

Utilization of ICTs in Multipurpose Community Telecentres in Rural Malawi

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Abstract. In order to empower rural communities the most important issue is an access which is the crucial factor to get to ICT tools for advancing social and economic developments. These technologies can create new types of economic activities, employment opportunities and enhance social interaction and networking among people. Access to basic telecommunications services is a basic right of the population of Malawi and telecommunications is one of the most important tools in reduction of poverty in rural areas. The government of Malawi established a pilot network of public access ICT facilities called Multipurpose Community Telecentres in rural areas with an aim of addressing the digital divide by providing universal access to basic ICT services in reasonable walking distances by establishing telecentres in strategically located positions. Pattern access and use of telecentre services varies across different socio-economic groups. It also depends on the service and the way its delivery is structured. Therefore, this paper discusses the utilisation of these ICTs in telecentres in rural areas in Malawi considering challenges and opportunities.

Keywords: Accessibility of telecentres, Facilities at telecentres, Telecentre, Telecentre services, Utilisation of ICTs.

1 Introduction

Information and Communication Technology (ICT) can be an extremely powerful enabler in efforts to bring positive and sustainable development to countries around the globe. A major gap has always existed between affluent people living in developed societies with access to modern information technology and underprivileged people living in impoverished and rural communities in underdeveloped countries. Even today, an unequal adoption of technology excludes many from harvesting the fruits of the digital economy. One major intervention to address the problem of literacy is through the use of ICTs. In order to empower rural communities the most important issue is access which is the crucial factor for them to get to ICT tools for advancing social and economic developments as these technologies can create new types of economic activities, employment opportunities and enhance social interaction and networking among people [7].

With the increasing use of ICT in daily live there is a great tendency for those in marginalised areas and groups to be left out in the online activities due to geographical limitation and limited ICT literacy level [7]. Access to information has the potential to bring about necessary social and economic changes in a society. Information evolution often results in greater socio-economic inequity in a society due to differential access to computers and Internet. The digital divide may be overcome in the long term by providing access to public information systems through telecentres.

Telecentres have hailed as the solution to development problems around the world because of their ability to provide desperately needed access to ICTs [3]. A significant number of such centres have been piloted and implemented by various governmental and development agencies in different countries [3][8]. Evidence of performance of telecentres in developing countries is still very limited and cases vary according to nature of location, year of development and regulatory environment, among others [3].

Access to basic telecommunications services is a basic right of the population of Malawi and telecommunications is one of the most important tools in a struggle to reduce poverty in rural areas [5]. A majority of rural communities in Malawi do not have access to any form of ICTs. Therefore, the government of Malawi, through Malawi Communications and Regulatory Authority (MACRA), and in partnerships with International Telecommunication Union (ITU), local and business communities established a pilot network of public access ICT facilities in rural areas in Malawi. These facilities are called Multipurpose Community Telecentres. The main aim is to address the digital divide by providing universal access to basic ICT services in reasonable walking distances by establishing telecentres in strategically located positions.

Currently, there are five telecentres which are operational and others are at development stage. The telecentre is a new concept in Malawi and it is at pilot stage. This paper discusses the utilisation of ICTs in Multipurpose Community Telecentres in rural areas in Malawi considering challenges and opportunities. Pattern access and use of telecentre services vary across different socio-economic groups such as class, occupation, caste, religion, education, age, gender, political and institutional affiliation. It also depends on the service and the way its delivery is structured.

2 Literature Review

According to Mukerji [6] telecentre is a generic term for all kinds of arrangement seeking to provide shared and mediated access to information and ICT-based services in rural areas through new technologies especially computers and Internet. A concept of shared access emerged as response to the perceived constraint that individual household in the rural area cannot afford such technologies. Access is mediated because a telecentre operator mediates between information, technology and people to overcome the barriers of low literacy, awareness about technology and availability of required skills.

The first telecentre in the world was set up in a village of 800 people of Sweden in 1985 [8] and its background was a great loss of population from rural communities in the northern part of the country. Especially younger generation was a big social

concern in the region. Since then the idea has been spread to other countries in the world, including Malawi, with different reasons. For instance, in some countries like Malaysia, telecentres were introduced with the aim of (a) upgrading their rural community ICT literacy level; (b) providing access to the Internet; (c) increasing e-participation of communities in e-government, e-commerce and other online activities; and (d) empowering the rural communities socially and economically via the use of ICT [7].

Recent developments in ICTs are remarkable and bringing about great changes in the quality of life business [8]. There is also expectation that the benefits must reach rural and remote communities by application of these technologies. It has been recognised that diffusion of such new technologies is rather slow in rural sectors as compared with the urban counterparts. The telecentre concept has been piloted and implemented by both governments and communities as a new tool to introduce new ICTs to rural areas [3]. This can be especially useful in helping developing countries, like Malawi, take advantage of the information economy, accessing education, government information, healthcare and other services, and develop socially and economically.

Telecentres provide users with access to computers for word processing, games, CD-ROM usage, email and Internet. But the most popular services to date are the public phones, fax, printing, scanning, photocopying and binding, library, television and videos [4]. Degree of access to the telecentres differ from one telecentre to another due to several factors such as availability of technologies, economic status, issues of politics, training, information support, technical support and gender [4]. The most suitable telecentre, for example, considers (a) social and historical characteristics, pressing needs, cultural outlook, and level of education and literacy; (b) participatory mechanisms, political networking and interaction, and local power relationships; (c) assistance that the centre can offer to clients in terms of knowing and advising where to look for the information they need.

To be fully effective, a telecentre needs to become information and communication institution in its community. It is an innovation and thus a stranger to the community. Therefore, as suggested by different authors [1][2] it is very important to consider several conditions that include finances, society, politics, physical location, technology, local and relevant content, human resource and training.

It is important for the telecentre to have a long-term ability to generate enough income to meet operational and maintenance costs, in addition to a reasonable surplus for renewing broken and obsolete equipment. The main challenge is that much telecentres are introduced to generate sufficient income yet ensuring equal access for those who cannot afford to pay for access. Research and planning can reveal what telecentre services are feasible and affordable to the community members. Can the community pay for services? Is the community willing to pay for services?

Telecentres should be flexible, adaptive and most importantly creative in encouraging community members to participate. Social issues such as gender, age, and ethics should be well analysed and considered when establishing a telecentre. The telecentre is about looking beyond equitable access. The access must be something useful and this can be achieved through provision of local and relevant content which should be useful and user friendly. The most important reason for the failure of telecentres is their lack of suitable content [1][2].

Accessibility of a telecentre is also affected by its physical location. The telecentre should be located close to sites known by its community as stable institutions such as libraries, schools, and museums i.e. usual community meeting points [1][2]. It should be a place that encourages universal access by both men and women.

Implementation of ICT for development projects is a highly political process and ICT artifact needs to become institutionalized and accepted by these political actors [1][2]. Once the artifact is accepted as a social fact it is maintained because of its legitimacy regardless of the evidence of its technical value. Although the implementation of telecentres is political process, it is important the telecentre should be politically driven because it is for the community. Associating a telecentre with partisan organization such as a political party or religious groups runs the risk of excluding non-members of those groups.

3 Methodology

There are five operational telecentres in five different districts and only two were visited to collect data. One telecentre is the oldest (almost three years) and is run by the local community. It is located in remote area at a trading centre. Another one is a new centre which is less than half a year and is run by the business community. The main data source was semi-structured interviews supplemented by direct observations and reading. The semi-structured interviews was chosen because they give more “room” for interviewee (than structured interview) to provide his or her own point of view of the research subject. This type of interview also helped to maintain consistency for topics covered with each interviewee because a number of people were involved as participants from those two telecentres. A direct observation was mainly on users of telecentres. Participants (interviewees) were an official from MACRA, telecentre staff and users (clients). Five full days were allocated to each telecentre to collect data. Interviews and direct observations were conducted simultaneously.

4 Findings

Malawi has started implementing various rural projects including ICTs for sustainable rural development (ISRDP) and ITU funded telecentre (ITU special initiative) projects. ISRDP project was initiated by the Government of Malawi which proposed to introduce four pilot multi-purpose telecentres that will demonstrate the applicability of ICT tools to rural economic and social activities. Telecentres are run by local communities with the support from MACRA for a certain period of time. One of beneficiaries from this project is Thyolo-Goliati telecentre.

ITU special initiative project involves telecentres being implemented through the ITU funding and supervised by MACRA. Telecentres are operated fully by business communities. It has planned to implement seven such telecentres to be supervised by MACRA in seven districts and one of them is Balaka Tele-Business Centre. This project involves also implementation of six telecentres to be supervised by Malawi Postal Corporation (MPC) and they will be housed in existing postal buildings.

4.1 Thyolo-Goliati Telecentre

Thyolo-Goliati telecentre is the oldest. It was established in March 2007 and officially launched in January 2009 by the Ministry of Information and Civic Education. It is run by a local community (a chief as the chairperson and representatives of businesses, schools and hospitals) with the support from MACRA. It has five employees (three female and two male staff) who are paid by MACRA and they received training in computing skills.

Goliati is a trading centre in Thyolo district in the southern region of Malawi. It is about forty kilometers from Blantyre city. The telecentre is located at the trading centre surrounded by primary and secondary schools, market, shops and selling point of milk from local farmers. Access to Goliati is very easy because all roads to the centre are good throughout the year and public transport system is also available. The telecentre serves six villages.

Thyolo-Goliati telecentre offers the following services: telephone, Internet and email, secretarial (typing and printing), fax, photocopying, scanning and computer training. These services are offered on Monday through Friday from 7:30 am to 5:00 pm and on Saturday from 7:30 am to 2:00 pm, except the library which opens only on Monday, Wednesday and Friday from 9:00 am to 3:00 pm. Library service is not part of the telecentre. It is managed by volunteers from the local community with support from National Initiative for Civic Education (NICE).

Among these services, some are more in demanded than others. For instance, photocopying and library services are requested most followed by secretarial services, scanning, laminating and computer training. Telephone, fax and Internet are not demanded much. Binding service is not offered yet because there is no machine. Apart from telephone services, the telecentre also sells airtime for two mobile networks (Zain and TNM). For the Internet, the main challenge is connectivity. Previously there was a connection by a certain private company but no profits were made and now the centre is negotiating with Malawi Telecommunications Limited (MTL) to bring the connection. MTL is the biggest telecommunications company in Malawi and is currently offering fiber connection. The centre provides also computer training on request to teachers, students and farmers.

The services are offered to different people such as farmers, students and teachers. It was found that male users are visiting the telecentre more frequently than female counterparts. Many women are very shy to visit the centre and instead they ask their young ones to do on their behalf. The users are able and willing to pay for the services.

4.2 Balaka Tele-Business Centre

This is one of telecentres that are run by business community and supervised by the Balaka District Commissioner (DC). It was opened in April 2010 but not yet officially launched. This centre is sponsored by ITU and MACRA. It opens Monday to Saturday from 7:00 am to 7:00 pm and Sunday from 2:00 pm to 4:00 pm. It is managed by two directors, a manageress and an office assistant. The manageress and office assistant are paid by the telecentre from monthly income.

Balaka telecentre is located in a main bus terminal at Balaka trading centre. It offers services like binding, computer training, Internet, photocopying, secretarial and phone bureau. Lamination and library services are not yet offered. Among these services computer training, Internet, photocopying and secretarial services are highly demanded as compared to binding and phone bureau.

Computer training and Internet are highly demanded. Computer training is mainly offered to youth and the centre has designed a training program for various groups. The Internet users include youth (school students), business community, churches (particularly pastors) and passengers in transit at the bus terminal. Balaka Tele-Business centre fails to meet the demand of computer training and Internet services due to lack of computers. Currently there are only four computers for telecentre users and one for secretarial service.

Photocopying and secretarial services are also highly demand. Primary and secondary schools are main customers for these services particularly during examination periods. The centre is given the business of typing and photocopying of examination papers. Constraint is the photocopier when it is not in use due to lack of toner. For instance, when I was visiting this centre the photocopier had not been in use for about four weeks. The toner is not locally found. The photocopier was donated by ITU through MACRA and it is a new brand in Malawi and no servicing companies have accessories for this photocopier.

Male customers visit the centre more frequently than female counterparts. Main telecentre users include school students, teachers, pastors from different churches and people waiting for buses in the bus terminal. The users are able and willing to pay for the services.

4.3 Available Facilities at Telecentres

As shown in Table 1 below, it has been observed that telecentres have modern ICT facilities which need a good care. Comparing the two telecentres, it seems that the telecentres are in better position to take care of the ICT facilities. For instance, computers at Balaka telecentre have UPS and updated antivirus. On the another hand it is almost three years since Thyolo-Goliati was established but its facilities are still in good conditions. The question still remains: *Are these technologies well utilized at the telecentres? What are opportunities and challenges that these telecentres have?*

4.4 Most and Least Utilised Services at Telecentres

Some services at telecentres are more demanded than others and this differs from one telecentre to another and it depends on several factors. The most demanded services are secretarial, photocopying, Internet, email, computer training and library. Some services are not offered at a particular time because required facilities are not available or there is a technical fault or problem. Sometimes it is because of unavailability of accessories. This reduces utilisation rate of concerned services. For instance, library service is not available at Balaka telecentre but it is highly required by the community members especially school students and teachers and as observed at Thyolo-Goliati telecentre where the most affected service is Internet and email due

Table 1. Available facilities at the telecentres

No	Facility	Thyolo-Goliati	Balaka
1	Computers	- 4 HP Compaq dx2300 microtower & 2 Dell dimension E520/3100 with average of 80GB HDD, 1014 MB RAM, 1.80 GHz speed for HP & 3.00 GHz for Dell - No UPS	- 5 Dell Vostro 200 with 240GB HDD, 1GB RAM and 2.53MHz speed - 650 VA APC UPS on all machines
2	Software	- Windows XP and Vista - An outdated antivirus	- Windows Vista - Updated antivirus on all machines
3	Printers	- Canon LBP 5100 i-Sensys - HP LaserJet 3050	- HP Colour LaserJet CP1515n
4	Fax Machines	- Sharp FO-3150 laser facsimile - HP LaserJet 3050	- Canon i-sensys FAX –L140
5	Copier	- Canon iR 2016	- Canon Laser Base MF6530
6	Laminator	- Fuji Lamipacker Cubic	- <i>Not available</i>
7	Phones	- MTL Phones (Wireless) - HP LaserJet 3050	- MTL Phones (Wireless)
8	Binder	- <i>Not available</i>	- CombBind C55
9	Paper cutter	- <i>Not available</i>	- REXEL SmartCut EasyBlade
10	Internet	- <i>No connection</i>	- Good and stable connection
11	Library	- Books, Newspapers, Television and Radio	- <i>Not available</i>
12	Scanner	- HP LaserJet 3050	- Canon Laser Base MF6530
13	Room	- Large enough - Well air-conditioned	- Large enough - Well air-conditioned

to poor connection. This service is highly demanded at Goliati particularly by school students, teachers and other community members.

The least utilized services are scanning and binding at both telecentres. At Thyolo-Goliati telephones are in little demand and at Balaka telecentre the telephone is no longer requested for by telecentre users. It can be like this because of a fast growth of mobile phone usage by local community members. They have no need to move long distances to look for telephones to make calls. They use their mobiles to communicate with their relatives and friends. This can be evidenced at Thyolo-Goliati telecentre where it sells airtime units for mobile phones. The centre has realized that it can generate income from this business because most of its customers use mobile phones.

5 Opportunities and Challenges on Utilisation of ICTs

Government of Malawi (GoM) is very committed to the establishment of telecentres. It provides technical and financial support to a particular telecentre for a certain period of time until it finds out that the telecentre is able to sustain itself. For instance, since establishment of Thyolo-Goliati telecentre in 2007 GoM, through MACRA, has

been paying salaries to the telecentre staff and also donated ICT equipment and it is responsible for maintenance. Even telecentres that are being run by business communities get some kind of support from MACRA. Balaka tele-business centre received ICT equipment and facilities from ITU through MACRA and MACRA is responsible for maintenance of these facilities for a year.

Even local communities are ready to manage these telecentres because they benefit from them such as employment as commented by the manageress of Thyolo-Goliati telecentre. All telecentre staff members are from within local communities and even some members are volunteers like in the library at Thyolo-Goliati telecentre. This means that there is a commitment from local communities which shows appreciation and ownership of these facilities.

Some organizations, local and international, give support to telecentres in Malawi. For instance, ITU provides support to some telecentres that are run by business communities and Malawi Telecommunications Limited (MTL) also provides support on Internet connections. Even Electricity Supply Commission of Malawi (ESCOM) is willing to assist telecentres in terms of power supply in the sense that sometimes telecentres negotiate with ESCOM not to switch off electricity due to a "load shading" in an area where a concerned telecentre is located especially when there are some functions that need electricity like the computer training.

There is also a high demand of telecentre services in rural communities which need the use of ICT tools. Primary and secondary schools, farmers, business community and individuals are willing to pay for the services because nowadays they do not travel long distance to get these services. For example, before the establishment of Thyolo-Goliati people were to travel to Blantyre (forty kilometers plus) for just photocopying and secretarial services.

Accessibility is also one of opportunities because telecentres are located to meeting points where people of all sorts of life come to conduct a variety of businesses. They are located close to schools, markets, bus terminals, shops, and so on which makes people not to travel long distances.

Telecentre staff members are equipped with necessary ICT skills that help them to handle the demand of services. They were trained how to use different ICT facilities. But it has been observed that they lack skills in basic computer diagnosis and minor maintenance. They always refer technical problems to MACRA and sometimes it takes time for the machine to be returned. Unavailability of facilities affects negatively their utilisation.

The telecentre staff members also require skills in finance management (particularly bookkeeping), marketing and office management. For instance, at Thyolo-Goliati telecentre computers are not well utilized because they fail to market computer training while their colleagues in Balaka have special computer training programs for school students and other individuals on weekly basis.

Another important challenge is the type of facilities and how locally they can be supported. It seems that in some cases donated equipment to telecentres is very new in Malawi and it is very difficult to maintain them in terms of accessories and technical expertise. At Balaka tele-business centre there is a copier whose toner is scarce in Malawi and even local copier dealers are failing to provide. It has been unusable for some weeks. It can be important to consider the local environment and identify ICT tools that can be easily maintained so that they benefit the local communities.

Some ICT facilities are no longer useful in telecentres due to fast growth of technology particularly cell phones (mobiles). Price of cell phones has gone down in Malawi which makes people even in rural areas to have them. This has affected the utilisation of phone bureaus at telecentres. Nowadays people do not value the phone bureaus and even fax facilities. They communicate with their friends and relatives through their mobiles and for sending documents they scan them and send as email attachments. They feel easier to use mobiles and Internet than phone bureau and fax.

6 Conclusion

Telecentres have provided universal access to basic ICT services in reasonable walking distances by establishing them in strategically located positions. Most required services are photocopying, scanning, computer training, Internet and email, secretarial services and library. It will be very useful to make sure each and every telecentre has got these services. Time between planning and implementation of telecentres is long which makes some services not to be useful as planned due to rapid growing of technology as observed in the phone bureau service. Needs analysis and revision of those needs are very important to conduct so that telecentres get ICT tools that will be fully utilized and at the end they benefit local communities.

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