Prospects of Digital Libraries in Enhancing Academic Materials Access:
A Survey of Libraries in Kilimanjaro Region’s Higher Learning Institutions

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Introduction
The United Republic of Tanzania realizes that education is the pillar of national development, for it is through education the nation obtains skilled manpower to serve in various sectors in the nation’s economy.

The government have therefore put efforts to strengthen education in both levels so as to ensure that access to education is available to as many Tanzanians as possible.
With those efforts in place, the net number of students enrolled to primary and secondary schools have been increasing with years.

The increasing number of students enrolled in primary and secondary schools lead to the increasing number of students admitted to HLIs.

For instance, the net enrolled students in HLIs for five consecutive academic years from 2005/06 to 2009/10 have been increasing with years.
Background…

Trend of Students Enrolled in HLIs (2005/06–2009/10)
To cater with the increasing demand for higher learning education, some of the institutions have decided to put in place the distance learning courses.

But distant students are physically separated with their lecturers and learning materials that are normally available in-campus.
Problem

- The increasing number of students enrolled to HLIs entails for an increasing number of library users.
- With the increasing library users it is mandatory to increase library resources such as librarians, seating spaces, and library materials.
- Presence of distance learning courses simply implies that distant students are likely to miss access to in-campus academic materials.
Technological advancements have shown a substantial growth in various areas, one of which is the ICTs.

Advancements in the ICTs have been observed in many application domains, one of which is in education,

In education, ICTs can facilitate provision of library services to library users through Digital Libraries (DLs).
Digital Libraries…

- A DL is a library in which collections are stored in digital formats and accessible via computers. The digital content may be stored locally, or accessed remotely via computer networks (Greenstein and Thorin, 2002).

- A DL is based on documents in digital form that are handled like traditional library documents in standard processes (collecting, cataloging, and providing access) and that are made available online for users (Seadle and Greifeneder, 2007).
Digital Libraries...

- DLs are asserted to bring:
  - Improved sharing of library materials,
  - Improved and wider access of library materials,
  - Improved timely access of library materials, and
  - Improved preservation of library materials.
Objectives of the study

The general objective of this study was to find out prospects of using digital libraries in enhancing academic materials access to library users in the HLIs in the study area. Specific objectives of the study were:

i. To examine status of existing libraries in the area of study in serving library users
Objectives…

ii. To ascertain challenges facing the implementation of digital libraries in the study area, and

iii. To find out ways to which digital libraries implementation can help to supplement traditional libraries in providing access to academic materials.
Methodology
Research Design

- A cross section research design that involves asking questions to respondents at a single point at a particular time was used.
- The reason for selecting the cross section survey design is that it was time and resource effective.
- The design enabled the researchers to come up with best results.
Description of the Study area

- This study was conducted in Kilimanjaro region.
- Kilimanjaro region is one of the 30 regions of Tanzania.
- The headquarters of the region is Moshi.
- Kilimanjaro region is bordered to the North and East by Kenya, to South is bordered by Tanga region, to South-West by Manyara region and to West by Arusha region.
Study area...

- The region is composed of five higher learning institutions as follows:
  - Kilimanjaro Christian Medical College (KCMCo),
  - Moshi University College of Co-operative and Business Studies (MUCCoBS),
  - Mwenge University College of Education (MWUCE),
  - Stefano Moshi Memorial University College (SMMUCo) and
  - The Open University of Tanzania (OUT)-Kilimanjaro Centre.
Population, Sampling and Sample Size

- This study involved only four higher learning institutions, where OUT was not involved.
- Simple random sampling technique was employed to obtain the representative sample of 112 respondents from the population as follows:
  - 2 librarians from each institution
  - 1 admissions officer from each institution
  - 5 academic staff from each institution
  - 20 students from each institution
Both primary and secondary data were collected in this study.

The main data sources were:
- questionnaires,
- interviews,
- internet search, and
- physical observations of the libraries in place.
Data Analysis and Presentation

- Data were coded and analyzed using Statistical Package for Social Science (SPSS).
- In this statistical package descriptive statistics such as frequencies, means and percentages were determined where the implications of the results led to recommendations.
Findings
Trends of Students Enrollments

![Bar chart showing trends of students enrollments over academic years 2005/06 to 2009/10. The chart compares enrollments across different categories: KCMCo, MUCCoBS, MWUCE, and SMMUCo.](image-url)
Types of Respondents Involved

- Librarians: 8 (7.1%)
- Students: 80 (71.4%)
- Academic Staff: 20 (17.9%)
- Admissions Officers: 4 (3.6%)
1. Operating time

- Each of the four HLI in the study area that were involved in this study had at least one main library, a traditional one. Consequently four libraries were visited during this study.
- None of the four libraries operates in 24 Hours
- None of them operates in public holidays
- Only one library operates on Sundays, but it operates for only three hours
<table>
<thead>
<tr>
<th>Library</th>
<th>Weekdays (Hours)</th>
<th>Saturdays (Hours)</th>
<th>Sundays (Hours)</th>
<th>Calculated Total Operating Hours per week (out of 168Hrs)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Opening Closing</td>
<td>Opening Closing</td>
<td>Opening Closing</td>
<td></td>
</tr>
<tr>
<td>KCMCo</td>
<td>0900 2200</td>
<td>0900 1300</td>
<td>- -</td>
<td>69</td>
</tr>
<tr>
<td>MUCCoBS</td>
<td>0830 2200</td>
<td>1400 1800</td>
<td>1500 1800</td>
<td>69.5</td>
</tr>
<tr>
<td>MWUCE</td>
<td>0900 2200</td>
<td>0900 1800</td>
<td>- -</td>
<td>74</td>
</tr>
<tr>
<td>SMMUCo</td>
<td>0900 2200</td>
<td>0900 1300</td>
<td>- -</td>
<td>69</td>
</tr>
</tbody>
</table>
Summary of days in which libraries operate and not in a 16 weeks semester
## 2. Seating Space

<table>
<thead>
<tr>
<th>Institution</th>
<th>2011/12 Academic Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Enrolled Students</td>
<td>Library Seating Capacity</td>
</tr>
<tr>
<td>KCMCo</td>
<td>961</td>
<td>100</td>
</tr>
<tr>
<td>MUCCoBS</td>
<td>3890</td>
<td>200</td>
</tr>
<tr>
<td>MWUCE</td>
<td>2600</td>
<td>200</td>
</tr>
<tr>
<td>SMMUCo</td>
<td>465</td>
<td>50</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>7916</strong></td>
<td><strong>550</strong></td>
</tr>
</tbody>
</table>
3. Libraries Expandability

- all surveyed libraries are built with block walls and concrete of which libraries’ physical expansion looks impractical

4. Item Searching

- all of the libraries have software to facilitate items searching, however the software in only accessible within the library premises
Challenges facing library users

- Lack of enough seating space
- Limited library access
- Lack of variety of reference books
- Outdated books
- Inability to share library items
- Frequent renewal of borrowed items
- Time consuming in searching items
Advantages of DL

- No need to physically visit a library
- Huge amount of data can be stored
- Multimedia data can be included
- No physical boundaries
- Allowing information sharing
- Available in 24/7 and anywhere
- No need of big library buildings
Challenges facing implementation of digital libraries

- Shortage of fund
- Low technology
- Power rationing
- Inadequate ICT tools in Libraries
- Shortage of personnel
- Unstable network infrastructures
- High cost for internet bandwidth
What to be done?

- The higher learning institutions must put deliberate efforts to acquire tools for digital libraries.
- The institutions should educate sufficient number of personnel who will establish and implement digital libraries.
- The government should establish mechanisms to provide stable power supply especially in higher learning institutions settings.
- ICT infrastructures in all levels should be improved.
To be done...

- Create appropriate policies which will govern the creation, installation and use of digital libraries.
- Create awareness to all stakeholders including policy makers, policy implementers and the community at large on the necessity and opportunities offered by the DLs over traditional libraries so that they can effectively utilize its prospective benefits.
- All key stakeholders should collaborate and genuinely allocate sufficient funds for DLs implementations.
Conclusion

- The study does not recommend traditional libraries to be totally replaced by digital libraries.

- And in any way, therefore, digital libraries should not be regarded as a threat to librarians’ jobs but rather an opportunity that enhances academic materials access to more library users than ever before.
Thank You!