

Access to and Use of Multipurpose Community Telecentres for Secondary School Students in Sengerema, Tanzania

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Abstract

This study examined the extent to which secondary school students access and use Multipurpose Community Telecentre (MCT) resources and services as well as factors which promote or constrain access to and use of MCT resources and services for education requirements among secondary school students in Tanzania. A quantitative sample of 140 students from four secondary schools in Sengerema was chosen. In addition, four secondary school teachers and two MCT staff were interviewed as key informants. The study findings show that MCTs are endowed with resources and services essential for secondary school students' educational requirements. However, most of the learners do not access and use the MCTs for various reasons. Distance from school/home, students' lack of awareness of resources and services provided by Sengerema MCT, lack of awareness of the existence of Sengerema MCT and unaffordable prices for accessing and use of MCT resources and services are some of the factors constraining students' access to MCTs. The study recommends the transformation of ICT policy and regulations to promote a multiplicity of MCTs and transform the existing ones into modern centres with distance learning platforms as well as enough resources for secondary school students. MCTs management invests in programmes to increase awareness among secondary school students on the existence of MCTs and the available resources and services. The government should also give high priority to the advancement of digital literacy training skills for secondary school students in rural areas. This will enhance their ability to use digital technology to access and use MCT resources and services.

Keywords: Community Telecentre, Information Resources, Information Access, Information Use, Information Service

Introduction

Multipurpose Community Telecentres (MCTs) are important platforms for the dissemination of information resources and services, which contribute to access to and use of information to meet the education requirements of students at various levels. Lwoga and Chigona (2020) reveal that MCTs facilitate access to computers, the internet and other digital technologies that enable people to gather information, create, learn and communicate with others. The International Telecommunication Union (2010) explains further that Multipurpose Community Telecentres projects bring telephone, fax, internet, e-mail and, in some cases, distance learning and telemedicine to remote villages around the world.

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MCTs play a vital role in providing the internet which facilitates the daily information needs of the people in both the developed and developing worlds. According to The Statista report (2020), a good number of people (about 4.6 billion) globally are active internet users who depend on the internet for their daily information needs, which are to educate, entertain and inform. The internet is one of the most important means of communication that has promoted access to information among citizens in both urban and rural areas due to its multimedia nature.

For secondary school students, MCTs are important public places where they can access necessary information through the internet for their educational achievement. Mporu and Chikati (2013) reveal that MCTs can link thousands of students and teachers in secondary schools in developing countries with their counterparts in industrialized countries and elsewhere, for collaborative research, teaching and learning projects.

In Tanzania, the 2007 National ICT Policy for Basic Education recognizes the role of ICT in the educational achievement of the students, giving it a high priority for the educational achievements of secondary school students. The MCT projects are important initiatives that can support the implementation of the policy. It is through MCTs that secondary school students, especially in rural areas, can easily access and use ICT for their education requirements. Acknowledging the importance of MCTs, Tanzania has established several Centres, especially in rural areas, in the last two decades. We acknowledge existence of previous studies, however, they do not show whether secondary school students accessed or used these MCTs for education requirements. Previous studies such as Tanzania Communication Regulatory Authority (2011) and Malek, Ahmad and Awang (2014) have established that people in rural areas use Multipurpose Community Telecentres for educational purposes. Lwoga and Chigona (2020) have shown that some women accessed information on disease symptoms and treatment from the internet through Telecentres while other women used the internet through MCTs to search for education opportunities. These studies, however, did not specifically focus on secondary school students' access to and use of MCTs for education requirements.

This study is designed to assess secondary school students' access to and use of MCTs for their educational requirements in Sengerema District, Mwanza Region, Tanzania. Specifically, the study was guided by the following research questions:

- What are the resources and services provided by the Sengerema Multipurpose Community Telecentre to secondary school students?
- What extent do secondary school students access and use resources and services provided by the Sengerema Multipurpose Community Telecentre?
- What are the factors that influence access to and use of Multipurpose Community Telecentres among secondary school students?

Literature review

Global overview of MCTs

The development of MCTs in the 1990s was mainly influenced by two factors - the growth of ICT and especially internet access and use and the widening of the digital divide in society. In the 1980s the internet was mostly used for research and academic purposes. However, in the 1990s its use went in for business, commerce, government, schools, and overall general use. Naughton (2016) reveals that from the early 1990s, the internet penetrated mainstream society. The internet is currently a necessary service and is in schools, colleges, offices, governments, aviation, industries, businesses, homes, and hospitals to mention but a few. The internet can generally be described as one of the most important services that people cannot function without.

However, the penetration of the internet in the 1990s was mostly in urban areas, leaving behind most rural people uncovered. This state of affairs perpetuated the urban-rural digital divide. As a response to this situation, the International Telecommunication Union (ITU) came up with a pilot project to establish the Multipurpose Community Telecentres mostly in Asia and Africa in the 1990s. These were aimed at bridging the existing digital divide not only between urban and rural settings but also between the developed and developing countries which lagged in terms of ICT development. Since then, most MCTs have been established in many countries playing the roles to provide internet services, email, basic computer training, telemedicine, secretarial services, telephone, fax and in some places community radio stations. According to Furuholt and Saebo (2018), the first step in the direction of bridging the digital divide in a country is to provide access to the internet in rural areas. According to their study, radio, an old widespread technology, is still the most important information disseminator in rural Africa. They also observe that based on the interaction between the internet and ICT, mobile phones and radio are increasingly becoming important in bridging the digital divide, especially in supporting formal and non-formal education.

In Sri Lanka, for instance, MCTs have played a big role in providing ICT services to enhance formal, non-formal and informal education. This was so even though ICT facilities were not among the major challenges faced by Sri Lanka schools, especially in urban areas. MCTs came to address the major challenges of accessibility and use of ICT facilities. According to Mendes, Tuijnman and Young (2003), despite most secondary schools in Sri Lanka having ICT facilities, their accessibility was hampered by the fact that they were open only during school hours; and post-secondary school institutions made ICT accessible only to their students. On the other hand, high fees charged by private training institutions for the community to access ICT facilities constrained their accessibility. The existing public institutions lacked ICT training for the millions of poor and rural residents. This was one of the reasons for development partners such as the World Bank, ITU, United Nations Educational, Scientific and Cultural Organization (UNESCO), and local NGOs to intervene with the establishment of MCTs in rural areas to increase internet access and training on ICTs for the hard-to-reach communities. One of the objectives of MCTs establishment was to support non-formal and informal learning to increase usage of ICT in the formal education sector.

The World Bank report (2005) says that in Indonesia, the MCTs, which are also known as ICT Centres, Community Teleservice Centres or Multipurpose Teleservice Centres, were mostly installed to enable the educational community's understanding of ICT. They were also established to empower educational institutions to effectively utilize information, promote communication technology for education and training purposes, and serve as resources and information centres for schools, the government's bureaucracy, industry and the public.

MCTs in Africa

The MCTs projects in Africa have their historical background from the 1990s through ITU and other development partners such as UNESCO, to contain the widening urban-rural digital divide. Mbangala and Samzugi (2014) reveal that the first MCT was established in Nakaseke, Uganda in 1996. The MCTs were established with the major purpose to promote education in rural areas in primary schools, secondary schools, universities and a regional primary teachers' college. None of these institutions had ICT resources or resource centres, prompting them to be entirely dependent on the services of the MCTs.

Kapondera and Hart (2016) reveal that the Lupaso Multipurpose Community Telecentre in Malawi was established in 2012 to provide information resources and ICT services to different people. The users include farmers (54%) and small business owners (19%). Other users are students, teachers, extension officers, child protection workers and priests. The MCT provides resources and services relevant to secondary school students' education such as photocopying, borrowing books from the library and printing.

Both, the global and African literature, confirm the important role of MCTs in education as students can access ICT services, borrow books, photocopy materials, print and access educational radio or TV programmes.

MCTs in Tanzania

In Tanzania, the National Science and Technology Policy of 1996 provides strategies for the establishment of a mechanism for acquiring and managing science and technology information systems. The 2003 National ICT Policy which was a blueprint setting a clear road map for ICT development in the country, further enhanced the ICT development. According to the United Republic of Tanzania (2003a), the National ICT Policy envisages a Tanzania where there is a hub of ICT infrastructure and ICT solutions to enhance sustainable socio-economic development and accelerated poverty reduction, both nationally and globally.

The 2003 Tanzania Communication Regulatory Authority Act established the Authority which, among other duties, was to promote the availability of regulated ICT services to all consumers including the low-income, rural and disadvantaged consumers (United Republic of Tanzania, 2003b). On the other hand, the 2007 National ICT Policy for Basic Education recognizes the role of ICT in the education requirements of the students (United Republic of Tanzania, 2007). The policy calls for the government to give high priority to ICT to overcome challenges hindering the provision of quality education in Tanzania.

In the process of enhancing ICT accessibility in rural areas, Tanzania collaborated with other international development partners to establish MCTs. Lwoga and Chigona (2020) reported that the Tanzanian Government established the Sengerema Multipurpose Community Telecentre in 2001 with financial and technical support from multiple partners such as UNESCO, ITU, Tanzania Telecommunication Company, Tanzania Communication Regulatory Authority and the Commission for Science and Technology. The major purpose was to promote the integration of rural communities into the national and global information society.

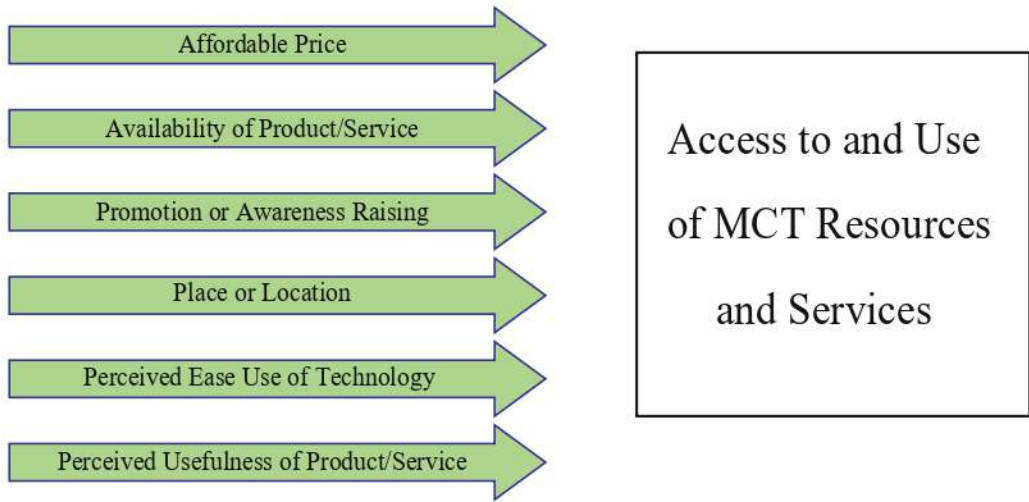
According to the Tanzania Communication Regulatory Authority (2011) report, the MCT provides internet services such as email, computer training, photocopying, printing and radio broadcasting and Sengerema institutions. To access these services, the students and residents have to pay for the provided course modules. The provision of services and resources for students as revealed in the literature, explains the roles that MCTs can play in enabling secondary school students to meet their educational requirements in Sengerema in particular and Tanzania in general. People of different levels of education use the Telecentres to avail of different information services whereas the largest group of users of the services provided by this Centre comprises students and service holders. The services and resources include internet surfing, email, ICT training, radio broadcasting, telemedicine, secretarial services, telephone, and fax services. Other MCTs in Tanzania were established at Lugoba, Mpwapwa, Ngara, Dakawa, Kilosa, Mtwara and Kasulu, to mention a few.

The theoretical framework of the study

This study was guided by the Marketing Mix concept and the Technology Acceptance Model. Previous researchers such as Jain et al. (1999), Thabit and Raewf (2018), Birkanlić, Garcia and Esteve (2019) studied how the combination of different marketing variables, tactics and strategies focusing on four elements (products, price, promotion and place or distribution) enhanced the marketing of goods and services. Other scholars including Ma and Liu (2005) and Deslonde and Becerra (2018) explained the relationship between technology acceptance and access to and use of information technology. This study, as shown below, links the marketing mix concept with the technology acceptance model to form a new model to assess secondary school students' access and use of MCT resources and services. The researchers uses two models from different disciplines due to the nature of the study, which depends on marketing techniques as well as acceptance of ICT technology for secondary school students to access and use MCT resources and services.

A combination of marketing mix elements such as product, price, promotion and place of distribution together with the perceived ease of use and usefulness of technology, guided the study's examination of the extent to which secondary school students accessed and used Sengerema MCT resources and services. The two concepts also guided the study to determine the factors which influence access to and use of Multipurpose Community Telecentre's resources and services among secondary school students as indicated in Figure 1.

Figure 1: Marketing Mix and Technology Acceptance concepts elements contributing to access to and use of MCT resources and services



Source: Conceptualized from Jain et al., 1999 and Deslonde & Becerra, 2018.

Research Methodology

Research design and approach

This study adopted a case study research design. A case study is an in-depth study of a particular research problem and it is often used to narrow down a very broad field of research into one or a few easily researchable fields (Yin, 2003). The case study research allows the researcher to describe “how” and “why” a phenomenon exists and its usefulness for testing whether a specific theory or model applies to phenomena in the real world (ibid, 2003). This study adopted a case study design which made it possible to select four secondary schools in Sengerema District. It dealt with a specific area which has the Multipurpose Community Telecentre where students accessed educational resources. It was used to assess on how secondary school students’ access to and use of MCT resources and services to meet their educational requirements.

Study population and sampling procedures

This study targeted a population of secondary school students from 13 years old and above who are independent enough to access and use MCT resources and services for their academic requirements. Based on the population of 4229 students in the four secondary schools which were studied in Sengerema, the study used the Cochran formula to calculate sample size with a 95% level of confidence, 5% margin of error and population proportion of 10.5% and obtained a sample of 140 respondents for this study.

The study used convenience sampling to select a sample of 140 student respondents who participated participated in the study. Respondents were conveniently selected during the days of the

interview among the population of four secondary schools in Sengerema. The study also reached six key informants (4 secondary school teachers and 2 Sengerema MCT staff) who provided more information based on their experiences on the subject being studied. Purposive sampling was used to select key informants. The purposive selection of secondary schools was to ensure the researcher selects relevant secondary schools with students who are likely users of Sengerema MCT resources and services.

Data collection methods and analysis

The study collected both quantitative and qualitative data. Quantitative data were collected through the use of questionnaires while qualitative data were collected using key informant interview guide. Questionnaire was used to collect data from secondary school students who provided data on the resources and services provided by Sengerema MCT to secondary school students, the extent to which secondary school students accessed and used those resources and services and factors which influence access to and use of MCTs among secondary school students. The study also used face to face interview with key informants to collect more detailed data from Sengerema MCT staff on the the resources and services offered by MCT. Data were collected in June, 2021. Descriptive analysis was used to analyze quantitative data while thematic analysis was used to analyze qualitative data.

Demographic characteristics of the respondents

Socio-demographic information of the respondents considered in this study was such as age, level of education, schools they attended and sex. These variables were important to measure their influence on the secondary school access and use of MCT resources and services. The findings on the demographic characteristics of respondents are presented in Table 1.

Table 1 shows that the majority of the respondents (77.1%) were aged between 14 – 17 years old and most of them were drawn from form one to form three. This is because form four, five and six students were doing internal examinations during the fieldwork and so the school management could not allow them to participate in the study to avoid disturbing them during the examinations. Only a few who voluntarily wanted to participate in this study because of their interests were included.

The table also shows that all 140 students responded to the questionnaire with 35 students from each secondary school. The respondents were drawn from four secondary schools namely Nyampulukano, Kilabela, Mwabaluhi and Malaga. The table further shows that the number of female students who participated in this study is slightly higher (54%) compared to males (46%). The number is higher in three secondary schools except for Mwaliga secondary school.

Table 1: Respondents' demographic characteristics

Characteristics	Frequency	Percent
Age groups (years)		
8-13	2	1.4
14-17	108	77.1
18-25	30	21.4
Level of Education		
Form one	45	32.1
Form two	42	30.0
Form three	31	22.1
Form four	9	6.4
Form five	6	4.3
Form six	7	5.0
Schools		
Nyampulukano	35	25.0
Mwabaluhi	35	25.0
Kilabela	35	25.0
Malaga	35	25.0
Sex		
Males	64	46
Female	76	54
Total	140	100

Source: Field Data 2021

Results

Resources and services provided by Sengerema Multipurpose Community Telecentre

The findings revealed that Sengerema MCT provides various resources to secondary school students to meet their educational requirements. Table 2 shows that computers connected to the internet comprised the biggest number of resources (20 computers), taking a 60.6% share of all resources provided by the Sengerema MCT. Other resources with shares in brackets are 4 printers (12.1% share), 3 scanners (9.1% share), 3 printers (9.1% share), 2 community radio studios (6.1% share) and 1 computer class (3% share).

Table 2: Resources at Sengerema MCT

Resource	Frequency	Percent
Computer	20	60.6
Scanner	3	9.1
Photocopier	3	9.1
Printer	4	12.1
Computer class	1	3.0
Community radio studio	2	6.1
Total	33	100.0

Source: Field Data 2021

The resources enable students to obtain printing services, internet services, basic computer training services, burning CDs for their education, making calls, sending and receiving emails and communication services through the community radio station.

However, it was revealed during the interview with staff that Sengerema MCT has a low capacity to offer basic computer training to the growing number of secondary school students in the district. It was further observed that the computer classroom at MCT was small with only 20 computers. The computer instructor at the MCT confirmed that the available computers were not enough during peak days leading to two or more students sharing one computer at a time. All of the interviewed staff revealed that Sengerema MCT also provides internet services mostly for students and public employees.

Moreover, the interviewed staff and the observation revealed that Sengerema MCT offered basic computer training to several people including secondary school students, especially during holidays. One respondent had this to say:

The basic computer training is an important service for most secondary school students from public schools as they lack computer labs. (Administrator)

Another staff noted the importance of MCT to secondary school students in Sengerema as it provides necessary ICT skills for their educational requirements. The respondent had this to say:

MCT is necessary as it offers an alternative option to cater for the growing number of students in the district whose training on computer skills is essential for their educational requirements. (ICT Trainer)

Students' access to and use of MCT resources and services

The students can access resources and services through physical visiting or distant platforms. The study revealed the kind of resources and services that students access and use through visiting or using distant platforms and the frequency of visiting the MCT. It also revealed whether it is easy or difficult to use the MCT resources and services.

Students Access to MCT resources and services through visiting

The findings revealed that some students accessed Sengerema MCT resources and services by visiting the centre. The students who participated in this study were asked to indicate whether they had or had not visited Sengerema MCT to access its resources and services. The findings show that a significant percent (32.9%) visited Sengerema MCT to access educational resources and services. These findings further show that students from Mwabaluhi secondary school, Nyampulukano secondary school, Mwaliga secondary school and Kilabela secondary school visited Sengerema MCT. However, 94 (67.1%) students in the surveyed schools had never visited the facility (see Table 3).

Table 3: School distribution of students visiting Sengerema MCT

School	Frequency	Percent
Mwabaluhi	22	15.7
Nyampulukano	11	7.9
Mwaliga	7	5.0
Kilabela	6	4.3
Never Visited	94	67.1
Total	140	100.0

Source: Field Data 2021

The students who visited Sengerema MCT went there to access and use various resources and services. The study findings indicate that students visited MCT to access resources and services related to basic computer training; resources and services related to online books, and photocopying services (see Table 4). In addition, students visited to obtain services and resources related to burning CDs for their education and printing services. Few respondents reported to obtain internet surfing services, making calls and send or receive emails. From these findings, it is revealed to a certain extent that secondary school students rely on Sengerema MCT for resources and services to meet their information needs for education activities.

Table 4: Services Obtained by students visiting Sengerema MCT

Resource/Service	Frequency	Percent
Basic computer training	13	9.3
Online books	13	9.3
Photocopying services	11	7.9
Burning CDs for their education	9	6.4
Printing service	7	5.0
Internet surfing service	5	3.6
Making calls	5	3.6
Sending and receiving emails	1	0.7

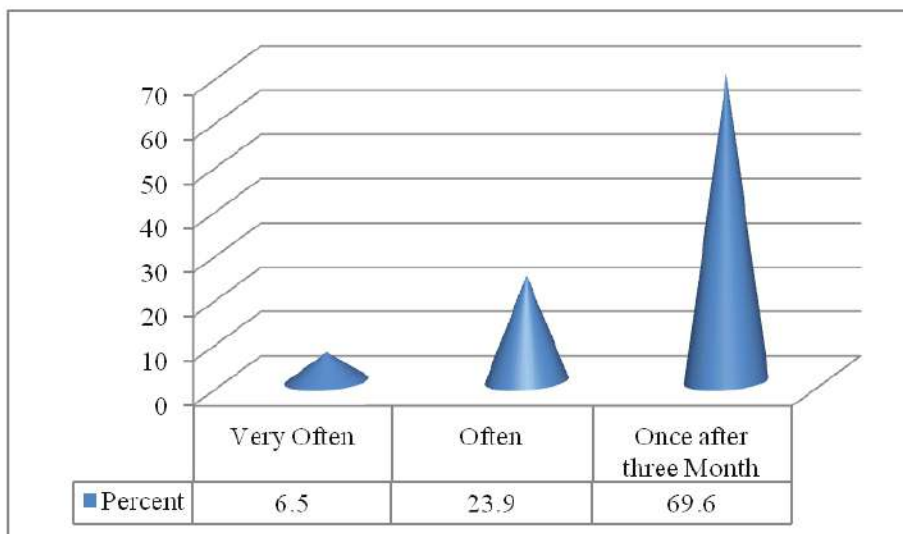
Source: Field Data 2021

The interview with the MCT management revealed that most students who visited MCT to access internet services were those who sought to join colleges and universities in and outside the country after finishing ordinary and advanced levels of education. The respondent at MCT had this to say:

Most students come to access and use Internet services at our MCT to download application forms and joining instructions before they join colleges or universities. They also make online applications when the process of joining colleges and universities is online-based. After applications, those who have been accepted use the MCT facilities to register for admission to colleges or universities. They also use the MCT to apply for loans from the Tanzania Students' Loan Board. (Administrator)

Further, the study sought to establish the frequency of secondary school students' visits to Sengerema MCT to access and use resources and services for educational requirements. Three variables, namely very often, often and once after three months were studied to measure the frequency of secondary students' visits to Sengerema MCT. Figure 2 illustrates the frequencies of secondary school students' visits to Sengerema MCT.

Figure 2: Frequency of Students' Access and Use of Sengerema MCT



Source: Field Data 2021

The findings, as shown in Figure 2, indicate that 69.6% visited the MCT once after three months, they often visited MCT in three months and others visited MCT to obtain resources and services for their educational requirements very often. The findings in Figure 2 above show that the frequency of visits to MCT is very low as most students visited Sengerema MCT once after three months. The findings reveal that the majority of the students visited MCT during holidays or any other time when they were free from school activities. The students who participated in this study said they did not have enough time to visit MCT because they were occupied with school activities. During the interview, MCT staff also confirmed that many students visited Sengerema

researcher also observed that very few customers – about four clients, were using MCT resources and services, but none were students. Overall, these findings suggest that most students appear to visit Sengerema MCT during holidays.

Students access resources and services through distance platforms

Apart from resources and services accessed through visiting Sengerema MCT, the study revealed that most secondary school students in Sengerema also accessed MCT educational resources through listening to radio programs. The findings indicate students tuned radio to listen to various subjects such religious radio programs to get information related to religious subjects, environmental radio programs to obtain information on environmental subjects and listened to radio stations to obtain information on the History subject. Meanwhile, others tuned in to the radio station to obtain information on the Geography subject and others on the Kiswahili subject. Other respondents indicated that tuned in to the radio station to access information on ICT subjects, Biology subject, English subject, Chemistry subject, Mathematics subjects and French subject (Table 5).

Table 5 : Education Information Students Access from Sengerema MCT Radio

Information	Number of Respondents	Percent
English Subject	13	9.3
Kiswahili Subject	46	32.9
Geography Subject	59	42.1
History Subject	93	66.4
Mathematics Subject	4	2.9
ICT Subject	36	25.7
Biology Subject	16	11.4
Chemistry Subject	6	4.3
Physics Subject	5	3.6
Religion Subject	107	76.4
Environment Subject	99	70.7
French Subject	4	2.9
Others	11	7.9

Source: Field Data 2021

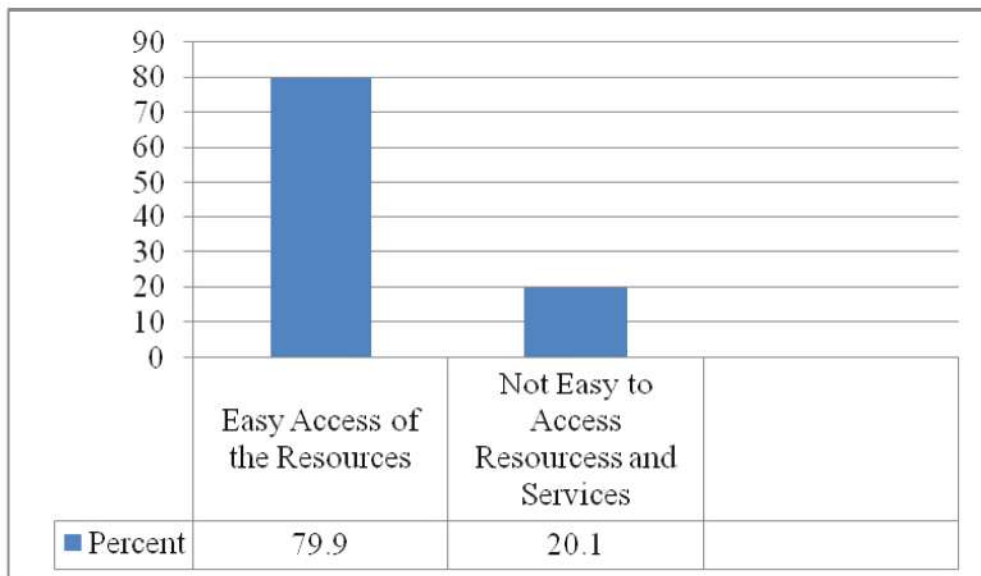
Table 5 also suggests that the Sengerema radio station provides more convenient access to MCT among students than visiting the premises of the MCT. As a result, the majority of students prefer to listen to radio programs more than visit Sengerema MCT premises. These findings are in line with those from the French Marketing Research Company, *Institut Publique de Sondage d’Opinion Secteur* (IPSOS Tanzania Limited) (2019) “Strengthening Community Radio Audience Survey and Feedback Mechanism”, which concluded that Sengerema radio station was one of the most listened to in rural Tanzania. This is because it has a clear frequency and it is easily accessible, it has good religious programs, it has good educative programs and it gives most information on local content. According to the IPSOS Tanzania Limited report, the

Sengerema radio station is one of the community radios in Tanzania with the highest reach in their districts. Sengerema radio station has a reach of 79.5% in its domicile district.

Easy access and use of MCT resources and services

The study assessed easy access to and use of Sengerema MCT resources and services by secondary school students. The findings in Figure 3 disclose that it was easy for the majority of the students to access and use Sengerema MCT resources and content. They show that 111 (79.9%) students felt it was easy to use the resources from MCT while only 28 (20.1%) said it was not easy to use MCT resources and services.

Figure 3: Easy Access and Use of MCT Resources and Services



Source : Field Data 2021

The respondents further elaborated that easy access to MCT resources and services was largely attributed to Sengerema MCT radio content, which does not require students to visit the Sengerema MCT office. Currently, most people can access and use radio content through their cheap mobile phones. According to the IPSOS Tanzania Limited report, 84% of radio listeners accessed content through mobile phones. Moreover, the consumption of MCT radio content by the majority of students might have been influenced by the fact that it is affordable, almost free of charge, and there are no efforts needed to listen to the radio programs. These observations support the Technology Acceptance Model scholars (Deslonde and Becerra, 2018) who argue that individuals are more likely to accept and use new technology if they perceive the technology as easy to use. The perceived ease of use is determined when a user believes that using a system is free of effort.

Factors constraining access and use of MCTs

The study findings revealed further that some students never visited the Sengerema Multipurpose Community Telecentre for various reasons. Table 6 shows that a high number of students 107 (76.4%) accessed MCT resources and services through distant platforms, notably radio programs, and therefore did not see the need to visit MCT. The findings reveal further that students lacked enough time to visit MCT, others did not visit because they could not afford the MCT price and others due to long distance from their respective schools/homes. The findings further indicate that others did not visit MCT because they were not aware of resources and services provided by the MCT and other respondents were not aware of the existence of MCT. Meanwhile, few respondents did not visit MCT because they were discouraged by the unwelcoming MCT staff.

Table 6: Reasons for Never Visiting Sengerema MCT

Reason	Frequency	Per cent
Could access MCT resources through distance platforms such as radio programs	107	76.4
Long distance from schools/homes	26	18.6
Not enough time	25	17.9
Unaffordable price	17	12.1
Unaware of existing resources from MCT	13	9.3
Unaware of MCT's existence	8	5.7
Unaware of the location of MCT	8	5.7
Unwelcoming staff	2	1.4

Source: Field Data 2021

The findings regarding the reasons for not visiting the MCT are elaborated by key informants who participated in this study. One of the respondents had this to say:

Computer literacy for these students is very low. Most students hail from rural areas where they have never seen a smartphone let alone a computer. When they come to school, the computer subject is not taught, no computer labs and school regulations do not allow smartphones and other devices, which can be used to receive internet. So students do not have a starting point, they are very limited and are not motivated to access and use Telecentre resources and services. (Teacher)

The above comments suggest that apart from long distance from homes/schools, lack of enough time to visit MCT, unaffordable prices, lack of awareness, and computer illiteracy among the students discourage them from visiting Sengerema MCT to access and use its resources and services because most of them are provided through digital platforms. As a result, the majority of the students have resorted to accessing MCT at a distant platform through radio programs.

Despite some schools providing students with alternative access to computer facilities in the school laboratory, only a limited number of students had access to those facilities. Thus, the

school computer laboratories cannot provide alternative access to ICT facilities in secondary schools in Tanzania. These findings also reveal that poorly equipped school computer laboratories are not adequate to meet the ICT needs of the students. One of the interviewed respondents had this to say:

Almost 90% of students in my school come from rural areas where they have never interacted with technology. Even after joining the school, they do not have that option of interacting with technology, as most rural public schools do not have computer labs for students. The schools do not have even basic computer training. Schools are supposed to motivate students by putting in place a computer training so that they have ICT skills base. (Teacher)

The narration above implies that rural secondary school students have limited access to computer facilities, which constrains them from obtaining the resources and services offered by MCT using ICT technologies. These findings align with the study by Malekani (2018) which observed poor ICT infrastructure in rural government secondary schools in Tanzania. The ICT trainer had this to say:

This is the time of Covid-19 when students are required to acquire knowledge through ICT such as accessing online library for self-learning. However, this is still a nightmare for rural students. The rural-urban digital divide is still vivid in Tanzania. In urban areas, secondary school students interact directly with technology through smartphones, tablets, laptops and computers. But most secondary students in rural areas only understand what a computer is, but have never used it. (ICT Trainer)

The foregoing arguments confirm the inadequacy of ICT facilities offered by rural secondary schools in Tanzania. In addition, they revealed that secondary schools do not provide computer training to students. Failure of schools to provide computer training to students constrains the use of computers from within the schools and those provided by MCT.

Discussion

Tanzania has established several Multipurpose Community Telecentres, especially in rural areas in the last two decades. These MCTs are equipped with resources and services suitable for secondary school students' education requirements. However, secondary school students do not adequately access and use MCT resources and services due to varied factors, one of them being unaffordable prices. Established in 2001, Sengerema MCT is one of the oldest centres in the district, providing internet, printing services and other ICT and secretarial services. However, only a small number of secondary school students visited to access and use MCT resources and services partly due to unaffordable prices as is explained by Thabit and Raewf (2018) who underscore that the price is a motivating or discouraging factor to consume certain products or services.

Thabit and Raewf (ibid) argue that pricing is a very critical decision zone as it has an impact on the need for the product or service. Fixing a special and affordable price for secondary school students can increase the number of these learners to access and use the Sengerema MCT resources and services. Deslonde and Becerra (2018) argue further that individuals are more

likely to accept and use new technology if they perceive the technology as easy to use. As pointed out above, the perceived ease of use is determined when a user believes that using a system is free of effort. The higher price charged by Sengerema MCT might mean additional efforts by students to obtain money before approaching Sengerema MCT to access and use its resources. In the students' recommendations to improve accessibility and usefulness of Sengerema MCT for secondary school students, they said that MCT should think of having free of charge or subsidized resources and services for secondary school students to contribute towards promoting secondary school education in Sengerema District. Their views align with other previous studies such as Tanzania Communication Regulatory Authority (2011) report which recommended to the Government and other stakeholders to establish MCTs for public access, fixing affordable or free-of-charge services for their citizens' access to various information resources.

Another factor constraining secondary students' access and use of Sengerema MCT is lack of awareness. Sengerema MCT takes no effort to promote the resources and services its potential clients. The interviews with Sengerema MCT management reveals that secondary school students only know the existence of the radio stations because of the programs produced for them. Birkanlić, Garcia and Esteve (2019) argue that the promotion of products and services through advertising, public relations, publicity and direct marketing is essential for raising the people's awareness to accept the product or service. The findings reveal that some students have not accessed and used resources and services from Sengerema MCT because they are not aware of its resources and services. Other students went further to say that, they were not aware of the existence of the Sengerema MCT. The findings clearly show that secondary school students need resources and services from Sengerema MCT. However, due to a lack of promotion to raise awareness about the existence of MCT and the resources and services provided, most secondary school students are not aware of MCT or have a negative perception of the importance of resources and services for secondary school students' requirements. The study findings can be a starting point for the Sengerema MCT to link with secondary schools through awareness-raising events so that these learners can understand its existence, resources and services offered.

According to the findings, the accessibility and use of MCT resources and services can also be affected by the location of the Centre. Despite its central location, accessibility by secondary school students varies depending on the distance from school/home to the MCT. The study shows that the four secondary schools that were studied have different distances from the MCT and this has influenced the extent to which students access Sengerema MCT resources and services for their education. It can be argued that the distance from Sengerema MCT is one of the factors that limit students' access and use of resources and services for their educational requirements. There are no concerted efforts by Sengerema MCT to reach out to the students. The only means used to reach students are Sengerema Community Radio journalists who normally conduct some visits to schools when they need to report certain issues or when they produce an education radio programme called *Jarida la Elimu*. The radio programme has made Sengerema Community Radio station famous among secondary school students, but this is not enough to make some secondary school students access and use other resources and services provided by the MCT.

Conclusion and Recommendations

Despite MCTs resources and services being essential for secondary school students' educational requirements, most of these learners do not access and use the Multipurpose Community Telecentre's resources and services for their educational requirements due to several factors. The factors include the distance from school/home, students' lack of awareness of resources and services provided by Sengerema MCT, lack of awareness of the existence of Sengerema MCT and unaffordable prices.

Based on the findings, MCT provides few resources and services required by secondary school students to meet their educational needs but only a few students access and use MCT resources and services. To increase the number of students benefiting from the Centre, Sengerema MCT is supposed to increase resources and services such as having a Resource Centre with enough materials for secondary school students. The materials can include books, journals, a database of past papers, computers, tablets and smartphones and can think of how to reach secondary school students with ICT training as most of them lack digital literacy. This action is for the advantage of both parts – secondary school students who can benefit from MCT materials for their educational requirements and the MCT sustainability through charging minimal fees to students accessing and using MCT resources and services. The MCT should also establish awareness-raising programmes for secondary school students' understanding of their existence, resources and services provided by the Centre. This will increase the students' understanding of the location and the resources and services offered.

The government, in collaboration with Development Partners such as UNESCO and the World Bank, can strategize to improve ICT policy and regulations to support a multiplicity of MCTs in Tanzania and transform them into modern centres with distance learning platforms such as online libraries containing enough resources for secondary school students. This will enhance secondary schools' accessibility to the resources and services essential for their educational achievements.

The government and other partners should emphasize digital literacy skills for secondary school students in rural areas, most of whom are left behind in the digital information age. This will change their perceptions of the perceived usefulness of technology and enhance their ability to use digital technology to access and use of MCT resources and services.

Secondary schools in rural areas, most of which do not have enough ICT tools for students, should seize the opportunity of the existing MCTs to design flexible routines for their students to visit and access MCT resources and services for their education requirements.

Students, on the other side, should adapt to the culture of visiting MCTs available in their closest locations to access and use resources and services to meet their educational requirements. Doing so will help them exploit the learning opportunities that MCTs provide for their educational requirements.

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