

Digital collaboration tools in provision of library services in higher learning institutions

By
Dr. Wulystan Pius Mtega
Sokoine University of Agriculture
Tanzania

1.0 Introduction

- Academic libraries play a central role in supporting teaching, learning and research in higher learning institutions.
- They are designed to preserve and facilitate access to knowledge among scholars in higher learning institutions.
- They are set to meet information needs of students and faculty members in teaching, learning and research processes.

Introduction..

- To effectively support core roles in higher learning institutions, academic libraries must collaborate with different stakeholders.
- Collaboration implies mutual interdependence among different stakeholders (Small, 2001).
- Collaborations can be among academic libraries and between an academic library and its potential users.
- Advancements in ICTs have changed the way collaboration takes place and academic libraries are not an exemption.

1.1 Activities requiring collaborations

- Activities requiring collaborations should be those which:
 - can be accomplished by more than one person,
 - require inputs from others in the institution,
 - requires suggestions from external sources,
 - involve sharing risks, responsibilities, and rewards
 - require involvement of other institutions.

1.2 Objectives of the study

- The study investigated how academic libraries use digital collaborative tools and services. Specifically, it:
 - i. Identified libraries activities requiring collaborations.
 - ii. Identified digital collaboration tools used in academic libraries.
 - iii. Investigate the level of adoption of digital collaboration tools and services in academic libraries by region.
 - iv. Determined how digital collaborations facilitate library operations.
 - v. Investigated factors influencing usage of digital collaboration tools in academic libraries.
 - vi. To design a model to strengthen digital collaborations in academic libraries

2.0 Research methodology

- The study used content analysis and systematic review methodologies.
- Content analysis method was adopted for the first, second and third specific objectives of the study.
- This method was used to determine the presence of certain words, themes, or concepts within some given qualitative data (i.e. text).
- The units of analysis for these specific objectives were websites of selected academic libraries.

Research methodology..

- Systematic review method was adopted for specific objectives four, five and six.
- It was used for identifying, selecting, synthesising, and appraising studies that meet pre-specified inclusion criteria to answer a research question.
- The unit of analysis for the systematic review were peer reviewed studies on usage of digital collaboration tools in academic libraries.

2.1 Sampling and sample size

- Websites of academic libraries were used to identify library activities which required digital collaborations.
- They were also used for identifying collaborations tools and services.
- Websites were used because they may be integrated with additional functionalities including tools for collaborations.
- The sampling framework was obtained from the Webometrics Ranking of World Universities.
- Webometrics was chosen as a sampling framework because it evaluates universities basing on web contents.

Sampling and sample size..

- The websites of academic libraries were purposively selected among the four highly ranked universities from Africa, Asia, Arab World, Australia, Europe and North America.
- Moreover, websites of academic libraries from three highly ranked from East African and Tanzanian universities were involved in the study.
- For this case, 30 websites of academic libraries of highly ranked universities were involved in identifying library activities requiring collaborations and the collaboration tools services integrated in library websites.

Sampling and sample size..

- The population for the systematic review included peer-reviewed studies indexed in Google Scholar Database.
- The database was selected because it indexes peer-reviewed online academic journals, books, conference papers, theses and dissertations, preprints, abstracts, technical reports, and other scholarly literature.
- Moreover, Google Scholar Database is the known largest scholarly index (with >400 million scholarly documents).

Sampling and sample size for systematic review..

- Studies which could respond to the following research questions were included in the sample:
 - i. How do digital collaborations facilitate library operations?
 - ii. Which factors influence usage of digital collaboration tools in academic libraries?
 - iii. How can digital collaborations in academic libraries be strengthened?

2.2 Data collection instruments

- Two different data collection forms were used for collecting data depending on the research method.
- The first data collection form was used for collecting data from websites of academic libraries basing on the set criteria.
- Data on “activities requiring collaborations” and “digital collaborations tools” integrated in websites were collected.
- The second data collection form collected data on “usage digital collaboration tools in academic libraries”.

2.3 Data analysis

- Data collected through content analysis method were qualitatively analysed and summarised in descriptions by theme and quantitatively analysed and summarized in tables and figures.
- Data collected through systematic review were critically appraised and synthesized qualitatively or quantitatively.
 - Meta analysis was used to combine and summarise the results of several independent studies that addressed “usage of digital collaboration tools in academic libraries”.

3.0 Findings

- The study involved 30 websites of academic libraries from Africa, Asia, Australia, Europe and North America.
- Through websites of academic libraries digital collaboration tools and activities supported by digital collaboration tools were identified.
- Activities identified were those that:
 - could be accomplished by more than one person,
 - require inputs from others in the institution,
 - require suggestions from external sources,
 - involve sharing risks, responsibilities, and rewards,
 - require involvement of other institutions.

3.1 Academic library Activities requiring digital collaborations

- Findings indicate that there were several academic library's services which could be better supported by digital collaboration tools. These activities include:
 - Collection development
 - Cataloguing and classification
 - User registration
 - Circulation management
 - Information delivery services

Academic library Activities requiring digital collaborations ..

- Reference services
- User education
- Information needs assessment
- Current awareness
- Research support
- Information search
- Marketing library services

3.2 Digital collaboration tools and services used in selected academic libraries

- Digital collaboration tools and services integrated in university library websites were identified.
- Findings in Table 1 indicate that:
 - E-mail adopted used by all academic libraries.
 - Majority of the academic libraries (80%–87%) integrated Facebook and Twitter in their websites.
 - About 50% to 67% integrated My Portal, You Tube and Instagram in their websites.
 - Chat tool and blog were integrated by 40% and 30% of the academic library websites respectively.

TOOL	FREQUENCY	TOOL	FREQUENCY
E-mail	30 (100%)	Facebook	26 (86.7%)
Twitter	24 (80%)	My Portal/Account	20 (66.7%)
You Tube	16 (53.3%)	Instagram	16 (53.3%)
Chat tool	12 (40%)	Blog	09 (30%)
Google	08 (26.7%)	LinkedIn	07 (23.3%)
RSS Feed	06 (20%)	Flickr	03 (10%)
Pinterest	02 (6.7%)	Yahoo	02 (6.7%)
Delicious	02 (6.7%)	Digg	02 (6.7%)
Issuu	01 (3.3%)	SMS tool	01 (3.3%)
Overleaf	01 (3.3%)	DMP tool	01 (3.3%)
Data serve	01 (3.3%)		

Digital collaboration tools and services used in selected academic libraries..

- Google, LinkedIn and RSS Feed were integrated by 26.7%, 23.3% and 20% of academic library websites.
- Other digital collaborations tools and services were integrated by =<10% of academic library websites.
- These findings imply that:
 - E-mail, a less rich collaboration tool was highly adopted.
 - Among collaborative service platforms, social networking tools were mostly integrated in academic library websites.
 - Few academic library websites integrated collaborative publishing tools (eg blog, medium and overleaf).

Digital collaboration tools and services used in selected academic libraries..

- Few academic library websites integrated content delivery tools (eg RSS Feed)
- A promising number of academic libraries had integrated synchronous communication tools in their websites (eg chat tools).
- You Tube was the highly integrated hybrid collaboration tool.

3.3 The level of adoption of digital collaboration tools and services in academic libraries by region

- Findings for the level of adoption of digital collaboration tools and services differed by countries are presented in Table 2.
- These findings imply that:
 - Only one of the academic library involved in the study from Africa adopted synchronous communication tools.
 - Very few of the academic libraries involved in the study from Africa adopted content delivery collaboration tools.

TOOL	REGION OF ACADEMIC LIBRARIES				
	AFRICA	ASIA	AUSTRALIA	EUROPE	N. AMERICA
Synchronous communication tools	01 10%	02 25%	02 50%	02 50%	01 25%
Content delivery tools	03 30%	04 50%	02 50%	02 50%	02 50%
Collaborative publishing tools	03 30%	01 13%	02 50%	02 50%	02 50%
Collaborative service platforms	06 60%	05 63%	04 100%	03 75%	03 75%
Hybrid and programming tools	03 30%	04 50%	04 100%	03 75%	03 75%

The level of adoption of digital collaboration tools and services in academic libraries by region..

- Findings also imply that few among the academic libraries from Asia and Africa adopted digital collaborative publishing tools.
- Moreover, few among the academic libraries in adopted hybrid and programming tools.
- The general implication is that the academic libraries from Africa have to a limited extent adopted digital collaboration tools and services.
- Moreover, these findings imply that academic libraries from highly ranked universities Webometrics embrace more digital collaboration tools and services than others.

3.4 How digital collaborations facilitate library operations

- [Digital collaboration tools in academic libraries Mtega\How collaboration tools support library operations.doc](#)

3.5 Factors influence usage of digital collaboration tools and service in academic libraries

- Findings from systematic review reveal that individual and institutional factors influence usage of digital collaboration tools and services in academic libraries:

Individual factors

- Lack of technical knowhow
- Low level of awareness on benefit potentials of digital collaboration tools and services
- Lack of interest from library users and colleagues to use these tools

Factors influence usage of digital collaboration tools and service in academic libraries...

Institutional factors

- Some of the institutional factors were common to all countries:
 - Lack of digital collaboration policies
 - Restrictions on usage some digital collaboration tools in hours of the day
 - Lack of strategies to use digital collaboration tools and services

Factors influence usage of digital collaboration tools and service in academic libraries...

Institutional factors

- Some of the institutional factors were specific to some countries:
 - Lack of Management support
 - Electricity outages
 - Poor Infrastructures and power
 - Lack of internet connectivity/ network failure
 - Lack of relevant manpower
 - Fear for electronic disasters, security breaches and data privacy

3.6 Model for strengthening usage of digital collaboration tools and services in libraries

[Digital collaboration tools in academic libraries Mtega\Model for strengthening the usage of digital collaboration tools and services in academic libraries.doc](#)

4.0 Conclusion

- Digital collaboration tools and services are very potential for enhancing the efficiency of academic libraries.
- Optimal usage of these tools and services enables academic libraries to effectively support teaching, learning and research.
- To optimize the usage of digital collaboration services, it is important to have digital collaboration policy/strategy which will guide how digital collaboration tools are used.
- It is therefore urged to develop such policies/strategy so as to enhance ethical usage of such tools and services.