

A critical analysis of telecentre operational models in three countries

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ABSTRACT

In this paper the researchers investigated the commercial activities of telecentres in Thailand, Sri Lanka and South Africa in order to identify the business models that were applied. The information that was used to construe the business models was gathered by way of semi-structured interviews with telecentre managers, operators and users. It was found that the business models in operation can be categorized into two main areas namely, service-oriented and product-oriented. The researchers found that the product-driven model that is practiced in Thailand offer the most favourable characteristics for the sustainability of telecentres that are not funded by government.

1. INTRODUCTION

Telecentres are playing an invaluable role in providing ICT services to disadvantaged communities all over the world. Although experts do not agree whether the definition of a telecentre should include the provision of Internet connectivity, there seems to be little doubt that access to Internet services increases the empowerment potential of such a telecentre. The researchers have, for the purpose of this paper, viewed Internet connectivity as an integral part of the services that a telecentre should provide to the community where it is based. This is in line with the viewpoint of Etta and Parvyn-Wamahiu (2003:xxvii) who commented that “(c)onnectivity is crucial for without it the benefits of the new information and network age cannot be harnessed.”

In this paper a number of telecentre operational models have been studied from four different angles namely, ownership and control, infrastructure, sustainability, and services provided. The analysis revealed two operational models namely, services-oriented and product-oriented.

2. LITERATURE REVIEW

The inception and commercialisation of the Internet led to the development of community-based communication centres as a means of providing access to ICTs to disadvantaged communities. The initial approach towards these centres was very idealistic. “Telebased information community centers or just telecenters have been seen as the killer application to empower local communities in developed and developing countries to meet the challenges of the information society” (Falch 2000:298).

It was seen by many governments as a major potential driver of rural development and in some cases even as a huge business opportunity for small telecommunication enterprises (Colle 2000:420-421). Many of these expectations, unfortunately, never came into fruition in fact dismal failures were the rule rather than the exception. Although low level ICT services, e.g. word processing and printing facilities are more freely available, the sustainable provision of Internet connectivity to disadvantaged communities, can still not be guaranteed in many communities.

Rao (1998) defined the role of telecentres in India in the following comprehensive manner. “Telecentres, known more popularly as community information centres, are public-access information and communication initiatives that serve as a community-gathering place where people can access communication technology and applications, learn new skills, tackle local social issues, face common challenges and empower their neighbours. They also include a Knowledge Management (KM) function, researching, downloading, translating relevant information and displaying it in printed or written format in or outside the telecentre. The user groups of telecentres consist of farmers, women, children, unemployed, school teachers, health workers, DO workers, local business, local media, etc. ... Telecentres help developing countries and rural areas take advantage to: expand access to ICTs service; extend the reach of public services such as education, health and social services; provide information of general interest to the local community, including government information, and of special interest to specific groups such as farmers, local businesses and NGOs; and provide access to infrastructure, technology support and advice for the development of businesses.” He added that “(a)bout 21 developing countries have initiated telecentres and most of them are still in planning or pilot stage.”

Rao’s definition and description outline an utopian situation that undoubtedly differs from many of the telecentre facilities that the researchers will visit during the study. It will, nevertheless, serve as a handy benchmark when the research tools for this study are designed.

Plou (2009) relates the following hearsay account of the use of telecentres in the African state of Mali. “Alima tells me about a young woman from Kati who has just been hired as a secretary at a local organisation thanks to the computer courses she took at the telecentre. She also introduces me to a thirteen- year-old girl who is the president of the telecentre’s teenagers club. These clubs are a major source of support for the telecentre’s work and help attract more young people to come in and learn how to use ICTs. In this country where girls as young as thirteen or fourteen are

“given away” by their parents in arranged marriages, I think of the opportunities that can be opened for them through access to knowledge and tools that could prove extremely useful in their future lives.”

Despite the fact that the telecentres provided ICT-facilities to a large number of disadvantaged people, there are strong indications that the most marginalised groups still do not benefit from these centres. Etta and Parvyn Wambahiu (2003:xxii) pointed out that the absence of old and disabled people was clearly observed whilst “(a) popular belief expressed by the respondents was that telecentre services were for the elite and the educated.” This misconception was confirmed by statistics from Mozambique where 50% of the users had secondary level education and 63% were students Etta and Parvyn Wambahiu (2003:xxii).

Etta and Parvyn Wambahiu (2003) investigated telecentres in Mali, Senegal, Uganda, Mozambique and South Africa and discovered that the same problems impact negatively on the sustainability of telecentres. They listed the cost of services and equipment, inadequate infrastructure poor management, logistical issues as well as literacy and language as the major implements to the sustainable operation of these centres (Etta and Parvyn Wambahiu (2003:xiii).

Any hopes that telecentres can function on a commercial basis is condemned in the following recent finding by Gurstein (2011):

Given that the Telecentres were established in the first place and located where they were precisely because the local population was for the most part poor, isolated, and other wise marginalized i.e. not in a position to pay for their own computers, Internet access etc. seems to have escaped the attention of those leading the demands for “sustainability”. That this sustainability was a more or less complete pipedream which any realistic assessment of the circumstances of Telecentres would have determined seems to have been overlooked as both funders and Telecentres themselves chose to hope somehow that the future reckoning in terms of funder expectations/Telecentre commitments would never arrive.

In the light of this negative prognosis it was the aim of the authors of this paper to create business models of telecentres that could assist with the analysis of the sustainability of these centres. The work of Ojasalo (2012) on the contrasting of business process modeling and service blueprinting was used as a point of departure Pidd (1999:120) described a model as “an external and explicit representation of part of reality as seen by the people wish to use that model to understand, to change, to manage, and to control that part of reality in some way or other.” Ojasalo, on the other hand, defined service blueprinting as “a mapping technique for visualizing service systems.”

Twelve expert modelers interviewed by Willemain (1994: 215) identified the five following characteristics of a good model: 1) validity, 2) usability, 3) value to client, 4) feasibility, and 5) aptness for client's problem. The same author reached the following conclusion: “(w)hen listing important qualities of an effective modeling process, the experts mentioned, in decreasing order of frequency, qualities having to do with a)

problem context (e.g., discovering the real problem), b) model assessment (e.g., validation and verification), c) model structure (e.g., selection of key variables, elaboration of submodels), and d) model realization e.g. prototyping, data collection.”

Pick & Azari (2011: 53) link the following four constructs in their conceptual model that explains technological utilization at national and international level: technology utilization; business and technology investment; government support of IT, legal framework, and social openness; and socioeconomic level. They used various governmental and economical indices to populate these constructs during the process of structural equation modeling that they followed to test the model.

Pidd (1999:121 -131) suggest six guiding principles to modelers. The first three apply to the modeling of telecentres that is the theme of the paper. They are:

- (1) Model simple; think complicated.
- (2) Be parsimonious; start small and add.
- (3) Divide and conquer; avoid megamodels.

Ojasalo (2012:414) points out that the modeling of services has been a neglected field. According to him “(s)ervice blueprinting is a specific type of business process modeling approach developed for services and service innovation.” By defining service blueprinting, he implicitly differentiates between the modeling of systems where services are offered to the customers/clients and organizations that makes product offerings available to the market. Kotler (2000: 434) made the same point regarding the marketing of services when he stated that “(u)ntil recently, service firms lagged behind the manufacturing firms in their use of marketing. According to him, many service businesses fail to implement formal marketing and management techniques.

The process of building a service blueprint includes the following phases (Zeithaml, Bitner, and Gremler, 2009).

1. Identifying the service process to be blueprinted
2. Identify the customer or customer segment experiencing the service
3. Mapping the service process from the customer’s point of view
4. Mapping contact employee actions and/or technology actions
5. Linking contact activities to needed support functions,
6. Adding physical evidence of service at each customer action step.

This template from Zeithaml et al. (2009) lends itself to a model of telecentres in which the activities of the centre is the primary source of income. Such a model will be presented in a following section of this paper.

The above-mentioned process to build a service blueprint that Zeithaml et al. (2009) proposed can be used to map the business processes that feature in product-driven telecentre. In such a centre another product/service generates the primary income for the business and the ICT facilities only serve as a marketing platform and a secondary source of income. The following phases can be indentified:

- a. Identify the product/product(s)/service/service(s) that drive the business process(es)
- b. Identify the target market(s) for the product/service range
- c. Map each product/service with the needs of each target market in mind
- d. Map the role of technology as well as the administrator/supervisor in the telecentre
- e. Link the marketing functions to the facilitating role of the ICTs
- f. Adding a description from the integrated product/service/ICT environment

With these ideas in mind the authors analysed the data that was collected in the three national domains i.e. South Africa, Thailand and Sri Lanka. The researchers identified a clear distinction between a service and a product model for telecentres. The basic telecentre would probably still have been viewed and modeled as an enterprise that deliver a set of ICT services to the community was it not for a government initiative in Thailand. The one tambon, one product initiative (OTOP) was introduced in 2001 by the former Prime Minister of Thailand Thaksin Shinawat as a policy to empower the lower income provinces in Thailand (Sura 2008:62). Initially telecentres did not feature in the OTOP planning model but it did not take long before the link between manufacturing and ICTs was spontaneously established (Intaratat 2012).

By introducing OTOP, the creative thinkers in Thailand (economists and politicians) probably unintentionally re-engineered the business model for telecentres from a service blueprint to a product model. These two models will differentiate clearly between the service-driven and the product-driven telecentres that were discovered during the research.

3. RESEARCH METHODOLOGY

The members of the research team have been conducting semi-structured in-depth interviews with individuals who managed and/or operated telecentres in Thailand, South Africa and Sri Lanka respectively. They agreed that the following issues would be incorporated in their reports on the discussions during the interviews: the governance, management, sustainability as well as the product and/or service linkages of telecentres. The role of telecentre networks and telecentre champions was also analysed. In order to ensure that the researchers share the same foci in their reports, the researchers paid a joint visit to three telecentres in the Bangkok area during January 2012. During those visits interviews were conducted in Thai and translated by the third author who is a member of the research team.

The researchers then engaged an interpretative analysis of the data they collected. Terreblance, Durrheim and Kelly (2006:321) state that “the key to good interpretive analysis is to stay close to the data, to interpret it from a position of emphatic understanding.” They quote Geertz (1973) who emphasised that the purpose of interpretive analysis is to provide the ‘thick description’ which means a thorough description of the characteristics, processes, transactions and contexts that constitute the phenomenon being studied, couched in a language not alien to the phenomenon, as well as an account of the researcher’s role in constructing the

description.” Walsham (2001:7) raised the following important point: “I take an interpretive study to mean that multiple perceptions are provided by participants and thus that the interesting data from the study cannot be ‘triangulated’ to provide a ‘true’ interpretation since whose truth should be chosen.”

The steps in the interpretive analysis that are recommended by Terreblance, Durrheim and Kelly (2006:3222-326) were followed. These steps entail the following:

- Familiarisation and immersion

The researchers engaged with the managers and/or operators of 94 telecentres in order to obtain first hand information on the research issues.

- Inducing themes

The researchers followed a bottom-up approach by conducting open-ended unstructured interviews. Terreblance, Durrheim and Kelly (2006:322) recommend that “(y) look at your material and try to work out what the organizing principles are that ‘naturally underlie the material.’” They warn there is no best way to organize any set of raw data or material.”

- Coding

Coding normally takes place during theme development. Terreblance, Durrheim and Kelly (2006:324) explain that “(t)his entails marking different sections of your data as being instances of, or relevant to, one or more of your themes.”

- Elaboration

At this stage the researchers engaged in the creative exploration of the data. During this step new themes may be discovered or established themes revised. Terreblance, Durrheim and Kelly (2006:326) see it as a way to discover nuances that were not captured in the original coding scheme.

- Interpretation

In this step the researchers commit to the outcomes of the study. In the case of team research, Terreblance, Durrheim and Kelly (2006:321) recommend that each researcher “should give an indication how [his/her] personal involvement in the phenomenon may have coloured the way [he/she] collected the data.”

4. FINDINGS

During the interviews an array of different modes of operation was uncovered. These modes were analyzed and embedded in the two operational models that are explained in the next section. The modes can be broadly categorized in product-oriented modes, and service-oriented modes.

The findings are separately presented for each country. The first table contains the distribution of the product-linked telecentres in Thailand with the product/service that are linked to them. In some cases there are telcentres that host more than one product and/or service. In total, a number of 94 different telecentres were visited during the interviewing stage. In some cases more than one interview were conducted in a telecentre. The first interview was already conducted in 2005 (as part

of a research project on e-government) and the last one during April 2012. The majority of the interviews were conducted by the Thai member of the research team, Prof. Kamolrat Intaratat who was elected as Chair of the Asia Pacific Telecentre Network. She will be dedicating all her time on telecentre coordination and research for the next twelve months. The information in the next table reflects the telecentres in Thailand that were included in the study. Although it reflects 95 different product/service linkages, there are some telecentres that are linked to more than one product. The abovementioned researcher recorded the information during 67 telecentre visits.

Product/service	No of centres
Arts & crafts	7
Agricultural	3
Community tourism	5
Correctional (Prison)	1
Cultural/ethnic	3
Ecology	5
Elderly	3
Fabric	15
Government services (multiple)	3
Handicapped	3
Health	2
Historic	5
Library	4
Military	2
Processed foods	3
Jewelry	2
Religious (Temple or otherwise)	7
School	10
Souvenirs	5
Training	7
Other (please mention)	
Total	95

In Sri-Lanka the researcher detected a number of multi-purpose telecentres. Managers from 17 telecentres in Sri Lanka were interviewed during the study:

Product/service	No of centres
Arts & crafts	
Agricultural	2
Community tourism	
Correctional (Prison)	
Cultural/ethnic	
Ecology	
Elderly	
Fabric	
Government services (multiple)	3
Handicapped	
Health	
Historic	
Library	1
Military	
Processed foods	
Jewelry	
Religious (Temple or otherwise)	5
School	1
Souvenirs	
Training	15
Other (please mention) – Fisheries, Software and Hardware sales	1, 2

The South African researcher interviewed respondents in 16 telecentres, 10 in South Africa and 6 in Thailand. The following table depicts the information:

Product/service	No of centres
Arts & crafts	1
Agricultural	
Community engagement	2*
Community tourism	
Correctional (Prison)	1
Cultural/ethnic	
Ecology	
Elderly	
Fabric	
Government services (multiple)	7 *
Handicapped	1
Health	
Historic	
Library	
Military	
Processed foods	
Jewelry	
Religious (Temple or otherwise)	
School	3 (1*)
Slum dwellers	1
Souvenirs	
Training	
Other (please mention)	

* Telecentres in South Africa

In stark contrast to the myriad of telecentre networks that were detected in Thailand, only three active networks were detected in South Africa and one in Sri Lanka. This phenomenon can be attributed to the fact that telecentres in Thailand are integrated into a much larger organizational and community base than in the other two countries that feature in the comparison.

The same goes for telecentre champions. In Thailand where 30 champions were selected from a list of 200 for special training. In South Africa only 4 champions were identified, 3 on an operational level and one in a senior management position. Three champions were identified in Sri Lanka during the study.

5. OPERATIONAL MODELS

We identified two main categories of operational models from our field study data as follows;

- Service-oriented
- Product-oriented

The following two sub sections describe these two operational models.

5.1 Service-oriented Model

Figure 1 depicts the service-oriented model where only one party is involved in a long term basis. The model makes provision for two sub categories namely, government telecentres and community telecentres. The government telecentre model was induced from South African field data. The majority of these centres serves as multi-purpose centres where an array of government services are offered on the same premises where the telecentre is hosted. These type of centres are totally funded by the government. Nine such telecentres were visited. On the other hand the researchers encountered fully-fledged community telecentres in Thailand. The respective communities accept full responsibility for the operation and funding of these telecentres. Examples are found in schools and temples. The rendering of ICT services and training form their core business. Volunteerism plays a big role with this model. Seven such centres were visited.

5.2 Product-Driven Model

This unique type of telecentre Thailand is found all over Thailand. Members of the research team visited a total of 47 such telecentres. The majority of these visits were conducted by the Thai member of the research team. Each centre is linked to at least one marketable product or community service. A product champion heads up the operations which include the production, distribution, and selling of the product as well as after sales service. S/he is assisted by a management committee that consists of stakeholders from that community. The government will only have representation on the committee if they provide funding for the project. The telecentre functions as a division of the enterprise and is used as a platform for marketing and training. Table 5 shows the list of product and services offered at these centres. If the model is optimally implemented, the telecentre features as a budget post on the books of the enterprise and not as a standalone accounting entity. This creates more room for the centre to focus on service delivery without being under continuous pressure to break even. Although the telecentre generates income by way of training and paid usage, it is under no obligation to sustain itself.

Product wise breakdown of product-driven telecentres in Thailand	
Product/Service	Number of Centres
Arts and crafts	7
Agricultural	3
Community tourism	5
Fabric	15
Processed foods	3
Jewelery	2
Souvenirs	5
Training	7
Total	47

When the business models that are presented in this section are analysed, it is quite clear that the “one tambon one product” philosophy in Thailand reflects a paradigm shift in the basic business approach towards telecentres. Whilst ICTs and therefore the telecentre was positioned as the core product in the first

telecentre models like unsuccessful South African model that was piloted by the Universal Service Agency, the more successful Thai model uses a marketable product/community service to anchor the business process. The telecentre that hosts the ICT-equipment and applications is only viewed as a support service. It is therefore not viewed as the main income generator in the business domain in which it functions but only as a part of the value chain. Although it can earn income for this integrated business domain, its survival and therefore its sustainability doesn't depend on its own income potential. It is treated as an accounting unit within the business domain that has a product/community service as its major income generator.

Although the role of a telecentre champion has not been embedded in the business models, it needs to be noted that these champions not only enjoy formal status in Thailand, i.e. the country that boasts of the most successful business model but that they also feature prominently in the planning and training strategies of the telecentre movement in that country.

6. CONCLUSION

The researchers compiled and compared operational models of telecentres in three countries. The model that is prevalent in South Africa is earmarked by sustained government funding. Its main advantage is guaranteed sustainability but it often led to poor service delivery. On the other hand, the Sri Lankan model where seeding money and sustained government investment in ICT training are guaranteed offered a solid platform for the development of entrepreneurship.

The Thai model where the telecentre serves as a training and marketing platform for a marketable product and/or community service seems to offer the most sustainable commercial option. Since ICTs are not the primary and/or only income generator in this model, the telecentre operators can follow a more developmental approach towards their activities.

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