

The Realities of Operating an Open University in Sub-Saharan Africa

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Abstract

This paper discusses how Open University of Tanzania uses technology to lower barrier to education and jobs for Tanzanians. Majority of public institutions, higher learning is no exception, depends on government subsidies for its existence. In recent years there has been a major shortfall in government funding, especially in higher education. OUT being one of the more prominent higher education institutions in the country, it has to devise a more creative way to sustain and maintain the programs that serve the educational sector despite the challenges it is faces along the way, which includes partnership with domestic and international institutions and with non-profit and for-profit organizations.

1. Introduction

The Open University of Tanzania (OUT) was established by an Act of Parliament No.17 of 1992. It is the first university in the country to offer its educational programs through open and distance learning mode. Eleven years later, by March 2011 the university has expanded to 29 regional centers in Tanzania. These regional centers are envisioned to be regional colleges, and coordinating centers in the nearby countries of Kenya, Uganda, and Rwanda, as shown in Figure 1. It is currently ranked as number three institution in Tanzania [5].



Figure 1: OUT regional and coordination Centers

As a pioneering institution of higher learning that models open and distance learning, OUT realizes the daunting task of implementing the program and consequently developed a Rolling Strategic (RS) plan that unleashed a momentum to formulate various policies, strategies, and operational procedures to assist to govern many of the key activities of the university, as a guide to help the university respond to the challenges such as establishing an e-learning department as an effective teaching and learning tool within and outside the university[1].

2. Challenges facing education and job programs at OUT

The main barriers to providing a good education at OUT have been funding resources and local expertise. Since its establishment in 1992 OUT has been largely dependent on government subsidies and donor funded projects in most of its operations. The funding has been reduced significantly recently, and in the near future, the funding may be stopped completely. Therefore, there to sustain its educational activities, OUT must seek alternative funding.

The educational model of open and distance learning has a heavy reliance on ICT infrastructure for its core functions. Therefore, the availability of facilities, equipment and skills become even more crucial to sustain OUT mission of providing access to education for the local community. Till present day, the institution has yet to

acquire enough ICT facilities and equipment for access to its entire staff. Furthermore, some of its staff members are yet to develop the skillsets required to function in an ICT dominated academic environment. With inadequate funding in reservoir, OUT needed to come up with innovative ways to effectively address this shortfall of funding.

2.1. Reduction in government funding

Table 1 provides a twelve plus years of historical context of government funding to OUT. Here are some of the highlights [4]:

- Zero development funds have been given to OUT since 2010/11 academic year.
- Funds for “Other Charges” have fallen from TZS 1.14 billion per year in 2011-2012 to only 678 million in 2012-2013.
- Funds for Personal Emoluments include, and not limited to salaries and allowances.

Table 1. Government funding to Open University of Tanzania (2001 – 2013*)

unit in TZS million				
Year	Other Charges	Personal Emoluments	Development	Total
2001-2002	1,104	605	200	1,909
2002-2003	983	913	80	1,976
2003-2004	1,163	1,296	50	2,509
2004-2005	1,090	1,090	50	2,230
2005-2006	1,490	1,540	100	3,130
2006-2007	1,304	3,999	692	5,995
2007-2008	1,017	4,759	500	6,276
2008-2009	1,017	4,735	1,041	6,793
2009-2010	1,017	6,390	2,241	9,648
2010-2011	1,017	8,920	-	9,937
2011-2012	1,141	10,055	-	11,196
2012-2013*	678	6,589	-	7,267

Note: * up to February, 2013.

2.2. Lack of local expertise

All of available information systems (SARIS and LMS), and website and email systems were outsourced to private companies, before 2008. Network installation and ICT hardware maintenance and repair were also done by private companies and the university was charged very high fee for the services. By 2009, all ICT consultancy and services including software development, ICT hardware

maintenance, and network installation were done in-house by OUT ICT staff.

Due to low wages, retention of these skilled local ICT staff has been a challenge to OUT, especially in the area of supporting distance-learning students. OUT has introduced performance-based incentives to staff to supplement the low pay. To some extent, this approach has helped in retaining local experts, but appears to be a temporary, since cost of living kept increasing and OUT is not able to keep up with increasing the incentives or bonus to its staff.

3. Responses to the challenges to education and job programs at OUT

OUT has found creative ways to address the two major challenges in education - by tapping into government-funding projects, develop partnership with multi-stakeholder in the non-profit and for-profit organizations as well as domestic institutions. The self-help programs enables OUT to generate income such as providing technical and vocation online programs that engage with the local community in order to maintain a consistent relationship with the secondary schools - the future of its education population. In addition, OUT is leveraging its distance learning programs, Moodle, a Learning Management System (LMS) to tap into economic opportunities with industry sectors specifically the agricultural, entrepreneurs and tourism industries.

3.1. Government-funded projects

Projects funded purely by the government are rare and their statistics is difficult to establish. However, the Tanzanian government did provide subsidy to education in all levels at one point, albeit in a declining state in recent years. The main source of funding is from donor funded projects, which has a high risk in sustaining viability without donors' contributions such as Institutional Capacity Building Program (2007-2012) funded by Swedish International Development Agency (Sida); Science Technology and Higher Education Program (STHEP) funded by the World bank; and National Research and Education Network (NREN) funded by the World Bank to improve the ICT infrastructure and application services for better management of increasing number of students.

3.2. Partnership with multi-stakeholders in the non-profit and for-profit organization

OUT has been collaborating with local organization such as Tanzania Education and Research Network (TERNET), world-class organizations such as Internet2 and Network Startup Resource Center (NSRC) at University of Oregon, and with networking companies such as Cisco Systems and Google, in developing local experts, as part of human capacity building. This approach has also proved to be very successful, but require an ongoing funding support to ensure that trained staffs are retained and training facilities are maintained.

TERNET and Internet2 contribution to OUT : Through the assistance of OUT, TERNET signed a Memorandum Of Understanding (MOU) with Internet2, on June 2011, to jointly collaborate on the development of next-generation Internet technologies and applications [2]. The objective of Internet2 is to lead and coordinate advanced networking through applications development and network engineering, while TERNET objective is to facilitate cheaper access to national and international education and research information resources through a reliable network infrastructure. Internet2 and TERNET promote their respective objectives by providing for appropriate collaborations and interconnections among their member institutions.

NSRC and Cisco contribution to OUT: Similarly, Cisco had provided a week long training workshop called, Developing Local Talent through Technology (DLTT), focusing on the area of networking. DLTT program is delivered through collaboration with multiple organizations, see Figure 3. A total of forty hours of theory and hands-on lab sessions in the areas of voice, wireless, network security and soft skills development, are delivered to 100 to 150 students by a global team of Cisco engineers with subject matter expertise in their fields. These SMEs share their personal and professional perspectives in what it takes to overcome skillset barriers in order to build the competency and capacity of a talented workforce in the emerging market.

The impact of the DLTT workshop is tremendously successful given the high-quality content workshop, yet a low-cost option, to the host universities that participated in the program.

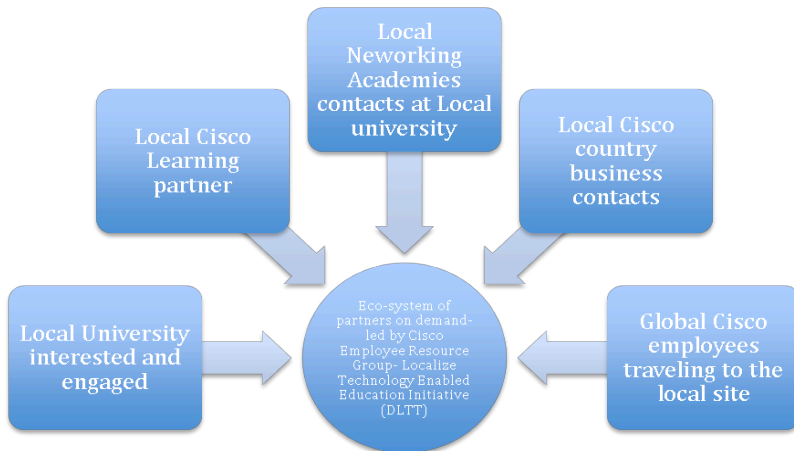


Figure 2: Cisco's low cost option model to provide a technical training program

This multi-stakeholder partnership model provides a solution to overcome the barrier of academics engaging industry experts and offer a valued learning opportunities for all parties who invest their time, effort, knowledge and funding in covering the cost of the workshop that can be evaluated to range between USD 2,000 to USD 2,500 per head. The total costs add up quickly to serve a 100 – 150 participants. Each stakeholder stands to gain and mutually benefit from the workshop either as a result of their contribution to the program.

Google contribution to O U T : Since 2009, O U T students mails are hosted by Google through their widely available education apps package. This has been a great contribution to O U T considering that its students are not residential; therefore emails form an important part of their day to day communication with their fellow students as well as the faculties. Due to lack of enough resources, O U T was not able to provide such important service to students prior to 2009. Figure 5 shows a snapshot of the email system [portal](#)

The RS plan includes providing quality training services to the public. To that end, OUT holds information sessions at its headquarter, as well as throughout Tanzania, by establishing community computer labs in ten regional centers, where citizens are trained on ICT skills in different levels, from basic, intermediate, advanced, to professional. See Table 3. These community computer labs allow citizens to be trained until midnight. The fees for the courses are reduced by half in order encourage attendance.

Underserved professionals, such as watchmen and petty traders with low income, have taken up the opportunity to attend these evening classes. In addition, other relevant short courses like “Entrepreneurship” are also offered on a seasonal basis. Despite the achievement in this area, there are challenges in the implementation due to shortage of staff and maintenance of training facilities.

Table 2: OUT students labs and ICT community skills Lab coverage

Region	OUT Students Lab	ICT Community Skills Lab
Kinondoni	1	1
Mbeya	1	1
Shinyanga	Nil	1
Mwanza	1	1
Iringa	1	1
Kilimanjaro	1	Nil
Arusha	1	Nil
Kigoma	1	1
Ruvuma	1	Nil
Mpanda	1	1
Singida	1	1
Tanga	1	Nil
Manyara	Nil	1
Temeke	1	Nil
Ilala	1	Nil
OUT HQ	1	2
Total	14	11

In bridging the gap between higher learning institutions and secondary schools, OUT has organized presentation sessions to students on the benefits of open and distance learning. In addition, basic and professional ICT training sessions offered during school breaks in order to give secondary students opportunity to enhance their ICT skills.

3.4. Economic opportunities

The use of information technology at OUT has facilitated the growth of income level to the local community, mainly by improving the level of their skills. Three initiatives have been developed in this area:

1. OUT and Sokoine University of Agriculture (SUA) under the project sponsored by Danish International Development Agency (DANIDA) have established the use of Moodle, which has been in use since 2006, and mobile phones to promote availability and accessibility of learning content for agricultural extension officers¹. Figure 5 illustrates one of the agricultural courses being offered at OUT.

<http://elms.out.ac.tz>



Figure 3. Courses in the Moodle LMS

These agricultural officers are working with the farmers in the poultry farming fields with heavy use of mobile applications [3].

2. OUT is also offering short courses on Entrepreneurship along with ICT skills to the local community to set up their own enterprise or company and to manage it successfully.
3. OUT is currently collaborating with North Carolina State University and Pennsylvania State University in a program called People-First Tourism (PFT) to bring more income benefit to individuals and groups involved in tourism industry. The program provides an internet-based marketplace portal. The program forges a direct

¹ These officers are intermediaries between research and farmers. They operate as facilitators and communicators, helping farmers in their decision-making and ensuring that appropriate knowledge is implemented in order to obtain the best results.

connection between buyer and seller, thus, bypassing the middle tourist group brokers. The direct relationship inevitably has a positive economic impact on supplier of the local community.

The benefits provided by these initiatives to the local community are unquestionable. With exception of Entrepreneurship courses, the major challenges of the sustaining the initiatives is to reduce the rates being charged from telecom companies for mobile phones download. The university has to establish means of sustainability, and also negotiate educational pricing model so these initiatives can benefit the intended groups.

4. Ultimate barrier to change: Tanzanians' Mindset

To complement the technical training, OUT started a “culture transformation and team building” to its staff since September 2009. The impact brought by this training is yet to be measured. However, initial results are encouraging; the training had a positive impact to the forty staff that were trained. Currently it costs about USD 9,500 for training a group of 40 staff, With 700+ staff members, the cost could increase to USD 166,250 which is extremely expensive to OUT and remain to be the biggest obstacle to funding the training.

In general Tanzania has a big challenge in changing the mindset of its people. Figure 7 shows the dependency of these four building blocks, and the roles they play in operating higher education institution, in particular, open and distance learning institution in Tanzania. A huge effort is spent seeking funding sources to support purchasing new technology and the human resources to support the technology. However, the latter has been frequently outsourced to expatriates. The culture of dependency with foreign support for funding and skillset has to change. Till then, any improvement made in changing the technology infrastructure and developing the human capacity to support the system would be slow in coming.

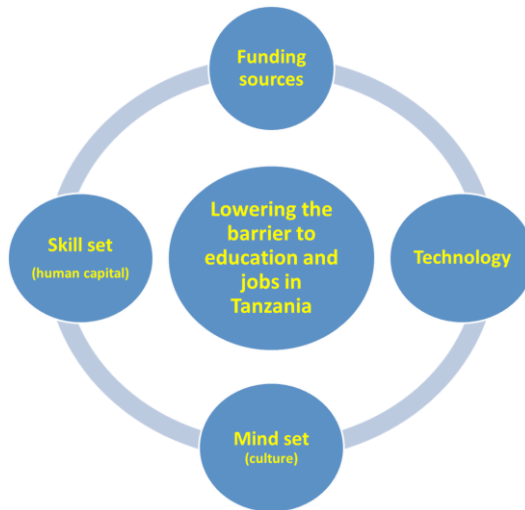


Figure 7. Building blocks to lowering the barriers in Tanzania

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