

Do Policies Matter?

Digital library designs and implementation

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This research report examines the role of policies in the design, development and implementation of education digital libraries. Using three case studies of African Universities (Kenya, Uganda and South Africa) as a base point, this paper makes an assessment of the impact of these policies on the outcomes of digital libraries in African Higher Education. The case studies were carried out between September and November 2009.

Libraries have always developed policies, guidelines and standards to ensure professional efficiency and quality of the information service delivery. Examples include cataloguing rules, access guidelines and, more recently, those that support digital environments like web access guidelines. These are well documented by authors such as Roes (2001), Chen et al. (2009) and Jetton & Bailey (2010). Additionally, the impact of intellectual property rights (IPR) policies and laws on the access of digital resources is now a well-documented subject (e.g. Nicholson, 2009; Ngimwa, 2009).

There are also other kinds of policies that impact on library outcomes. These include institutional policy statements and directives as well as strategic plans which guide library operations. Moreover, educational technology use has witnessed other education policies which influence the work of academic libraries. Examples of such policies include ICT policies, e-learning policies and research policies. An evaluation of the impact of these policies on the outcomes of libraries, particularly digital libraries, is necessary as suggested by Dalton et al. (2004). Such an evaluation would not only help in identifying what these impacts are but would also pinpoint the relevance of these policies and where intervention is necessary. Unfortunately, policies that impact on the work of educational technologies, including digital libraries, are rarely evaluated – a lack that has been highlighted by some studies (e.g. de Freitas & Oliver, 2005; Czerniewicz & Brown, 2009). The research reported here makes an assessment of the impact of these policies on the outcomes of digital libraries in African Higher Education.

Methodology

A qualitative investigation comprising three case studies in African universities (in Kenya, Uganda and South Africa) was carried out between September and November of 2009 as part of ongoing PhD research. This mainly consisted of in-depth interviews with academics and librarians, which were analysed using the first stages of grounded theory. These interviews were supplemented by an examination of policy documents. The three case studies are not necessarily representative of the overall higher education in Africa but they provide variety in

terms of policy and practice in educational digital library services. They were chosen based on criteria developed to guide the PhD research which included other relevant considerations.

The results discussed below have points illustrated with verbatim extracts from the interviewees who are identified by role¹, but not as individuals. Additionally, excerpts from policy documents are provided to give the contexts, but are not referenced; and case studies are only referred to in terms of the countries they are located in rather than their actual universities. This is intended to anonymize the case studies.

Findings

This research established that existing information-related policy frameworks at all levels (i.e. national, institutional and departmental) in the three case studies had direct or indirect impact on the design, development and implementation of the digital libraries. This section provides a general but not exhaustive overview of the policy landscape across the three case studies. It then presents an assessment of the impact of these policies on the digital library service. It concludes with a discussion on the implications of these policies.

Impact on Digital library outcomes

The research findings established that existing policy frameworks across the three case studies play a significant role in shaping the outcomes of the digital library service, whether positively, or negatively. Furthermore, the assessment of the three case studies inadvertently provided interesting comparisons across the different studies with varied outcomes where policies were lacking or were not comprehensive. These comparisons are highlighted in the discussion below which assesses impacts on four outcome areas:

- i. resourcing and performance
- ii. integration in the learning process
- iii. library-learning collaboration
- iv. library visibility and repute

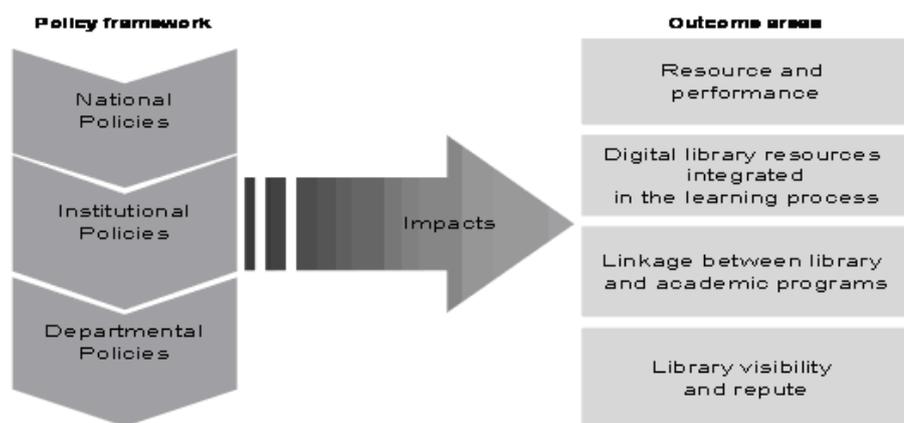


Fig. 1 Policy impacts on Digital library outcomes

Impact on resourcing and performance

Study findings established that policies impacted on the availability of digital resources and supporting infrastructure like ICTs and bandwidth provision. They also had an impact on the staff performance outcomes. For example, the trickle-down effects of policies in the South African study, where policies are translated into individual performance contracts, ensured productivity as staff's performance was assessed on the basis of these contracts.

“So each information specialist as part of their performance contracting is expected of them to develop some of these tools, so that they can feed in to the plans, and they get evaluated on how they implemented these tools, and how successful it was etc. so each one individually has to get involved. So it gives them something to work towards and that helps to implement the plan and that feeds through the whole process.” **Librarian 1-SA**

At the same time, staff members expressed a feeling of empowerment and support from the institution to try out new technologies in support of the e-strategy:

“The best part of this library is that you are allowed to do new things, and experience and do research about new things, that to me is the best thing.” **Librarian 3-SA**

However, although there was this general positive feeling about the role of policies, it is important to note there were also cases where policies were perceived as serving a compliance purpose rather than promoting good practice:

“There is an advantage that you get people to use the system, but you get the compliance problem, they just do it to comply with the rules and what we want to do is to enhance good teaching and learning practice...” **E-learning expert-SA**

In Uganda, a similar observation was made. One

participant thought that the ICT-resourced library had been facilitated by the existence of policies:

“I think they [policies] are facilitating because 3-4 years back the climate was different, the computers were less available, the internet connection was less available, I think over the years there has been some improvement and mainly putting the infrastructure in place” **Academic 4-UG**

The driver behind librarians' enthusiasm in wanting to participate in the e-learning training sessions

was because this promoted the use of electronic resources. The usage level of electronic resources is a key performance indicator for the library service as specified in the institution's strategic plan.

Findings showed a contrasting position with regards to the Kenyan case study. Firstly, the institutional strategic plan and other policies do not support the provision of electronic resources. The library provides these resources out of their own mandate, hence are not really accountable to the institution as was confirmed by participants. There is evidence to show that the library is really interested in providing a digital library service from the existence of a quality electronic collection and a strong strategic plan that supports development of this service. However, when compared to the other two case studies, this library seems to lag behind in exploiting emerging innovative technologies to enhance this service. There were no examples of web 2.0 applications or a vibrant institutional repository among other technologies.

Integration in the learning process

The research findings established that the presence of policies promotes integration of digital resources into learning processes. This was clear in South Africa and Uganda but there was no evidence to support this in the Kenyan case study. For example, the policy framework in the South African case study encourages a direct contribution to e-learning. The e-learning strategy within the e-strategy empowers the library to engage directly with the e-learning unit, resulting in digital libraries being embedded in the university's virtual learning environment (VLE):

“What the library does is that we put up library pages on the [VLE], we put links to our electronic articles or books that are available for the students under the different modules and courses that are being taught at the faculty” **Librarian 3 -SA**

In Uganda, the PBL/COBES mode of instruction has

similar effects. Students meet with their lecturers in tutorials where they are introduced to a problem and then left to study and solve the problem from whatever sources are available. This student-centred learning makes students adopt more independent and investigative methods of information searching where they spend more time working with information resources (Collier, 2006; Kiguli-Malwadde, 2006). Their lecturers too are forced to consult these resources. In the COBES approach students study communities and hence local information stored in the institutional repository is critical. To support this, the library has a dedicated computer laboratory for access to digital resources and an information intermediary who supports the information searches. One librarian commented on the value of this service:

“... resources have been very helpful in supporting PBL. We have another one called COBES,...people go into the community, they study the community they also use e-resources to support their ... So when the lecturer gives them a topic... the first place to go to is the computer lab, because they know there are digital resources ...” **Librarian 1-UG**

Creating linkage between digital library programs and learning programs

Policies also helped create a shared space for joint participation in the learning processes between the library and the learning dimensions. Online Computer Library centre (OCLC, 2003) has highlighted an existing chasm between designers of digital library programs and designers of learning processes, which results in digital libraries not always supporting learning objectives. Hence, policies seem to play an important role in creating this link. In the South African case study, the successful integration of digital resources in the VLE was as a result of the joint participation of librarians and academics, which, as already seen, is well supported by existing policies.

“... we work very close with the lecturers in setting that [VLE] up, we do that together with the education innovation department of the university, ... in setting up these learning management pages for the different course” **Librarian 3-SA**

The study in Uganda identified two examples where policies have supported library-academic collaborations. The first one relates to a digitisation project of an academic program which depends on the expertise and digitisation facilities housed in the library. The library provides digitisation and digital information management expertise and passes some of these skills to students. For this to happen, they must engage with the academics who help with meta-tagging as the librarians do not have the subject knowledge of the academic program. Besides the fact that both librarians and academics are willing to work together, existing policies play a crucial role in facilitating this collaboration. For example, the university's

South African case study

In this case study, policies at the national level cascade to the institutional level and then to individual departments within the institution. For example, South Africa's Department of Education identifies the application of ICT in teaching and learning as one of its guidelines contained in the White Paper No. 7 (Department of Education, 2004) on E-education. This has a trickle-down effect from the institution down to the library. The university has an e-strategy in its current strategic plan², and the library has established an e-strategy to support the institution's strategic plan³. This is then translated into individual librarians' performance contracts, as was confirmed by one participant:

“...the university supports the Government's Department of Education, and university in their strategic plans say that we are going this e-route, that helps the library because we support the e-strategy of the university plus what we do is that each staff member has performance contract brought in line with that strategy.” **Librarian 1-SA**

The library's e-strategy is quite elaborate and it establishes guidelines for the implementation of a number of electronic services within the library. These include e-learning, e-resources, open scholarship, digitisation, web/library 2.0, repositories, library web and e-research. Implementation of this strategy is supported by a governance structure that has a deputy director, an e-service unit and a number of e-steering committees for each of the services.

strategic plan expects the library to get into institutional partnerships and hence by participating in the project, they are acting within this mandate.

The other example relates to inclusion of librarians in the e-learning training as co-facilitators. This inter-departmental linkage is already provided for in the institutional strategic plan as already highlighted. Furthermore, this activity fulfills of the e-learning policy requirement to provide the university community with skills to exploit the digital learning environment. This participation presents the library with an opportunity to collaborate with the academics. The outcome of this collaboration is more recognition of the role of digital resources in the learning design process.

“...this integrated approach is reaching out to the academics and also it is giving us the opportunity to participate in the program designs, in a way by telling them this is what we have, these are the resources that you can use when you are designing your programs” **Librarian 5-UG**

Ugandan case study

The Ugandan situation is not very different from that in South Africa. The university has made an attempt to translate some of the national policies into its own policies and strategic plans. For example, the university's current strategic plan is a direct response to Uganda's Universities and Other Tertiary Institutions Act, 2001, which supports provision of quality higher education, promotion of research and advancement of learning. The university strategic plan recognises the library as the cornerstone of its strategic plan and its role in sustaining effective linkages within the institution. The library's strategic plan states that it has been mandated by the university with the responsibility for all university information services including the institutional repository⁴. The library's strategic plan also sets out to increase and diversify the number of online databases, among other strategic objectives.

The university Research and Innovation Policy highlights the provision of library resources that facilitate access to international literature and databases as one of the strategies for creating an enabling environment for research and innovation⁵. Both the Research and Innovation Policy and the Intellectual Property Management Policy require that the university's research output, including students' theses and dissertations, be deposited with the library⁶.

The E-learning Policy which is embedded in the ICT Policy provides for training of the university community to equip them with the skills necessary to exploit digital learning environments. Digital resources are part and parcel of this digital learning environment. The ICT policy has an explicit function to support the library information systems.

Related to the ICT policy and of significance to this research is the institution's strategic objective to improve electronic visibility and services of academic programmes. In response to this, departments including the library are expected to promote their electronic presence.

A final important example of policies relates to the introduction of the Practice Based Learning (PBL)/Community Based Educational Service (COBES)⁷ by one of the university colleges as a method of instruction. As will be discussed later, this has an impact on the provision and use of the digital resources.

Unlike the Ugandan and South African case studies, research findings suggest an existing gap between the learning and library ends in the Kenyan case study. This was clearly manifested in the absence of active involvement of librarians in the learning design process:

"The engagement is at the level of the programmes, they have already designed the programmes, they are now tabling them and they want them to be approved, you see that is the level the librarian comes in ... So the librarian is being brought in at a very late stage." **Librarian-KE**

The e-learning coordinator on the other hand did not see the role of the library in e-learning when asked if he included the library in e-learning training, in sharp contrast to the Ugandan case study.

"...we do not have a deliberate arrangement with the library..." **E-learning coordinator-KE**

Library visibility and repute

An important impact of policies was manifested in the high visibility and repute that the digital library service brought to the library. This was evidenced in policies that support institutions' open scholarship. In the South

African case study, the e-strategy has produced the open access mandate which requires all academics and students to deposit their research output in the institutional repository. The campaign around this has been so successful that it has resulted in a high webometric rating of institutional repositories worldwide¹⁰. Additionally, there has been a recognition award for leadership in Open Access campaigns as well as improvement of graduate education through Electronic Thesis and Dissertation repositories.

In Uganda, a similar impact has been experienced with their institutional repository. In this university, both the Research and Innovation Policy and the Intellectual Property Management Policy¹¹ require that the university's research output, including students' theses and dissertations be deposited with the library. These are contained in the digital library in the institutional repository. Furthermore, the university's strategic plan requirement for ICT integration within the university, and electronic visibility of academic programs, demands that the individual departments promote their knowledge management and electronic content in order to rank highly in the institutional webometric. In this regard, the library's institutional repository is very popular and was rated highly in recent webometric ratings of this

institution.

These two examples help to illustrate the impact of policies on the visibility and repute of digital libraries. Unfortunately, there was no example to support this in the Kenyan case study. There was no evidence of an institutional repository in this library and even if it exists, the study did not identify its visibility. Hence it is difficult to conclude that policies have had any impact on making the digital library visible in this university.

Conclusion

Some conclusions can be made from this study. Firstly, policies reviewed in this research appear to have a dual function. On the one hand, they serve to motivate and support the development and implementation of the digital libraries. On the other hand, they act as a means of reinforcement in the implementation process. These two functions are critical to the role of academic digital libraries as they adapt themselves to the vastly evolving information technologies.

Secondly, it has emerged that the absence of clear policies affects the outcomes of digital libraries. Apparently this does not only apply to digital library performance but also in other critical educational aspects. For example Anamuah-Mensah and Wolfenden (2009) have attributed the current inability to meet the demand for teachers in Africa to the absence of policies.

Thirdly, these policies are context-based and therefore they affect outcomes differently. These are important issues for policy makers concerned with technology use in education. The fact that these policies are context-based with outcomes unique to the specific contexts has wider implications for developers of international policies and standards in the field of educational technologies.

Finally, this research serves as a pointer to the need for more systematic investigations and dialogue regarding the extent to which policies affect the outcomes of digital libraries within the wider information services as well as institutions they serve.

Kenyan case study

This study established that the policy framework related to the library services is weaker compared to the other case studies. Also, there is not a particularly strong relationship between national, institutional and library policies. For example, while the other two case studies' strategic plans are a direct response to national policy guidelines and expectations, this university makes no such connections. Indeed a further review of educational related policy framework in this country shows a lack of connection with the development of library services and more specifically the exploitation of ICT in supporting teaching and learning. For example, the Ministry of Education, Science and Technology Sessional Paper No. 1 (Republic of Kenya, 2005) is a recent key policy document which defines the use of ICTs in addressing national educational challenges of the 21st century. Yet, it makes no mention of libraries. The national ICT policy (Republic of Kenya, 2006) however does attempt to make a remote connection by encouraging the use of ICTs in teaching and learning at the universities. The university's strategic plan recognises the role of the library but only as a physical facility; hence there is a lack of an explicit mandate for an electronic service (discussed further below). This is only captured indirectly in one of the strategic objectives that specifies the application of modern ICTs in research, teaching and learning⁸, which could imply electronic educational resources among others.

The library's current strategic plan, however, attempts to make a connection with the institution's strategic plan by aligning its own vision towards the university's. It is explicit on the importance of the provision of electronic information services to support teaching, learning and consultancy. It also supports the use of ICTs in the provision and dissemination of information and has a specific strategy for the provision of ICT infrastructure to support electronic library services⁹. A deeper analysis of this relationship between the library and institution's policy environment seems to suggest that unlike the universities in the other two case studies, this library lacks a mandate from its institution to provide an electronic resource service. It appears that it provides this service out of its own desire to exploit the benefits of today's electronic affordances as a way of improving service delivery to its clientele. This lack of institutional mandate was indeed mentioned in passing by one participant.

Another example is the absence of a clear mandate for the development of an institutional repository which the library considers as one of the digital library services. Unlike in both the Ugandan and South African case studies where this service is well recognised and supported by both the institutional and related policies, this library lacks such policy support. For instance, the ICT and IPR policies are silent on this matter.

A further review of the development of digital library services in this university suggests another absence of policy support. While for instance the Ugandan case study institutional ICT policy makes explicit mention of its support to main information systems like the library, the Kenya's case study institutional ICT policy is silent on this matter.

References

- Anamuah-Mensah, J & Wolfenden (2009) TESSA OER: A sustainable approach to teacher education in sub-Saharan Africa, presented at the *AAU 12th General Conference, Abuja, Nigeria*
- Chen, T.-H. (2009) An exploration into the practices of library web usability in ARL academic libraries. *Journal of the American Society for Information Science and Technology*, 60, 953-968.
- Collier, M. (2006) Strategic change in higher education libraries with the advent of the digital library during the fourth decade Program. *Program: Electronic library and information systems*, 40, 334-345.
- Czerniewicz, L. & Brown, C. (2009) A study of the relationship between institutional policy, organisational cultural and e-learning use in four South African universities. *Computers & Education*, 53, 121-131.
- Dalton, P., Thebridge, S. & Hartland-Fox, R. (2004) Evaluating electronic information services. IN Andrews, J. & Law, D. (Eds.) *Digital libraries: policy, planning and practice*. Aldershot, England, Ashgate
- De Freitas, S. D. & Oliver, M. (2005) Does e-learning policy drive change in higher education? A case study relating models of organisational change to e-learning implementation. *Journal of Higher Education Policy*, 27, 81-96.
- Department of Education (2004) White Paper of e-Education: Transforming learning and teaching through ICT. Department Of Education, Republic of South Africa. Pretoria, Government Printers.
- Jetton, L. L. & Bailey, A. S. (2010) The role of the access services manager in the virtual library. *Journal of Access Services*, 7, 121-131.
- Kiguli-Malwadde, E., Kijjambu, S., Kiguli, A., Galukande, M., Mwanika, A., Luboga, S. & Sewankambo, N. (2006) Problem based learning, curriculum development and change process at faculty of Medicine, Makerere University, Uganda. *African Health Sciences*, 6, 127-130.
- Nicholson, D. R. (2009) The African Copyright & Access to Knowledge (ACA2K) Project: A brief overview. *World Library and Information Congress: 75th IFLA General Conference and Council*, 23-27 August 2009. Milan, Italy.
- Ngimwa, P. (2009) Copyright Issues and their Impact on Flexible Education in Africa. In Marshall, S., Kinuthia, W., Taylor, W. (Eds.) *Bridging the Knowledge Divide Educational Technology for Development*, Charlotte, NC, Information Age Publishing
- OCLC (2003) Libraries and the Enhancement of e-Learning. Dublin, Ohio, Online Computer Library Centre
- Republic of Kenya (2005) Ministry of Education Science and Technology (2005) Sessional paper no.1 of 2005 on a policy framework for education, training and research.
- Republic of Kenya (2006) National Information & Communications Technology Policy
- Roes, H. (2001) Digital libraries and education: trends and education. *D-Lib Magazine*, 7.

Notes

¹Participants are identified in their roles and case studies whereby SA is for South Africa, UG for Uganda and KE for Kenya

²"New technologies have made it possible to access academic information here and abroad more efficiently than in the past. Furthermore, increasingly, information sources are being received in digital format by the University's libraries. We believe it to be essential that the opportunities afforded us by these developments should be fully exploited. We intend ensuring that this is the case"

³"Develop, implement and integrate e-services to enhance: research, learning and teaching, and library products"

⁴"The University Library is mandated to collect, develop, disseminate, manage, control and coordinate all library and information services of ... University. It is ... institutional repository"

⁵"Provide research support services including management information systems and library resources that facilitate access to international literature and data bases."

⁶"Research Reports including theses or dissertations approved for the award of University Degrees or Diplomas shall constitute intellectual assets and shall be deposited with the ... University Library..."

⁷Practice Based Learning (PBL) is an innovative method of instruction in which students are first introduced to a problem and then led to a student-centred inquiry, where they are encouraged to explore what they know in order to understand the problem (Kiguli-Malwadde et al. 2006)

⁸"To maximize student and staff productivity and service delivery, enhance teaching and learning and improve quality of research through ICT."

⁹"Library has set out the following as its strategic objectives: To provide access to information for teaching, learning, research and consultancy...To promote the integration of ICTs in the provision and dissemination of information"

¹⁰January 2010 Ranking of World Repositories (<http://repositories.webometrics.info/index.html>)

¹¹Intellectual Property Management Policy, March 2008

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