

# **Are the Print Materials at The Open University of Tanzania (OUT) Replaceable? Analysis of its use Opportunities, Challenges and Future Prospects**

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**The Open University of Tanzania (OUT)**

## **ABSTRACT**

*This paper examines the opportunities, challenges and future prospects towards the phasing out of print study materials at OUT (The Open University of Tanzania). During 2011/12 academic year, the hard copies of study materials at OUT was replaced by soft copies. It is envisaged that e-learning facilitates the teaching-learning process with an array of channels and technologies, and has the potential to revolutionise instructional practices in educational institutions in both developed and developing countries. The study used both quantitative and qualitative approaches, to find out opportunities, challenges as well as future prospects as a result of phasing out print study materials at OUT. Ninety OUT students were sampled where by twenty of them were subjected to interview and the remaining seventy were administered to questionnaires. The results showed that the students were aware of the ICT (Information and Communication Technologies) potentialities in teaching and learning hence willing to utilize the technology. However, some of the students were faced by challenges such as unreliable electricity particularly in rural areas, poor connectivity, inadequate ICT instruments such as computers to facilitate their learning and unreliable learner support services to mention a few. It is recommended that e-learning practices is important to be integrated into the pedagogical practices of OUT but print materials also remain relevant to support teaching and learning process to the distant learners. For that case, students should be facilitated with soft as well as hard copies to assist them in their academic career.*

**Keywords:** *e-learning; Open and Distance Education; Broadcasting; ICT and Correspondence Education.*

## **INTRODUCTION**

### **Background to the Problem**

The Open University of Tanzania was established by an Act of Parliament No. 17 of 1992 which has now been replaced by The OUT Charter, effectively from January 1st, 2007, which is in line with the University Act No.7 of 2005. The Open University of Tanzania is an open and distance learning institution offering certificates, diplomas, degrees and postgraduate courses. Educational delivery is attained through various means of communication such as broadcasting, telecasting, Information and Communication Technologies (ICT), correspondence, enhanced face to face, seminars and enhanced contact programmes (OUT, 2014). In Open and Distance Education learners are separated in time and space from their teachers. During recent years, technological advancement has necessitated the use of ICT in distance education teaching and learning process.

Tanzania Commission for Universities (TCU) found that the pace of development of technology in Tanzania is overwhelming and therefore a need of putting in place a mechanism to address some of the outlined threats. What was realized to be the stake is how under the present arrangement the government of Tanzania in collaboration with other stakeholders can control and monitor the quality of ODL programmes and particularly the e-qualifications (TCU, 2014). It was found that lack of explicit, overall national policy and poor harmonization of initiatives, have led to random adoption of different systems and standards in different sectors. The TCU study suggested that the infrastructure have to be well developed for modern distance education based on the internet and the computers. In addition, the issue of affordability of the programmes delivered using modern ICT was needed to be investigated further. OUT offers distance education using mixed mode of delivery via print, audio, computer network, face to face sessions, study groups tutorials, guidance and counselling, including study skills advisory services for students with learning disabilities. Students are assessed by means of Timed Tests (online quiz) and Annual Examinations. Despite the technological advancement, the available students' enrolment and completion data raise serious questions on equity, quality and sustainability of ODL programmes in Tanzania (Komba, 2007). Numerous studies suggest the use of hybrid ODL delivery methods as

there are advantages in combining media, such as print, broadcasting and face to face support. The hybrid ODL delivery methods can provide several combinations such as; combination of print-based materials with CD, combination of print-materials with online materials, combination of print-based with face to face sessions, combination of print-based with teleconferencing and combination of print-based with m-learning and other ICTs (Maritim & Mushi, 2012). However, we often fall back on just one of the media (Perraton, 2004). Other scholars argue that the primary mode of delivery of distance learning that has been described as reliable, sustainable and widely used other than online learning particularly in developing countries is print (Leary & Berge, 2006; Islam et al., 2006). Despite the emergence of the new technology, the print media is still a strong force to reckon with in the multimedia landscape (Udenze, 2018). The print media flourished in the pre-new media era when access to new electronic technologies was limited. With the advent of these technologies, the dynamics of information access has changed significantly (Rajendran & Thesinghraj, 2014).

However, in developing countries, online teaching is dictated by factors such as poor infrastructure, limited technical support, high costs and unreliable internet connectivity (Adam, 2003; Citizen, 2011). Swarts and Wachira (2010) conducted a situational analysis in Tanzania and found that ICT in the higher education sector is challenged by issues of access, quality and relevance for which ICT could play an important role. The arguments reveal that the use of ICT in ODL is critical for research. This study therefore intends to fill the gap by finding out the available opportunities, challenges and future prospects of phasing out print materials at OUT. The major research questions for the study were as follows: 1. What are the available opportunities of phasing out the print materials in education provision at OUT? 2. What are the available challenges of phasing out the print materials in education provision at OUT? 3. What are the suggestions for the future prospects of education provision at OUT.

### **Literature Review and Theoretical Underpinnings**

Most of the digital technologies have characteristics of being networkable, dense, compressible, interactive and impartial. Examples are the internet, websites, computer multimedia, CD-ROMs and DVDs (Agboola, 2014). In recent times the use of ICT in teaching and learning has been enhanced at OUT. CDs containing soft copies of study

materials, course outlines and other resources have been distributed to regional centres from faculties and institutes. Students were advised to use course outlines to search for materials from the many electronic resources found in different websites including the OUT library which has many e-resources. Additionally, CD based study materials were also distributed to the centres for students' requirements. The OUT management in the orientation speech to its students emphasizes that all students must ensure that they are ICT literate within a short time and where the region has student and/or community laboratories; they should register and participate in the special subsidized ICT basic training courses for students (Mbwette, 2014). On the other hand, OUTSO (Open University of Tanzania Students Organisation) has since 2012/13 been working with a number of potential providers of cheap laptops and or tablets to facilitate the distribution of laptops among the students.

In addition, students were instructed that CDs as well as other e-resources will be accessible through the Library System (LIBMIS) as well as the ICT infrastructures and services where at all regional centres wireless access has been installed. Since the dawn of technology, the continued use of ICT has created the path for e- learning for OUT. Starting 2011/12 academic year, the number of hard copies are hardly produced or not produced at all. The study materials for which OUT have soft copies of the same have been distributed to the regional centres, coordination centres and some selected remote examination centres. All subjects with soft copy of materials available in OER mode from ACDE partners, AVU and TESSA are readily available from the AVU and OUT websites. Some more e-resources are freely available from MIT and Harvard Universities as well as COL and UNESCO. In addition, each OUT student have MOODLE account where registered courses can be accessible. Through MOODLE the student can also participate in online discussion as well as online assignments. Theoretical framework is the basis upon which any scholarly work is built on. This study is anchored on constructivism learning theory. The theory states that technologies shape how individuals in a learning environment think, feel and act as we move from one technological age to another. Enhanced with new technology, learning process also will include cooperation and communication within the classroom environment (Sharma, 2014) and learning will never be the same due to the advance in technology. It

is believed that, by introducing students in different ICT tools they are equipped with important technological skills they will need to function in a modern society. The theory of constructivism suggests that learners construct knowledge out of their experiences (Dođru & Kalender, 2007). The use of ICT need to have carefully consideration to ensure learning rather than instruction is reflected allowing students to construct their own knowledge. Furthermore, the study succinctly reveals an emerging paradigm in education convergence discovering the new education converging from the traditional education methodology. However, the new paradigm also need the traditional paradigm to survive. Therefore, with the continuous development in technology, it becomes safe to argue that no paradigm will totally triumph over the other.

## **Methodology**

### **Design of the Study**

The study used descriptive research design to examine the opportunities, challenges and future prospects of OUT education provision after the phasing out of print materials. The descriptive design was important in this study as it allowed inventive description of a phenomenon under the study (Adeyinka et al., 2007). Through descriptive design the researcher was able to collect information by administering interviews and questionnaires to a sample of individuals (Orodho, 2003). Participants were requested about their consent to participate in the study after the researcher explained to them what the study was about. The researcher also assured the respondents about their confidentiality. Twenty students were subjected to interview where as other seventy remaining respondents were administered with the close ended questionnaires. The administered questionnaires had items that tapped information from research questions. Through the close ended questionnaires, it was easy to administer and analyze the data. Clarifications were provided especially to the students' respondents where they did not understand how to go about filling the questionnaires.

### **Area of Study and its Characteristics**

Mara has a total of more than 1.5 million people with an area of 4,281 sq km of which 30% is covered by water of Lake Victoria (URT, 2013). The region has seven districts and the main activities are fishing, farming, livestock keeping and commercial

activities. This region was selected because it was one of the regions with a big number of dormant students.

### **Sample and Sampling Approach**

A total of 90 active students of Mara Regional Centre which represent about 25% of total active students at the centre were involved in the study. Purposive sampling approach was used to select the students who have been studying at the OUT for at least three years. The criteria of selecting students who have been studying for at least three years helped to ensure that only students with experience of the former modality of provision of study materials and the current modality are involved in the study. The experienced students were randomly selected after the June, 2017 exam sessions in order to provide equal chance for every student to be involved in the study. However, first year and second year students were excluded from the study.

### **Data Collection Methods**

The researcher carefully administered the closed-ended questionnaires to 70 students whereas the respondents picked an answer from a given number of options. The advantage of closed-ended questions is that the answers were easier to code and quicker to analyze through frequencies and percentages. Questionnaires were administered to 70 respondents because it is easier to administer questionnaires to many respondents whereas interview can be carefully administered to few respondents. In this study about 15% were administered to interview whereas the remaining part of respondents were subjected to questionnaires. Only fifteen percent of the respondents were subjected to interview questions because interview is time consuming and also there is a need of expertise to prepare interview questions for the purpose of ensuring content validity and reliability (Best & Kahn, 2014; Cohen et al., 2011).

### **Data Analysis**

The data obtained in this study were subjected to processing, analysis and presentation. Data were collected, coded and analysed to include frequencies of responses and percentages. The frequencies and percentages were also used for tabulation in order to enable easy interpretation and analysis. According to Adèr et al., (2008), the research

should consider what data are relevant to collect and how to analyse the results from the collected data. Qualitative data were obtained from interviews and observations and there after organized and subjected to content analysis. In terms of case experiences, quotation marks were used.

## **Results and Discussions**

### **Opportunities of Phasing out the Print Study Materials**

The findings of the first research question revealed that majority of interviewed students were of the opinion that ICT facilitates effective teaching and learning. The students said that if ICT was well implemented it could have brought enormous changes in the provision of education in Tanzania. Therefore, ICT infrastructures should be well enhanced to facilitate the reliability of ICT services and access to students' study materials. In this study, 97% of students who responded to the questionnaires revealed that they prefer to use CD based study materials in their academic career. On the other hand, 94% of the respondents agreed that CD based study materials enhance students' access to study materials and other numerous potentialities as indicated in table number 1 below. However, 99% of students who responded to the questionnaires agreed that they can easily access CD-based study materials if technology infrastructures will be improved at OUT

**Table 1: Students Respondents about the available Opportunities after Phasing out the Print Study Materials**

<i>Statements</i>	<i>Responses</i>							
	<i>To a great extent</i>		<i>To some extent</i>		<i>To less extent</i>		<i>Not at all</i>	
	<i>F</i>	<i>%</i>	<i>F</i>	<i>%</i>	<i>F</i>	<i>%</i>	<i>F</i>	<i>%</i>
<i>I like using CD-based study material in my academic career</i>	68	(97)	02	(03)	00	(00)	00	(00)
<i>CD-based study material enhances students access to study materials</i>	66	(94)	04	(06)	00	(00)	00	(00)
<i>CD- based materials increase options of learning resources</i>	69	(99)	01	(01)	00	(00)	00	(00)
<i>CD-based study materials encourage collaboration among students, thus improve their academic performance</i>	60	(86)	10	(14)	00	(00)	00	(00)
<i>ICT facilities contribute to improvement of students' academic performance.</i>	50	(71)	16	(23)	02	(00)	00	(00)
<i>I don't see any difference in students' academic performance between the time when prints were used and when CDs are being used</i>	40	(57)	30	(43)	00	(00)	00	(00)
<i>CD-based study materials promotes knowledge retention by students which improves their performance</i>	35	(50)	35	(50)	00	(00)	00	(00)
<i>CD-based study material is designed to enhance learner-centred and therefore facilitate interactions between student and learning materials</i>	45	(64)	25	(36)	00	(00)	00	(00)
<i>Students' academic performance has improved because of other factors and not because of using ICT materials</i>	40	(57)	30	(43)	00	(00)	00	(00)
<i>Students can access easily ICT materials if technology infrastructures will be improved at OUT</i>	69	(99)	01	(01)	00	(00)	00	(00)

N – 70      F – frequency

Distance education in Tanzania has been accepted as an alternative mode of acquiring new knowledge and skills necessary for survival in the economic, social and political system. It should be noted that flexible distance education provides a good opportunity for working people who require updating and upgrading of their knowledge and skills to cope with global economy. Also, it provides an opportunity to people who could not get education they longed for, particularly women and the marginalized groups. Therefore, the emergence of modern ICT in various forms such as CDs, mobile phones, computers and the internet services provide a good opportunity for transforming and improving the efficiency of the distance education mode of delivery. Applying ICT to empower education and learning are considered to be a necessity in order to overcome the challenges facing the education sector. Recognizing the potential of ICT as a significant

tool for improving education delivery, outcomes and impact, MoEVT embarked on the development of the ICT Policy for Education in 2006. The policy document was developed to guide the integration of ICT in education from pre-primary, primary, secondary, teacher education, non-formal and adult education as well as university education. The policy addresses issues related to the end-to-end system, infrastructure, curriculum and content, training and capacity building, management and support and monitoring and evaluation. The policy provides a variety of technologies to be used in the education sector to include radio, mobile telephony, computers, and the internet. MOEVT (2008) through the ICT policy aims to empower learners, teachers, education managers and leaders to use ICT judiciously and effectively for expanding learning opportunities and ensuring educational quality. The higher education sector is making investments in ICT, for example, it has been reported in a status report for higher education institutions in Tanzania (2008), that most universities have dedicated computer centres. Education and research networking activities are also beginning to take off and e-learning as a strategy to increase access is becoming central to many of the higher education institutions. (Swarts & Wachira, 2010).

### **Challenges of Phasing out the Print Study Materials**

Through interviews, the respondents make it very clear that the most preferred type of media is 'internet' (54 percent) which is followed by 'broadcast' (27.5 percent). Students expressed their feelings that they were facing the challenges such as unreliable power supply 76%, poor internet connectivity 82%, dilapidated infrastructure 56% and lack of learner support services 94% (refer table 2 below) to accommodate online support services to mention a few. On the other hand, to identify the challenges that the students are facing, respondents from the questionnaires were asked to mark their opinion in a Likert Scale consisting of three points ordered from 'Agree' to 'Not sure'. The frequency distribution of the opinion on each reason is given in Table 2

**Table 2: Nature of the Challenges Facing Students (N= 70)**

Challenge	Agree		Disagree		Not sure	
	F	%	F	%	F	%
I do not own a computer	65	(93)	05	(7)	00	(00)
Online learning is affected by unreliability of electricity	67	(96)	03	(4)	00	(00)
Internet connectivity is a challenge at the area where I live	52	(74)	15	(22)	03	(04)
Still some of lectures have traditional culture of education and learning styles	55	(79)	10	(14)	05	(07)
The OUT lack an appropriate software to prepare attractive CD-based study materials	50	(71)	20	(29)	00	(00)
Dilapidated infrastructure is a challenge for mainstreaming e learning at OUT	45	(64)	10	(14)	15	(21)
Learner support services were not improved to accommodate online support services	68	(97)	02	(03)	00	(00)
Tutors are not competent enough to provide adequate e learning services	50	(71)	10	(14)	10	(14)
My cellular phone does not have the technology to support e learning	67	(96)	03	(04)	00	(00)

From the findings above, it is noted that the fast development of technology in distance education poses a challenge in the control and security of such programmes in Tanzania. The study reveals challenges such as dilapidated infrastructures to support e-learning, epileptic supply of electricity, unreliable internet connectivity to mention a few. The findings, not surprisingly, vindicate the need for this study and supports the fundamental argument raised as the context of the study. The findings of the study are similar to the study that was conducted by Rotimi (2012) who found various challenges with regard to ICT infrastructural development. First, the cost of establishing the necessary infrastructure is prohibitive, and yet institutions are almost working in isolation to develop the infrastructure for modern distance education. On the other hand, the local capacity is not adequately developed for course design and multimedia application where as shortage of appropriately skilled technical support staff to handle technical problems may affect learning. While there is a need for infrastructural facilities like computer sets for the computer laboratory and internet to facilitate learning without failing, the reliance on government and donor funding makes the sustainability of distance education programs to be at stake (ibid). On the other hand,

MOEVT report (MoEVT, 2008) shows that ICT use is more prevalent in urban areas than in rural areas where there is limited teaching of basic ICT skills and no integration of ICT into the teaching and learning process with feeble communication infrastructure (MOEVT, 2008). The other challenges include high cost of maintaining internet connectivity and cost of procuring and maintaining ICT services as well as high cost of procuring laptop and desktop. The same challenges were also pointed out by other scholars including Rotimi (2012). In addition, the interview revealed that students are used to printing materials hence there is also a high cost of printing down loaded course materials from internet. This is because most of the student learners have phobia for the use of computer while some are not computer literate. Though students in the study revealed to be aware of ICT but they stated to have insufficient facilities for ICTs and the facilities available were not adequately utilized. Moreover, the students reported that they have no sufficient training related to ICTs in teaching and learning. The interview also revealed that low band width (resulting into poor internet connectivity or slow speed), lack of standby power, and lack of proper training schedule hindered the utilization of ICTs to the selected students. It is recommended that to effectively introduce and efficiently utilize these emerging technologies, remedies should be made to overcome the stated challenges (Malekani, 2018). The higher education sector in Tanzania has taken and continues to take concrete steps to use ICT to address the main challenges that the sector faces.

### **Future Prospects**

Affordability of the programmes delivered using modern ICT should be taken with great care especially in ODL institutions of developing countries. The dropout of students after admission raise serious questions on equity, quality and sustainability of ODL programmes in Tanzania (Komba, 2007). The findings may suggest lack of internal efficiency of the institutions and agencies involved in providing the ODL programmes. The question about quality of ODL programmes in this era of technology where ICT services enhance the education delivery needs to be asked and tackled at a broader international level. OUT has made it a priority to cooperate with other educational institutions both in and outside of Tanzania, especially focusing on the national library network, science laboratories and information services. With evolving ICTs and

alternative sources of energy, there is a need of concrete stable plans in an effort to make sure that distance learning opportunities are accessible to more people. Understandably, access to ICTs in developing societies is the most compelling reason why older technologies take precedence in policy discussions on distance education. There is a necessity of using system dynamics method in order to allow the institution to look into the future while enabling the use of distance education in the era of ICT.

## **Conclusion**

Most of the respondents in the study had the opinion that training of the basic ICT skills should be ongoing. The same suggestion was provided by Komba (2007) that education institutions in Africa that start offering e-learning programmes nationally and across borders, is important that they establish links with trustworthy quality assurance and accreditation agencies for the programs. The respondents also suggested that there should be regularly organized television and teleconferencing programmes to support the learners within specified stated period of time. Instructional facilitators should be constantly trained on the use of technology to help the learners. Deliberate efforts should be made to motivate academic staff to upload the courses into MOODLE so that more course materials are uploaded to the internet for students to download. The university should continue to pursue with aggressiveness the provision of facilitation by radios, videos and other online support services for the academic programs offered by students. The same suggestion was provided by Ogidan (2011) that each educational institution should provide sufficient audio tapes, video tapes and video compact disc on course materials that are required to the learners regularly. E-learning need to incorporate aspects of enjoyment in its operations in order to attract users. In developing countries, e-learning mainstreaming can be strengthened only if other inequalities in society are addressed concurrently. Sufficient number of computer sets should be provided to facilitate online interactions with facilitators and the support staff. This will also promote easy administration of e-examination which the university is about to introduce (Chiome *et al* 2012). It is also suggested that print materials should continue to support the soft copy. Collaborative efforts and fundraising should be instituted between the public and other stakeholders such as local government and private bodies in order to facilitate the printing of materials for distance learners. The same suggestion

was provided by Kolimba (2012) that OUT operating largely in correspondence mode, study materials are of critical importance as they replace to a large extent the role of the teacher. However, OUT steps up its quality control over study materials in terms of availability, timely supply and quality of content. On the other hand, Okopi (2012) suggested that albeit distance education currently focuses attention on the use of internet and e-learning facilities, these cannot overtake the importance of using the printed modules. It is suggested that the quality of these printed modules which are by and large used as instructional materials must be of high quality as well as affordable to the students.

TCU (2014) suggests that every institution must put in place sufficient structures for ICT. This will include ICT master plan, ICT Policy and adequate facilities for access of ICT resources. Members of staff and students should have access to ICT resources. The use of mobile ICT facilities is generally encouraged. In this regard institutions must also be wireless enabled and the acceptable minimum radius is 200m from the source. The use of wireless access points is also encouraged in order to expand the radius and be able to reach many users of ICT resources. For purposes of attaining value for money institutions are encouraged to procure software licences on a multi user basis. This approach normally lowers the cost of procuring such licences on individual basis. It is recommended that to effectively introduce and efficiently utilize these emerging technologies, remedies should be made to overcome the stated challenges.

### **Recommendations**

It is obvious that the use of technology for supporting learners is the mainstay of distance education and the hub of the administrative and academic activities in ODL institutions. However, it is through technical mediated support services that the learners can enjoy when they interact amongst themselves without the physical distance posing any barrier. Therefore, the provision of distance education using ICT facilities need to be improved to enable the smooth progress of learners in their studies. The issue of phasing out the print study materials cannot be under estimated for the facilitation of academic programmes in distance learning institutions especially in developing countries.

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