

# INFORMATION AND COMMUNICATION TECHNOLOGIES AND THE UNIVERSITY OF DAR ES SALAAM LIBRARY: SOME LOGISTICAL AND MANAGERIAL CHALLENGES

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## **ABSTRACT**

This paper discusses various logistical and managerial challenges facing the University of Dar es Salaam Library. These include: training of users and staff in ICT use, funding, copyright and ownership of information licensing and leadership. The biggest Information Communication Technology (ICT) challenge facing the library is not only technical but also managerial. Finding solutions to these complex challenges requires flexibility and not rigidity. The paper also discusses the importance of leadership and interpersonal communication in promoting change. It is contended in this paper that leadership and communication skills are crucial and that every effort should be made to promote effective interpersonal communication, effective leadership, teamwork and a conducive work, environment and positive attitudes.

## **INTRODUCTION**

College and University libraries are changing at a faster pace than their respective parent institutions. Essentially everything in and around the library is changing: services, technologies, organisational constructs, ownership and access policies, values and a lot more (Riggs, 1997:3). Use of Information and Communication Technology (ICT) in education has been described as a paradigm shift due to the focus on learning, rather than teaching. Teaching concentrates on teachers and their knowledge while multimedia applications target learners by providing new interactive materials for learning at home, at school and in the workplace. High-speed communication networks are enabling teachers to work together and to develop courses jointly. ICT applications for libraries are being developed to provide new tools and systems to improve and expand networked libraries

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although this process is in its infancy in practical terms. The development of ICT and its applications is therefore posing a lot of challenges to University Libraries.

This paper addresses several practical issues, which the University of Dar es Salaam Library will have to grapple with in the 21<sup>st</sup> century in its efforts to accomplish its mission.

## **BACKGROUND**

The University of Dar es Salaam, through its UDSM 2000 Transformation Programme, is building a new identity with its own distinctive characteristics in an effort to achieve and maintain a reputable regional and international position in terms of the relevance and quality of its prime output: teaching, research and consultancy services (UDSM 2000:1).

A fundamental role of the UDSM library is to provide adequate and relevant information services to support teaching, research and consultancy services. A range of new services has been planned to enable the library to meet the challenges of the future with regard to trends and developments in ICT application.

Objective 8 of the UDSM Five-Year Rolling Strategic Plan 2000/1 –2004/5 is to improve library and publishing capacity through enhanced ICT applications in library services (Kundi and Chijoriga 2000: 23-4). Some of the indicators/targets arising from this are:

- ◆ Increased automation of information retrieval and literature searches by UDSM staff and students;
- ◆ Increased satisfaction of library stakeholders (UDSM administration, colleges, staff, students and the general public) with library services;
- ◆ Increased foreign and local electronic databases, which can be accessed through the library LAN (Ibid. 22-3);
- ◆ Information and communications technologies (ICT) have many revolutionary implications, but in order to reap their potential benefits it is necessary to focus on user-oriented and cost-effective applications. The analysis of user needs and the direct involvement of users is crucial. There is enough evidence to suggest that if applications do not reflect user-needs, or if users are not interested in the development process, the expected results will simply not be forthcoming. This is likely to create new problems that will be costly to address. The selection, adaptation and transfer of appropriate ICT applications must be based on informed choices and the development of user-capabilities should not be assumed. Efforts to achieve user-participation, the willingness

to change working procedures and to make provision strengthen for workers' capabilities through training, retaining and education are all required. Such education or training must be perceived as useful by all those involved. If this is not achieved, there is little point in investing enormous amounts of money in the infrastructure. In developing countries like Tanzania the challenge to invest extremely scarce resources in ICT and in people's capabilities to use them is enormous because of these limited resources.

Library users at the University of Dar es Salaam have access to both print and non-print sources of information. In a study conducted at UDSM Library, Augustino (2000:53) shows that 24 out of 36 respondents (66.7%) preferred books and journals in print form to electronic ones, only 3 out of 36 (8.3%), preferred electronic ones, while 9 out of 36 respondents (25%) preferred books and on-line materials. The study did not indicate whether users were undergraduate or post-graduate students.

The UDSM Library intends to establish an Electronic Text Centre (ETC) as one of its strategic development components (UDSM Library Five-Year Rolling Strategic plan 2000/1 – 2004/5 Final Draft: 49-52).

The innovative ETC will impart the University of Dar es Salaam Library user community with skills, not only in using electronic texts but also in creating them for their specialised needs (Ibid. 49). Some of the expected outputs include accessibility to commercial bibliographic and full-text electronic information databases including CD ROMS, hardware and software applications for the creation and searching of electronic texts and provision of instructional services.

This project will require external funding to cover the cost of IT hardware, software, peripherals and staff training. The estimated cost is US \$ 22,900.00 (Ibid. 52). This project requires concerted efforts in mobilising resources which will be discussed later in this paper. One of the strengths of establishing an effective ETC is the availability of a support information infrastructure for the provision of electronic information services including CD-ROM and Internet services (Ibid. 14). But there are several weaknesses, poorly-trained staff, donor dependence and inadequate facilities.

Another project is the Electronic Journal Production project, which is estimated to cost US\$ 43,000.00 (Ibid: 49). This amount is required to enable the acquisition of hardware and software. Along with those affecting the first project, the weaknesses in this case include:

- ◆ Problems of sustainability;
- ◆ Acceptability of electronic services for journals and bulletins (ibid. 17). As Mkude (2000:11) notes, the age profile of academic staff is unfavourable, as

many will retire in the coming few years. For example, in the University of Dar es Salaam, has an academic workforce of about 590, and the majority are 45 or above years old, i.e. about 58% of all staff (UDSM 2000: 45-46). Most of them may not be able to acquire the use of ICT in learning and teaching;

- ◆ Problems of copyright laws.

In this context, it is argued that the speed with which these technologies are adopted will depend on how quickly scholars and users are prepared to break with the traditional methods of generating and disseminating information in favour of novel and unfamiliar systems.

In this paper accessibility is taken to mean the ease and speed at which digital information can be located and retrieved with or without intermediary assistance. The information professional functions in an environment where information transcends the library building and its collections, so that transactions with the user may not be face to face. Some of these challenges are listed below.

### *Training Users and Staff*

A study conducted at UDSM Library (Augustino, 2000:55) shows that 29 out of 36 respondents (80.6%) indicated that they were willing to learn computer skills. Faculty and students need relevant skills in order to utilise effectively the wide array of information resources and products. This will enable them to learn and think critically and reflectively. Most librarians/information professionals are capable of playing a meaningful role in this learning process, i.e. by supporting users in new academic environments and offering user-friendly services, both in ICT and manually oriented facilities. But some questions need to be asked which include: Will University professors view library staff as the logical group to facilitate such programmes? Are librarians the best choice? Will librarians and other library staff require special training and retraining in collaboration with Faculty and the Computing Centre to be able to cope with the changing user-needs? Will other members of staff accept librarians as partners in teaching and learning given their attitude towards librarians?

It can be argued that the library profession, by virtue of its traditions, the knowledge and experience of its staff, is intellectually and organisationally well-placed to play the role. Whether or not others view librarians as such is another question. This is a battle that the profession has been fighting for years. But all the same the support of the teaching Faculty is critical.

### *User-frustration*

One would argue that there is little to be gained from accessing global or even local digital information resources if the skills to select, interpret and apply the

information are absent or poorly developed in the population. The capacity to generate, disseminate and share information about local resources and activities is as important as access to distant digital information. Heillinger and Henderson (1971:102) assert that:

“The library is expected to provide more complete services with greater precision and reliability and to do so with little or no delay. Each demonstration of the ability to fulfil those expectations will encourage increased demand and each failure will be met with increasing dissatisfaction and hence frustration.”

The sources of user-frustration need to be examined carefully. They hold some keys to a revisualisation, perhaps even to a re-conceptualisation, of the Library (Harloe and Budd, 1994:85). In this case, therefore, collection developers need internally to:

- ◆ Focus on providing resources based upon a concrete understanding of subject based- content;
- ◆ Focus on utilising local resources, based upon real knowledge and experience of local programmes and communities;
- ◆ Play a very strong educational role, based upon the transitional nature of the system and the resource infrastructure that is being developed and implemented. For example, the Faculty needs to be directly involved in decisions concerning either selection or de-selection of serials as a realistic option relating to document delivery. There is therefore a need to improve faculty-librarian relationships in collection development. (Emphasis mine)

What an undergraduate basically requires is a current textbook to read in the library, his room or under a tree.

External collection developers must be involved in decisions concerning what networked resources/collections should be made available, and in defining content, delivery and collection development responsibilities. They should also take advantage of the networking infrastructure by working towards the formation of collection development co-operatives, which serve the mutual needs of two or more institutions.

Whether an electronic networked environment will lead to more efficient co-operation among libraries and allow them to benefit from contributing to regional and global resources is a moot question. In this case effective collection development requires closer integration of traditional and ICT approaches, at the same time maintaining a proper/appropriate balance between the two. While the Internet is seen as a strategic information retrieval system, what is required is a thorough examination of the conceptual frameworks in collection development and the process of integrating them. The issue should be approached in terms of users' needs instead of our (Librarians') needs.

Collection development will therefore be crucial as a key to building a digital library to accommodate the needs of future readers. As Taylor (quoted in Ding 2000) puts it, ‘networks will not function where there are no mutual benefits, where there is a shortage of funds, and where there is a lack of mutually-agreeable and strict rules’. Many of the most recent publications are protected by copyright and, therefore, far from the public domain. This raises the question of access against ownership or just-in-time or just-in- case.

There are also two important formats to consider: print and digital. Digital format items are additions to collections. The introduction of digital formats has led to conflicts between the two. In some libraries in developed countries this battle has probably ceased as both librarians and users are accustomed to digital information systems. The tension remains over priorities, allocation of funds and the desires of different categories of users.

### *Managing Just-in-Time*

The advent of electronic technology to library and information services has brought its own management imperatives to social and organisational aspects of management. Ownership or access to library/information resources lies at the heart of the management issues surrounding libraries. The just-in-time scenario raises fundamental questions, which must be addressed including; Is this what users need? Is it technologically feasible? Is it affordable? In this respect, information/user surveys must be conducted in order to determine actual needs.

Issues of access and ownership have been widely discussed. The tendency has been to dichotomise these issues, which creates an extremely misleading picture. Therefore, the University of Dar es Salaam Library will continue to purchase resources in a variety of formats for the foreseeable future. For example, Dougherty and Dougherty (1993: 344) stress that:

“Providing access to electronic information, raw data, articles, abstracts or full text should be seen as a way libraries can align their local collections and enhance the range and depth of the information services they provide. This is neither a win or lose situation, and it should not be characterised as such.”

### *Funding*

It must be acknowledged that the movement towards information access demands new organisational models and new ways of funding library services. This move will certainly create tension over the allocation, priorities and desires of different categories of library use. One is likely to ask:

- ◆ Should the amount budgeted be located in teaching departments or among professors, or should it remain centralised in the library?

- ◆ How will the long-term aspects of the library and the institution be maintained for the common good?

### *Copyright and ownership Issues*

This is another concern. Issues relating to copyright and ownership of information in the electronic era will define what academic libraries can and cannot do to support research, teaching and learning. Information providers and libraries must find ways to deal with it equitably, where an environment is created in which ownership rights are acknowledged. But:

- ◆ Who will pay for access (the library, the researcher, research grant or student)?
- ◆ Who should negotiate with the copyright owner?
- ◆ Is an easily-understood legal framework required in the interests of publishers, users and libraries, to remove uncertainty over the use of digital information and for the protection of intellectual property rights?

### *Licensing*

This issue is related to ownership. There is a growing trend among libraries to purchase site licences for the use of information rather than the information itself. A number of issues need to be examined:

- ◆ What kind of co-operative ventures need to be initiated so as to get broader coverage under a single licence for regional co-operatives and multi-campus institutions?
- ◆ What does the librarian need to know about licensing?
- ◆ Licensing conditions may also be complex; therefore there is a need for the library to consult an institutional legal adviser on the terms and conditions of a licence before it is signed.

### *Leadership and Organisational Change*

This aspect is very crucial. The biggest ICT challenge the library faces is not only technical. Focusing on ICT alone is not sufficient. The question of leadership and how it impacts on human resources has often been taken for granted. In this information age, leadership matters even more. The challenge is to exercise vision and leadership to promote organisational change.

One common definition of management is ‘getting things done through people’. Directing is the managerial function that enables managers to get things done through people as individuals and groups (Stueart and Moran 1987: 152). To be effective at directing, one has to be familiar with what rewards are most effective in motivating individuals and know what styles of leadership can work best in any given situation. One also needs to understand the importance of communication and good leadership within an organisation. In this context the

essence of leadership means articulating the vision of what ICT can offer, sharing that vision with others and creating incentives that mobilise staff to change their behaviour in accordance with a shared vision. Leadership must be viewed as an interactive process that depends on effective communication between a leader and followers. (Mansell and Wehn: 1998:238).

Keith Davis (quoted in Stueart and Moran 1987: 158) points out that there are 4 basic assumptions about people that each manager has to keep in mind:

- ◆ Individual differences in that there is not a single standard for dealing with staff across the board;
- ◆ The whole person. Good management should try to develop a better employee in terms of growth and fulfilment;
- ◆ Caused behaviour. Normal behaviour is influenced by certain factors. These may be motivated by an individual needs and/or the consequences that result from actions;
- ◆ Value of a person. People have to be treated differently from other factors of production since they are of a higher order in the universe. Any job entitles one to proper respect and recognition of his/her aspirations and abilities, i.e. the concept of human dignity. People normally work better if they are respected, recognised and are involved in decisions which affect their life and work. Participation is a critical factor.

There are several advantages of participative leadership, including those identified by W.P Anthony (quoted in Witherspoon 1997:56). Participation:

- ◆ Stimulates more peaceful superior – subordinate relations;
- ◆ Increases employee commitment to the organisation;
- ◆ Creates greater trust in management;
- ◆ Provides for greater ease in managing subordinates;
- ◆ Improves the quality of decisions ;
- ◆ Improves upward communication in the form of feedback from subordinates and
- ◆ Improves teamwork within the organisation.

Academic institutions have moved from the belief that a single leader can serve as organisational saviour at all times and in all situations, to the notion of successful leadership being a good match between institutional needs, individual strengths and the context within which decisions are being made, i.e. greater participation and involvement in decision- making pertaining to the affairs of the institution. For example, at the University of Dar es Salaam, in the process of embarking on library automation, there were differences in opinion on how to proceed. For example, Butz (1999:65) noted that some of the staff thought that the collection needed weeding before putting bar-codes on materials, while others thought a



stock-taking exercise should precede automation. Similarly, others thought that clear rules, procedures and guidelines should have been in place before embarking on the project. As a result, no procedure seems to be in place for departmental library books. Furthermore, even the librarians in charge of this project were not aware of what was going on.

The University of Dar es Salaam Transformation programme is about change. As the UDSM Library engages in this process of change, there is the need to adopt some basic principles for managing change. These include:

- ◆ Frankness. Invariably the process of change involves tough decisions, risks and uncertainties. Hence, in order for the whole University library community to be part of this change, it is mandatory that information should be available up-front, processes should be consultative and change be subject to vigorous debate;
- ◆ Integrity. There is a need to ensure that we are committed to what we say and do. Also that change should not be subject to the whims and fancies of an individual person or a small group of people;
- ◆ Flexibility. Within the context of the UDSM Library's vision and mission, the complexity of the challenges facing the library require flexibility and not rigidity in finding solutions;
- ◆ Setting priorities. This is critical in view of the fact that we are confronted with very limited resources and hence we need to set priorities and make appropriate choices.

In a situation where only one individual or a small group of people make decisions, those outside that clique are viewed as a problem, and the feeling is that they should be excluded from the organisation or be heavily controlled and constrained, isolated and marginalised in every possible way. In such situations people work in fear. Thus initiative, confidence and *creativity* are deliberately and systematically stifled.

What the University of Dar es Salaam Library requires is a governance structure that is collegial in nature and which promotes:

- ◆ Partnership and teamwork;
- ◆ Collegial, consultative and participatory decision-making;
- ◆ Respect for professional/academic expertise;
- ◆ Autonomy of its staff in their own work activities which does not stifle their potential;
- ◆ Leadership growth and creativity together with independent thinking amongst its rank and file;

- ◆ Critical thinking (a hallmark of any academic environment).

It should be emphasised that leadership style is mainly associated with attitudes and relationships with staff. In view of the fact that the University of Dar es Salaam engages in the transformation of its management culture, the leadership of the University of Dar es Salaam library has to follow suit.

### *The Changing Role of Library Directors*

The library has gone through a strategic plan process in order to articulate its needs. Some of the needs go beyond the capability of the University in terms of fund-raising. Librarians no longer have a choice about whether to engage in external fund-raising or not. It is the responsibility of the Library Director, just as it is for other top administrators in the University. The library might still be regarded as the heart of the University, but for several reasons it is beginning to lose its central place as a funding priority. Donors might not be forthcoming in providing strategic support for the various projects the library would like to undertake. Fatzer (1996) believes that budget reductions, normally viewed as barriers to change or causes of negative change, can be forces for creativity, innovation and positive change.

Instead of 'running' the library the Library Director must be involved in fund-raising/mobilisation of funds. This is a challenge, which must be taken up even though it means additional work for the Director. One strategy to overcome this is to delegate the responsibilities for both the management and development functions of the library to the Associate Directors and Heads of Departments. Such a reorganisation of internal operations will be more challenging as it will require a deliberate and concerted effort, as well as trust and confidence to make it happen. Frequent and informative communication and consultation from the top down and also from the bottom up enables the library to function smoothly. Hierarchical leadership that is hangs onto positions of power prevents those in the ranks from utilising their expertise to respond to and solve problems effectively.

It is true that fund raising imposes an extra work-load on the staff that is unpredictable with no guarantee of success, but to accept this extra burden, people at all levels need to be made part of the whole process and feel that they are part of the institution. Therefore the issue of staff participation is also crucial in this regard. Organising the library to raise-funds successfully, while at the same time providing the best service, is a challenge that needs to be addressed carefully.

According to Martin (1998:10), fund-raising skills will be essential in the coming years; the Library Director should approach this future scenario with pleasure and not fear. Finally, Martin also notes that the success of the library will depend, in large part, on the willingness of the Director to be aggressive both within the University, to gain the attention of the administration and the

appropriate priority funding body within the institution, and outside the university when approaching donors and potential donors.

Inadequate funding for the purchase of books and subscriptions to academic journals is another major problem facing the library. On-line services, especially the Internet, will not solve this problem. The funds mobilised should therefore be used to purchase books, an area which has been grossly neglected. Print books are the best medium for sustained study and reading, for depth of thought and complexity of argument, and for archival purposes. This can only be achieved through local resources and external connections.

## CONCLUSION

The foregone discussion touched briefly on some of the challenges and issues facing service provision in academic libraries, especially the University of Dar es Salaam library. Libraries will continue to purchase resources in a variety of formats at least for the foreseeable future to ensure increasing ownership and access.

The importance of leadership and interpersonal communication in promoting change has been articulated: a leadership, which is capable of taking on board the visionary, the conservative and the pragmatist is needed. They all have a part to play in the process of change; that is why communication, not only internally but also externally, is crucial. Leadership and communication need to be integrated. The best mode of communication is discussion rather than command. The fitting pronouns for such mode are 'we' and 'our' not 'I' and 'my'. It is therefore emphasised that efforts should be made to promote effective leadership, teamwork and good working relationships.

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