, as in case of Gujarat, not only has the CSC rollout been cent percent, but has actually exceeded the numbers of the planned CSCs as the State Government had clubbed the CSC scheme with their e-Gram initiative. Moreover, the SCAs should also explore alternate connectivity options like WiMax especially since a lot of places in some of the remotest areas do not even have phone lines.

It was seen in our discussion with the SCAs that those who have made the complete initial investment without letting the VLE take loan from the banks have been more successful in making the centres sustainable. The project was to be implemented through the public-private-partnership framework. However, a lot of SCAs have got delayed in their rollout because of waiting for loans for the VLEs. So, some of these SCAs are making the initial investment in order to give time to the VLEs to make their centres sustainable. There also has been no planned rollout process since at most of the centres G2C services were not available. This is very interesting considering the fact that the centres were rolled out in order to render G2C services to the rural poor. This also highlights the gap between the planning and the execution of government projects.

Successful SCAs have compensated the lack of G2C services by providing a host of other services to the rural citizens thus making the centres sustainable. In this backdrop SCAs who have had previous experience in catering to the rural market have performed markedly better than the other SCAs. If the private partner is providing the initial infrastructure investment, taking care of the operational costs and also compensating for the lack of G2C services then this clearly is defeating the spirit of the PPP framework. This raises a serious issue that if the PPP framework is not working then what alternate framework could be adopted to increase the sustainability of these centres.

In our study it came out that SCAs have adopted various business models in order to ensure the sustainability of their VLEs. Efforts should be made to disseminate this knowledge across all States so that they can adopt some of the best practices. For the success of any project, knowledge sharing among the participants of the project is very important. Also the stakeholders should start taking ownership on the project which was seen lacking in some of the States. Taking ownership would consequently build in accountability which is of prime importance in any project.

Future research should be done across the CSCs in all the other States to understand their implementation challenges and bottlenecks. There should also be an attempt to study the emerging business model and see if it can be replicated in the other states. The CSC project in India should be compared with similar international initiatives in order to adopt the best practices. The success of this endeavour would depend not just on providing connectivity and premises for the centre or G2C services but would also require a change in the mindset of the people involved in the project. We have seen SCAs exiting certain States saying that the project cannot be successful there. However, new SCAs have entered these States and brought in new initiatives pointing towards the need of serious capacity building in terms of managing rollout of large and complex initiatives like this. It is true that the background of the SCA is a very important factor contributing to their success in running the centres efficiently. Other SCAs could make use of this expertise through knowledge sharing. Only with an honest effort and involvement from all the stakeholders of the project, will the Common Centre Initiative be able to achieve what it had set out to do—to develop a platform that can enable government, private and social sector organizations to integrate their social and commercial goals for the benefit of rural populations in the remotest corners of the country through a combination of IT as well as non-IT services. [16]

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