Adoption of Akshaya Telecentre Services: A Critical Evaluation[1]

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In rural areas, telecentres are seen as an ideal platform to provide information and communication technology (ICT) enabled services for human, social, political information, and economic aspects of development (Mishra, 2013). ICT has been often used to enhance the socio-economic development of disadvantaged and underserved communities (Bailey and Ngwenyama, 2009). ICTs have a major role in reducing the vulnerability of the poor especially during natural disasters (Kenny, et al. 2001). Huyer and Sikoska (2003) assert that ICT offers advantages of efficiency and productivity gains; information sharing, storage and communication; faster knowledge accumulation; dissemination and application, in support of a specific purpose for which they are used. Access to telecentre services improve self-determination of individuals by making them aware of the risks in their communities and motivate them to stay away from criminal activities (Osman and Tanner, 2017). Telecentres are one of the successful mediums in providing ICT-based services in rural areas owing to the fact that they increase

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access of services to citizens (Rogers and Shukla, 2001; Gopakumar, 2008). However, factors like lack of internet searching skills, frequent electricity blackouts, lack of local content, and fees charged may not favour use of telecentres (Kapondera and Hart, 2016). Telecentres are strategically placed in areas where there is frequent movement of people to maximize foot-falls. Telecentres usually have the facilities of telephone, fax machine, computer, printer, photocopiers, high speed tele-communication network, multimedia equipment, and meeting space (Oestmann and Dymond, 2001). Public Private Partnership (PPP) business model is promoted to improve telecentre service delivery to citizens.

TELECENTRES IN INDIA

Research evidence on the impact of new technologies on the social and economic development of developing countries remains heavily disputed. Very little study has been done in a broader perspective, which will help to understand the dynamics of ICT as a process. Here process denotes diffusion, innovation, and acceptance of ICT initiatives. Telecentre based projects have been implemented in developing countries with an assumption that they would enhance livelihoods of rural poor. For example, telecentres of Mahiti Mitra in Kutch district of Gujarat (not-for profit), e-Seva in West-Godavari, Andhra Pradesh (for-profit, PPP model), Akshaya in Kerala (for-profit, PPP model), Common Service Centres (CSCs) (for profit, PPP model), and many others have sought to enhance development of rural communities. Exact data on the number of telecentres in India is unavailable; however, according to the Government of India (2016), 99357 CSCs[2] have been established in 33 states/union territories of India by 2012.

Telecentres in India are being used to provide both public and private services. CSCs are implemented to provide e-government services. E-Government is the systemic use of ICTs by a government to support functions for its constituents, mainly related to the provision of information and services (Haque and Pathrannarakul, 2013). According to Bhatnagar (2004), telecentres can provide better access to government information and increase transparency in service delivery. Bhatnagar and Singh (2009) and Bhatia et al. (2009) have discussed the evaluation of a range of e-government initiatives in India namely Bhoomi project in Karnataka, Karnataka Valuation and e-registration (KAVERI), Computer-aided Administration of Registration Department (CARD), e-procurement and 'eSeva' in Andhra

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[2] The government of India is setting up 100,000 Common Service Centres (CSCs) for 600,000 villages under its National e-Governance Plan (NeGP). The government envisages CSCs as integrated front-end delivery points for government, private and social sector services to the rural citizens of India.

Please refer to Annual Report on Electronics and Information Technology, http://deity.gov.in/sites/upload_files/dit/files/Annual%20Report%202012-13.pdf, accessed on 28/05/2016.

Pradesh and Ahmedabad Municipal Corporation (AMC) civic centres in Gujarat. People prefer computerized delivery of services as the online services have reduced the number of trips that have to be made to government offices along with associated waiting time. Corruption has also decreased with the introduction of computerized systems. According to Whyte (1999), telecentres have the capability to increase the citizens' inputs into public sector decisions and actions. Initiatives like Gyandoot and Drishtee in India have sought to provide various government services on the Internet. CSCs offer web-enabled e-governance services in rural areas, including application forms, certificates, and utility payments.

E-government has been practised in developed countries for quite some time now, however, in developing countries like India it is still in the development stage. The concepts of e-government generally revolve around efficiency, service delivery, transformation, transparency, and technology. E-government in a broader perspective encompasses all the key factors of governance – better delivery of government services to citizens, improved interaction with business and industry, employee and citizen empowerment through access to information, and more efficient management (Nour, et al. 2008). Some research has also been carried out on economic aspects, such as measuring investment in and sustainability of ICT based e-government projects (Kumar and Best 2006; Bhatnagar and Singh 2009). Individual and organizational factors influencing use of e-government have been researched. Van Dijk, (2008) investigated the acceptance and government services through the Internet in the Netherlands concentrating on the individual users of the services. Studies have been done to understand citizens' needs and expectations towards e-government. Research related to process reengineering has received a lot of attention and is important in increasing user adoption of the e-government services (Titah, 2005). Ochara, et al. (2008) undertook a study to investigate managerial processes involved in the adoption of e-government in the local authorities of Kenya. Their research showed the importance of political process in the development of an e-government system. Along with this, they have stressed the need for the translation process to be dynamic and flexible for better e-government adoption.

Studies have been done to compare the adoption of e-government in developed and developing countries. Ndou (2004) compared the factors influencing use and implementation of e governance in developing country contexts. He stressed the need for e-readiness assessment, raising awareness amongst private and public organizations, collaboration amongst government departments and human skills and capabilities development for successful design and implementation of e-government in developing countries. Other studies have dealt with the potential opportunities of e-government in

developing countries. Lau, Aboulhoson (2008) compared adoption of online government websites in Argentina, Brazil, and Mexico. Interactions within and between levels of government were found to influence adoption. Argentina was found to have maximum adoption as there was involvement of government at federal, state, and local level, which was not observed in the other two countries.

There are studies which aim to understand the impact e-government can have on users, on the economy, and on society. Verleye and Karamgiolo (2010) have described the impact of e-government in detail and are of the view that it is influenced by contextual variables such as attitude, skills, cost, access, and income. Adoption studies tell us the way in which e-government has an effect on society or on an individual. Unless and until a user adopts e-government, impacts cannot be ascertained or visualized. Puga (2009) believes that to assess e-government it is important to do longitudinal studies or repeated studies of an initiative over a period of time to understand usage of the Internet and impact for e-government purposes.

RATIONALE FOR THE STUDY

Research on telecentres is available, but it is limited in scope. Available research has significantly focused on user behaviour in urban context as seen in the above section. Though studies are available on usage of e-government services, most studies are in a developed country perspective with a greater focus of the Internet as a delivery medium. There are scarce studies in rural context of developing countries where major service delivery channel are telecentres. Usage of telecentres in rural areas is influenced by contexts in which they are placed (Mishra, 2013). Rural areas have a complex setting with numerous socio-economic and cultural factors affecting the use of telecentres. Hence, it is important to understand the factors influencing use of telecentres as they can contribute to better designing of strategies for service delivery for maximizing telecentre usage. This study aims to understand the factors affecting use of telecentres in rural context using Akshaya project as a case.

AKSHAYA PROJECT

Akshaya project was launched in Kerala with the main objective to bridge the divide between the information rich and information poor by providing ICT accessibility to common man. Telecentres were visualized as the principal component of the project's success. These centres were designated as a link between the government and common people. A pilot project was started in Mallapuram district and, encouraged by the results, the project was

rolled out in seven more districts namely Kasargod, Kannur, Kozhikode, Thrissur, Ernakulam, Pathanamthitta, Kollam, and Venganoor panchayat of Thiruvananthapuram district. From 2003 onwards, the project was rolled out in the remaining six districts. These districts were Alappuzha, Idukki, Kottayam, Thiruvananthapuram, Palakkad, and Wayanad.

The project is based on a collaborative approach of government and private sector. It is deemed as a public private venture at grassroot level. Planning and implementation is done by the Kerala State Information Technology Mission (KSITM) with the participation of the private sector. KSITM provides all suites of applications (content, government services, etc.) and deals with software-related issues. Akshaya centre owner is referred as entrepreneur as he/she is expected to take the initiative as a business venture along with service to society. Entrepreneurs invest for setting up the centres and there is no financial support from the government or facilitation of collateral free bank loan to entrepreneurs. Akshaya centres have the minimum following infrastructure:

- Minimum five computers along with printer, scanner and lamination equipment

- Minimum 400 sq. ft. of floor area

- In case of rented space, an agreement of minimum three years

- One centre in 2-3 km radius

- Citizens can go to centres voluntarily to access services through operator/mediator

Services through Akshaya Centres

E-Payment services: Through these services citizens can pay utility bills.

E-Filing services: Through this service tax returns by traders/businessmen can be filed.

E-Ticketing: Akshaya centres provide train reservation facility.

E-Krishi: Information related to agriculture and market to farmers is provided on this platform.

E-Learning: Courses like medical transcription and distance learning programmes were included. IGNOU[3] offers distance education programmes in areas like art, science, social science, and information technology. Apart from these programmes efforts have been made by the government to provide content for the websites, and education programmes in

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[3] More information on http://en.wikipedia.org/wiki/Indira_Gandhi_National_Open_University, official website is http://www.ignou.ac.in/

Malayalam. This initiative is known as Malayalam computing[4] and is foreseen as a programme to reduce digital divide arising from linguistic barrier.

RESEARCH METHODOLOGY

Exploratory case study is well suited to this research as very little information exists regarding the workings and impacts of the programmes (Barkley 2006). Qualitative methods were used for data collection, which included focus groups, unstructured and semi-structured interviews and ethnographic observations. Qualitative methods were helpful in understanding 'what', 'how' and 'why' part of telecentre usage.

Interviews were instrumental in building initial rapport with respondents. Initial rapport helped in in-depth information gathering on pertaining issues. Semi-structured interviews were helpful in dealing with people having less time for lengthy discussions. Hence, this method was appropriate for interviewing project staff, other high profile project stakeholders, and users and non-users of telecentres.

A major emphasis was laid on ethnographic observations as it helped in assessing rural citizens' outlook and attitude towards telecentres. It helped to discover their reactions on telecentre use and activities involved in accessing services. Ethnographic observation assisted in documenting not only what people said but also their personal experiences, challenges, fears and anxieties associated with telecentres. It also helped reduce the chances of reactivity, i.e. people changing their behaviour when they know that they are being studied. Observations were made of following aspects:

- Number of people entering the centre and using the service
- Infrastructure availability in the centre
- Categories of people using the services i.e. gender and age (old, young etc.)
- Type of service being used
- How the mediator in the service centre interacted with the customer
- Time taken to deliver the services
- Opening/closing hours of centres
- Conflicts of users with operator/entrepreneur if any

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[4] More information on Malayalam computing can be accessed from http://www.malayalam.kerala. gov.in/index.php/Malayalam_Computing_Project_Objectives

Ethnographic observation was not an easy task to accomplish as it required extensive resocialization into the community. Taking notes was tedious and time consuming and it was necessary to have certain skills like speaking the local language, developing awareness about the local context and building rapport, which was a limiting factor in the study. Authors personal orientation towards gender, culture, race, and ethnicity had some influence on the way data were collected.

Focus group discussions (FGD) are important as they are complementary to interviews (Bernard 2000). These assisted in understanding people's concerns regarding telecentre services and their experience with its usage. Mixed sampling technique was used as single method could not have met the research objectives. Stratification was chosen as the sampling method for selecting districts, centres, and, finally, respondents. Convenience/purposive sampling was also used as it helped to select representative of the population based on researchers' judgement (Singleton, Straits et al. 1993). Literature has shown that convenience and haphazard sampling can become handy in the situation in the places such as tele-centre or village information centre and provides the opportunity to do exploratory research. In addition, non-proportional quota sampling namely heterogeneity and snowball sampling were used along with purposive sampling. Snowball sampling techniques assisted with the capacity to select participants relevant to the purpose of the research.

Mallapuram and Kollam were selected for the study. These were selected based on convenience sampling. Two centres were selected from each district. The rationale for selecting centres was use i.e. based on high and low use of services (decision based on number of transactions from functioning telecentres). Considering this aspect, Nendumgolam (high use) and Thenmala (low use) were selected in Kollam district. Two centres namely Kishreri (high use) and Velliyampuram (low use) were selected to understand usage pattern in different contexts. Support and lack of time and resources were the deciding factors in selecting only four centres.

ANALYSIS OF QUALITATIVE DATA

The texts from the interviews, field notes and relevant documents were first converted in electronic form. Texts are usually associated with all kinds of contextual information (Lloyd and Mortimer, 2005) and have an implied meaning. Therefore, text data offered unique opportunity to understand user perception and attitude towards use of telecentres. Texts were analysed to identify relationships, themes and patterns as they relate to the research objectives. Themes were created based on underlying meaning of texts, sentences and

statements. NVIVO SOFTWARE helped in comparing emerging themes and relationship against the literature and the research objectives. The interview data were examined qualitatively by means of basic coding and interpretive analysis. Apart from text based data, visual data like photographs were used to understand the context of study along with usage pattern.

RESULTS AND DISCUSSIONS

Based on the analysis of qualitative data following factors evolved which influence the use of Akshaya services in rural areas. The arrangement of themes is based on the number of statement occurrences linked to particular theme.

Affordability

The most common view of people with respect to services was affordability of services. For instance, one user said Akshaya centre has affordable computer courses. Another user said: In cities, the cost of doing medical transcription course is Rs.35,000 but at this centre it is only Rs.17,000. The course fee is less and there is no need to travel to city. It was observed that computer courses fees were shared by state government, local government, and the beneficiary.

Awareness

Entrepreneurs play an instrumental role in creating awareness about Akshaya services. For example, in FGD it was evident that, for creating positive attitude towards telecentres, entrepreneurs personally met people and created awareness about various services. One participant in FGD said: 'It is important to change the attitude of people for using Akshaya centre services. Villagers should be aware of the services and then only they can use it. Unless and until they see some benefit they are not going to use the centre'.

Some telecentres were involved more in creating awareness compared to others. For example, the Veliyambalam centre entrepreneur was active in propagating the services of the centre to people through innovative ways. He got Akshaya centre building painted in bright pink colour and the rationale behind it was to attract people. At present, the most common way of advertisement is through bill boards and posters outside the centre and visits by the entrepreneur. During interviews with a non-user of 'Akshaya' services, it was evident that unawareness about 'Akshaya' centres and its services was the main factor for non-usage of services. Entrepreneurs play a crucial role in creating awareness and trust towards the centres. Locally-known entrepreneur is trusted by the villagers for services offered by them.

Ease of Access/Convenience

To have more insight on how ease of access is important to people, the authors list here some of the major observations with respect to access.

With respect to e-filing, a person said "It is easy for me to access the tax records at any time in the centre which is not possible in the government department. Here, I can get it easily without any problem."

In another instance, a man recalled that "getting information about government services/ project, computer education, phone and bill payment is easy. In government departments, we have to wait long, and that too, without any satisfactory answers."

For women and elder people, Akshaya centres are very helpful. A woman said: As a woman it is difficult for me to go to government departments to pay bills. There are so many government department and so many counters. It is confusing and I find it difficult to go there. I feel comfortable using Akshaya centre.

Thus, rural citizens favour Akshaya centres more than a visit to government office owing to informal nature and ease in the use of services at the telecentres. Rural citizens need services for which processes should be simple and easy to understand. This requirement in often met at the telecentres.

Reliability

Another factor for use of the telecentres is reliability. Here, reliability is related to availability of services for most parts of a day. Akshaya centres are open from 9.00 a.m. to 9.00 p.m. almost every day. Because of long working hours, rural citizens can access service as per their convenience. This is evident from the statement made by many interviewees and list some:

Government officer comes to village only once to collect payments and if I don't pay on that day I will be fined. Hence, for me Akshaya centre is a better option. I can pay here on any day.

A student mentioned: I am a student and usually go to town for college. I can pay bills in the government office only during lunch time. But the government offices are open from 10 a.m.- to 12 noon and from 1.00 p.m. to 2.00 p.m. I prefer to use Akshaya centre as it is open late night. I can pay bills anytime.

Akshaya centres have changed the way users have been dealing with government with reference to transaction based services. Before Akshaya centres came up they had to follow a strict plan based on government department timings but now they do not have to bother much about payment of bills. They are able to use e-Payment services at their own convenience.

It is clear that users find simplicity of work process, time factor, and distance of travel as some of the major factors which influence service usage at Akshaya centres.

Government Policies and support

Government support is essential in the smooth running of Akshaya centres. Government involvement is needed even if the centres are run privately by entrepreneurs. We found that government support has provided a big thrust to the Akshaya initiative. It has helped in creating trust amongst citizens for using the services through awareness. For the panchayat of Kishreri, the secretary helped in creating awareness about Akshaya centre services.

Attitude of Users

Attitude of users refers to attitude towards telecentres, services, and operators. It was evident during observation and in focus group discussions that Akshaya centres are important to people and they are positive with respect to the whole project. This can be inferred from the following statements:

Government has started this initiative and it is very good for people. But government should provide more support to these centres. I feel good when I come here.

I like going to Akshaya centre as I can pay my telephone bill. I would continue to use the services of the centre. I also tell other people to come to the centre as it will be good for them.

Operator is good. He is very friendly and gives respect to people. Therefore, I like to use this centre.

Another user said that "it is now a common practice to use Akshaya centres and everyone prefers to use the services. In addition the user said that the project is good for society as people can get computer education at less cost. Even poor people can avail education. The centres should continue to function in future also."

Adoption of Akshaya Telecentre Services: A Critical Evaluation

Positive attitude seen in users is the result of customers service received, ease of use, and usefulness of the centre. Initial attitude towards the services is built through creating awareness by government and entrepreneur. It is thus apparent that people in general like to use the centre because of ease of access and prompt service delivery and attitude of operator being the foremost reasons.

Trust

People have trust in the centres and especially in the operator/entrepreneur. The trust between the user and entrepreneur is because of the relationship entrepreneurs have developed with the customers. Social contact is instrumental in building of trust towards the centre and its services. When people see other people using the services, it creates a feeling of security towards transaction based services. Users prefer to use Akshaya Centres as they believe them to be a government initiative.

Satisfaction

Satisfaction is discussed with respect to services, customer services, and access. Users are satisfied with access to the centres especially in Nendumgolam, Kieshreri, and Veliyambalam centres. Being near their home, rural citizens did not find any difficulty in accessing the centres. With respect to the Veliyambalam centre, some users were not satisfied with its location. The centre is in a building in which some people live on the floor above the centre. This was a concern for some. They said that it was not good for women to visit the centre because of male labourers staying on the upper floor. Apart from this issue all the users were highly satisfied with the centre. As observed, people seemed relaxed and satisfied after using services in the centre.

Customer Services

The main themes which emerged from the qualitative analysis related to differences in the treatment users get in government offices and in Akshaya centre. The study shows respondents had better experience with respect to services at Akshaya centre than at government departments. One user said: "Akshaya centre provides a good environment to customers." Another user said: "Good behaviour of staff is what makes them special."

In panchayat office no one fills application form for me, I am afraid to ask people in Panchayat, they are always angry. I don't know what I have to fill. But at this centre, a staff lady fills the form for me. She is nice towards me.

Most of the users were of the view that in Akshaya centre they were able to talk to the operator freely and did not fear to ask questions. This was not the case in government office because of rude behaviour of government employees.

Media Use and Awareness

It was interesting to see how media use has influenced people to use Akshaya centre. Television, radio, newspapers, and the Internet are the sources of information on Akshaya services. The government created awareness for the project in 2001-2 and that too for the e-literacy scheme. At present no promotional activities are undertaken by the government. Newspapers have contributed to creating awareness about the services when compared to other media tools.

Social Influence

Role of entrepreneur was seen in creating trust in citizens through social contact. Most of the users said that they were aware of the centre because of entrepreneur. Influence from near ones enhances this trust and instils confidence to use the telecentre services. It came out in discussions that people who influenced their decision to use centre were mostly friends and neighbours. In Figure 1, the word cloud depicts the most frequent words used by users with respect to awareness and use through social influence. It is evident that 'people' word is bigger and thicker which means that in general people have provided them information in most cases. Then, 'entrepreneur' comes first in the cloud which shows influence of entrepreneur on users. Apart from him 'friend', 'children', 'panchayat' are common words with reference to people. Social influence is seen important as it can build confidence in other people to use the centre. For example, according to a user: 'Initially people did not know how to use the centre. I told some people to access 'Akshaya' centre for government schemes, civil services applications and other job opportunities'. From the above discussions, we can conclude that a combination of media and social influence plays a pivotal role in creating awareness and trust in centres' services.

Figure 1: World Cloud Representing Category of People having Social Influence on Users

CONCLUSION

Qualitative analysis has also brought out some factors which determine the use of services. For centres to be socially relevant and acceptable, it is important that working hours of centres are longer. In addition, the location of the centres should be such that people are able to do other tasks in addition to using telecentres. Additive advantage comes to the telecentres if they are reliable as people could use them as per their convenience and not based on the convenience of government officers. Government and entrepreneurs should focus on most relevant bouquet of services for a greater adoption of telecentres in rural areas. Staff in the telecentres should be cordial and of helping nature as customer service is seen crucial for trust building towards the telecentres. Awareness through television would be recommended as people are still influenced by television advertisements. Newspapers are also influential in creating awareness.

IMPLICATIONS

This study has discussed various factors which may influence the use of telecentres in rural India. It would be useful to the policy makers to decide on appropriate strategies for implementation of e-government projects through telecentres. There is a need to understand the means or mode of e-government service delivery. Decisions about delivery channels require consideration in terms of socio-economic conditions of the region. As reflected in this study, e-government should build upon the principles of multi-stakeholder participation and cooperation involving government, private sector, development organizations, and other public organizations. The design and implementation process includes many stakeholders and correct identification of them is necessary to ascertain the roles and responsibilities in the development process. Government should consider providing training and support to entrepreneurs/operators during the initial stage of the project, since some of them were not adept in using the technology. ICT applications can help in making citizens more participative in government policy making, although citizens must be aware of their rights and freedoms with respect to information accessibility and use. Marketing or awareness creation should be included not only during the project conception stage, but also during implementation and post implementation stages as lack of awareness about services is the biggest threat for such projects.

LIMITATIONS

Ethnographic observation was not easy as it required extensive re-socialization into the community. Taking notes was tedious and time consuming and it was necessary to have certain skills like speaking the local language, developing awareness about the local context, and building rapport, which were a limiting factor in the study. Authors' personal orientation towards gender, culture, race, and ethnicity may have had some influence on the way the data were collected.

REFERENCES

Bailey, A. and Ngwenyama, O. (2009), "Social Ties, Literacy, Location and the Perception of Economic Opportunity: Factors Influencing Telecentre Success in a Development Context," Proceedings of the 42nd Annual Hawaii International Conference on System Sciences, Los Alamitos: IEEE Computer Society.

Barkley, D. L. (2006), "The Value of Case Study Research on Rural Entrepreneurship: Useful Method?" Citeseer City.

Bernard, R. H. (2000), Social Research Methods: Qualitative and Quantitative Approaches, London: Sage Publications.

Bhatia, D. and Bhatnagar,S. (2009), "How do Manual and e-Government Services Compare? Experiences from India," Information and Communications for Development, 67-82.

Bhatnagar, S. (2004), South Asia Regulatory Reform and E-Governance. An Enabling and Economic Zones for Private Sector in Bangladesh. Dhaka, FIAS.

Bhatnagar, S. and Singh, N. *Results from a Study of Impact of E-government Projects in India*. IEEE, City, 2009.

Gopakumar, K. E-governance services through Telecentres-Role of Human Intermediary and issues of Trust. IEEE, City, 2006.

Haque, S. and P. Pathrannarakul (2013), "E-Government Towards Good Governance: A Global Appraisal," *Journal of E-Governance*, 36(1): 25-34.

Huyer, S. and Sikoska, T. (2003), "Overcoming the Gender Digital Divide: Understanding ICTs and their Potential for the Empowerment of Women," INSTRAW.

Kenny, C. and Navas-Sabater, J. (2001), "Information and Communication Technologies and Poverty," Draft for comments. World Bank.

Kapondera, S. K. and Hart, G. (2016), "The Use of Multipurpose Community Telecentres and their Services in Malawi: the Case of Lupaso Community Telecentre," *South African Journal of Libraries and Information Science*, 82(1), 13-25.

Kumar, R. and M. Best (2006), "Impact and Sustainability of e-Government Services in Developing Countries: Lessons learned from Tamil Nadu, India," The Information Society 22(1): 1-12.

Lau, T., M. Aboulhoson, (2008), "Adoption of e-Government in three Latin American Countries: Argentina, Brazil and Mexico," Telecommunications Policy, 32(2): 88-100.

Lloyd, S. and K. Mortimer (2005), "The Contribution of Text Analysis To An Understanding of Constructs In Academic Literature: The Case Of Corporate Reputation," retrieved 31/03/2009, from http://smib.vuw.ac.nz:8081/www/anzmac2005/cd-site/pdfs/11-MR-Qualitative/11-Lloyd.pdf.

Mishra, G. (2013), Role of telecenters in empowering citizens: A case study of 'MahitiMitra' project in Kutch district of Gujarat, India.

Ndou, V. (2004), "E–Government for Developing Countries: Opportunities and Challenges," *EJISDC*, 18(1): 1-24.

Nour, M. A., AbdelRahman, A.A. (2008), "A Context-based Integrative Framework for e-Government Initiatives," *Government Information Quarterly,* 25(3): 448-461.

Oestmann, S. and Dymond, A. C. Telecentres—Experiences, Lessons and Trends. Perspectives on Distance Education. Telecentres: Case Studies and Key Issues, The Commonwealth of Learning, Vancouver 2001), 1-15.

Ochara, N. M., J. P. Van Belle, (2008), "Global Diffusion of the Internet XIII: Internet Diffusion in Kenya and Its Determinants—A Longitudinal Analysis," Communications of the Association for Information Systems 23(1): 7.

Osman, M. A. and Tanner, M. (2017), "The Influence of Telecentre Components on the Psychological Empowerment of Underserved Community Members in the Western Cape, South Africa," *EJISDC,* 81(4), 1-29.

Puga, P. (2009), Governments Go Online: eGovernment and Digital Divide. The Good, The Bad and The Challenging Conference Proceedings (Koper: COST Office): 646-655.

Rogers, E. M. and Shukla, P. (2001), "The Role of Telecentres in Development Communication and the Digital Divide," *Journal of Development Communication*, 2(12), 26-31.

Singleton, R., B. C. Straits, (1993), Approaches to Social Research. New York, Oxford University Press.

Titah, R., H. Barki, (2005), "E-government Adoption and Acceptance: A Literature Review," HEC Montréal, Chaire de recherche du Canada en implantation etgestion des technologies de l'information.

VanDijk, J. A. G. M. (2006), "Digital Divide Research, Achievements and Shortcomings," Poetics, 34(4-5): 221-235.

Verleye, G., E. Karamagioli, (2010), "Measure paper 3: Impact measurement."

Whyte A. (1999), "Understanding the Role of Community Telecentres in Development – A Proposed Approach to Evaluation," in Gomez, R. and Hunt, P. (Eds.) Telecentre Evaluation A Global Perspective, Report of an International Meeting on Telecentre Evaluation, IDRC.