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Managing a library automation project: the Moi University experience

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Abstract

Examines the major problems associated with managing a library automation project in a developing country. The Moi University experience is representative of the type of problems that a library project manager in a developing country is likely to face. Poor infrastructure, a shortage of local technical expertise, lack of information technology and a shortage of qualified managers are some of the managerial hurdles that they should be able to cope with. Training local personnel and equipping the training institutions may partly solve some of the problems. Management and information technology skills should be emphasised in whatever training programmes may be initiated in a bid to overcome the shortages.

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The university

Moi University was the second state university to be established in Kenya. Before Moi University was established, there was only one other university in Kenya known today by the name of the University of Nairobi, but which started as the Royal Technical College, in the 1950s. There are now five state universities and 11 privately sponsored universities in Kenya.

The idea of establishing a second state university in Kenya started with the setting up of a presidential working party in 1981. Colin B. Mackay of the University of New Brunswick, Canada headed the 17-man team. On 30 May 1984, the legislation to establish Moi University was enacted. This was followed by the inauguration of the Moi University Council in June 1984. The first group of 83 students, all finalists at the University of Nairobi's Department of Forestry, joined Moi University in October 1984. The Department of Forestry at Moi University has since expanded to become a fully-fledged Faculty of Forestry Resources and Wildlife Management.

The student enrolment at Moi University now stands at 5,138 undergraduates and 456 postgraduates respectively. Academic staff number 608, with administrative and support staff totalling 1,335. The university has three campuses and one university college affiliated to it.

The university is situated in the Great Rift Valley, about 300 kilometres north-west of Nairobi, the capital of Kenya. The main campus of the university is situated about 35 kilometres south of Eldoret town. An agricultural community surrounds the university. This is the right setting for the university, as it is meant to focus on problems of rural development in its training and research programmes.

Moi University was initially intended to supplement, but not to duplicate, the efforts of the University of Nairobi through training and research in vital scientific and technical fields which the University of Nairobi did not adequately cater for at that time. Information science was one area that was not adequately provided for in terms of research and training. It was strongly recommended that the Faculty of Information Sciences be one of the very first faculties to be established at Moi University.

Taking into consideration the needs of Kenya as a developing nation, Moi University has defined its objectives as well as determining a

mission for its existence. The university has determined its mission to be that of producing graduates who are practical, well informed, self-reliant, capable of functioning and contributing effectively to development efforts in both rural and urban environments; offer experiences in areas of national development, promote science and technology, without losing sight of its commitment to excellence in erudite teaching, research and scholarship.

In its endeavour to realise its objectives and mission, the university has had to collaborate with other institutions of higher learning and organisations based both in Kenya and overseas. Some of the organisations with which the university has had a close working relationship include MHO of The Netherlands (joint financing program for co-operation in higher education between the Government of The Netherlands and Moi University), the World Bank, the Canadian IDRC, UNEP, Kenya Breweries, BAT Kenya Ltd, UNESCO and the British Overseas Development Agency (ODA). The ODA made a major contribution to the establishment of the Moi University Faculty of Information Sciences, together with the construction and stocking of an ultra-modern library, which has been named after Margaret Thatcher, former British Prime Minister. The Faculty of Information Sciences is housed in the Margaret Thatcher Library building. The ODA also has provided funds for training staff in the library and the faculty, as well as equipping the library and the faculty.

The university has now established the following faculties and schools:

- Faculty of Agriculture
- Faculty of Education
- Faculty of Forest Resources and Wildlife Management
- Faculty of Information Sciences
- Faculty of Law
- Faculty of Science
- Faculty of Technology
- School of Social, Cultural and Development Studies
- Institute for Human Resource Development
- School of Graduate Studies
- School of Environmental Studies
- Faculty of Health Sciences.

The library

The main library is based at the main campus, with branch libraries at all the campuses – the

Faculty of Health Sciences in Eldoret town, the Chepkoilel campus and Maseno University College near Kisumu Town. There are 136 full time library staff members. Of these, 15 are professionals, 25 paraprofessionals, and 109 are administrative and support staff. Statistics compiled in the 1994/1995 academic year show that 336,314 persons entered the Margaret Thatcher Library. These are people who entered the library either to use it/or for their own interest in order to see the ultra modern building.

The library services were being provided to approximately 6,000 undergraduate and 250 postgraduate students, 600 teaching staff and more than 2,500 non-teaching staff.

In the 1994/1995 academic year, the library introduced new services at the main campus. These new services were, among others:

- online searching using CD-ROM databases;
- online public access catalogue;
- audio-visual library;
- bookbinding and repair;
- printing;
- a children's library; and
- fax and e-mail facilities.

The library has been designed to house up to one million volumes, and several hundreds of titles of periodicals. Presently, the library houses about 130,000 volumes and subscribes to 83 serial titles. A visitor to the library may think, and rightly so, that the library is empty. The Moi University Library is best placed to meet not only the information needs of students and staff, but also those of the industrial, business and agricultural communities in the North Rift and the Western Kenya regions.

Automation

The idea of automating the operations of Moi University Library dates back to 1988 – four years after the university was established. At this time it was only an idea and nobody quite knew where to get the funds for carrying out the project.

In 1990, the ODA accepted a proposal to finance the Moi University Library automation project. It was agreed that microcomputers were to be used as minicomputers, as mainframes were thought to be too expensive. The library collection did not warrant the use of a mainframe or even a minicomputer. In 1992,

the library received its first two microcomputers. The two computers were to be used for training library staff in cataloguing. The actual automation of the library started in 1994.

So far, cataloguing and circulation operations have been fully automated. The School of Environmental Studies Documentation Centre has also been automated. NUFFIC, through the University of Amsterdam, funded the automation project in the School of Environmental Studies Documentation Centre.

Managerial challenges

Managing a library automation project successfully in the rural Kenya poses more managerial and technical challenges than managing a library automation project, say in a city or close to a city in a developed country. Unlike the situation in the developed countries, automated library systems are not common place in the Third World countries, yet it is being said that a library that is not automated is moving further and further from the mainstream profession of librarianship.

The major purpose of managing a library automation project, wherever it may be, is to facilitate the successful acquisition and integration of an automated system into the library organisation. It requires the planning and co-ordination of many activities and events, involving many people within and without the library, and even outside the country, in the Third World. Government officials must be involved because the automation technology has to be imported. Anybody who has dealt with government officials in any Third World country knows how slow and unwilling to assist they can be when they know they do not stand to benefit from the service.

Ideally, all the people involved in the automation of a library should already have a basic understanding of an automated library system. It is cheaper and faster when the automation project manager is working with people who have some basic understanding of an automated library system. Such people are rarely available in Kenya in general, and at Moi University in particular. Participating in the implementation of the project were people who did not have any knowledge of a library automated system. There may have been one or two librarians who had graduated from a library

school in Europe or the USA, where automated library systems are commonplace, but the majority of the participants were totally ignorant of how an automated library system works, or even what it looks like. Managing a group such as this in a library automation project is not the easiest of tasks. It takes a very skilled project manager. There is a shortage of such managers locally.

Training

The training of staff is necessary for the successful acquisition and implementation of an automated library system. Not a single library staff member had been trained in preparation for an automated library system. The ODA, which financed the automation project, insisted there had to be some members of the library staff trained in the operations of an automated library system. The university was not in a position to start training library staff immediately. Financing the training was a major constraint and was not considered a priority. It was hoped that funds could come from a donor for the training. The university librarian, who in every sense was the project manager, had to keep soliciting for funds, both from the university itself and outside the university.

The ODA finally accepted that it would finance the training of the library staff. Informatics Partners Africa conducted a basic computer literacy course. A basic computer literacy course was a prerequisite for further training. It is not possible to train a person in the operations of an automated library system if that person is not computer literate. In fact most, if not all, the Moi University Library staff were not computer literate at this point.

One member of staff went to the Newcastle on Tyne Polytechnic, in the UK, for training in library automation and the general operations of an automated library system. He spent 12 months there and is currently the systems librarian. He has the best understanding of how an automated library system works. So far, he is the only one who has been reasonably trained in the operations of an automated library system. The university librarian works closely with the systems librarian in order to keep the automated library system operational. The Faculty of Information Sciences has not been able to recruit a systems manager – a post that fell vacant about two years ago.

To date, the cataloguing and circulation modules have been fully automated, and a number of staff have been trained in the operation of an automated library system. Some staff members are still being trained in the operations of an automated library system. Investigations by the author of this article revealed that most library users still prefer using the manual catalogue, rather than the OPAC. A majority of the staff are still very uncomfortable with the system. Library users have also had sufficient training in the use of the system. Most users prefer to use the manual catalogue rather than the OPAC. It is hoped that once the library staff have been reasonably well trained, they will in turn train library users.

Project manager

The position of automation project manager was not filled *per se*. In the establishment of the university library, there is no position of a project manager. To convince the university to hire an automation project manager, either permanently or on a temporary basis, would have been an exercise in futility. The university librarian had to assume the duties of an automation project manager. Instead of a project manager, an automation project management team was constituted. The university librarian headed the team. This was the team that was to oversee the acquisition and implementation of the automated library system. The other members of the project management team were the Dean of the Faculty of Information Sciences, the systems librarian, the university architect, and an official from the Ministry of Education and deans of the various faculties of Moi University.

The university librarian, as the team leader, had the challenging task of leading the project team. Most team members did not have an idea of what an automated library system looked like. Though experts in their own areas of specialisation, most team members were novices in a library automation project management. It is even possible that most of the team members were not computer literate. The university librarian had first to foster an information culture in the team members before they could appreciate the importance of automating a library. Most of the team members did not have the technical know-how

to positively contribute to the team's work. Some discussions were too technical for them, but the university librarian had to make them feel comfortable.

Loss of jobs

Change has not been known to be popular in any organisation. That is why, I believe management scholars have had to write extensively on "managing change". There is no known incident of a physical attack on the automated library system at Moi University to date, but you can be sure not all library staff members have been very happy with the system. Some library staff members believed, and still believe, that the introduction of an automated library system would automatically lead to the loss of their jobs. This may be more myth than reality, but some library staff members have had to treat the system with suspicion. Clerical and other support staff members, in particular, have believed that the newly-introduced system will eventually lead to the loss of their clerical jobs. They have come to believe that the system is meant to perform most of the clerical tasks in the library, hence, finally rendering them redundant. To an extent, their fears may be justified. The World Bank and the IMF-sponsored Structural Adjustment Programmes (SAPS) have forced most government departments in Kenya to carry out staff retrenchment in line with World Bank/IMF recommendations. The university librarian had to allay the fears of the clerical and other support staff and make them receptive to the system.

The university librarian had also to persuade another group of staff members to accept the automated system. This group consisted of the professional senior library staff members. They were critical of the system, not because it could not perform what was expected of it, but because they were not familiar with the automated system and the library automation technology in general. Instead of seeking training, they quietly criticised the system. They did not, and still do not, wish to expose their lack of understanding

De-motivation

Automation of a library, at its face value, is supposed to improve information management

as well as motivate library staff. This may not be so in a library in which the staff have a negative view of the system. At Moi University, the introduction of an automated library system may have been a demotivating factor. The very few who know how the system works are overworked to the extent that they feel de-motivated. The systems librarian, for example, has worked continuously for the last two years without taking time off because it is felt that if something goes wrong in his absence, the system may be inoperable. So he has always been on duty to make sure the system operates smoothly.

Conversely, staff, who are scared of losing their jobs as a result of automation, are not happy with the system. Instead of the system being a source of pride for them, it is being exactly the opposite. They may not openly express their aversion for the system, but the university librarian needs to be in a position to know whether all the staff are appreciating the system or not. A total lack of technical know-how and expertise has also been a source of frustration to some staff. Those who have been working in traditional library settings find it deplorable to depend on some strange technology to perform their duties. Resistance to the automated system is one major managerial challenge that the university librarian has had to face.

Shortage of local expertise and finances

Whereas it is desirable, convenient, and relatively cheaper to use local technical expertise to acquire, install, test and maintain an automated library system, it is regrettable that there is a shortage of trained personnel available locally in Kenya. The university librarian has had to depend almost entirely on foreign technical expertise to purchase the system, install, and maintain it. It has been costly but the university has been fortunate in that ODA has met all the bills so far. The ODA contract with IME expired in 1996 and the university has found it too expensive to renew the contract. This may hopefully be done when the economy improves.

After the system was installed, the ODA signed a maintenance contract with ICL. The company had been doing a good maintenance job, but the contract has expired. The university librarian asked the university to renew the maintenance contract with ICL, but so far the university has not renewed the contract and

the chances are the university will not renew the contract in the near future. The response has been that the government has not allocated the university any funds for the maintenance of the automated library system. The university librarian has to find a way of securing funds for maintaining the system.

The university librarian may be fighting a difficult battle as the university administration might consider that the ODA may have to maintain the system for a considerable time into the future. It is possible that the university administrators may not understand the importance of the library automated system, but conversely, it is common knowledge that there is a shortage of funding within the university. Even stocking the library adequately has been a problem. The library budget has been shrinking from year to year. The university librarian has to make a choice between buying books and maintaining the automated system.

Government support for the automation project has also not been very great. Government officials talk of the importance of information and information technology, especially at this time when Kenya has set itself an objective of attaining newly-industrialised nation status by the year 2020, but there is no government policy in place that supports the automation of university libraries. This makes it even harder for the university librarian to get funds for the implementation of the automation project and the maintenance of the system.

Technical challenges

In addition to the obvious managerial challenges that the automation project manager has had to face, he has also faced technical challenges. Library automation technology is not manufactured in Kenya. The project manager had to import the technology, the expertise and hardware and software from the UK. Importing anything in Kenya implies securing foreign exchange, which is scarce, and the process to gain permission rather cumbersome. This also means having to deal with customs officials, who are suspicious of just about everything that is imported into the country. An impatient automation project manager may give up.

Library automation experts were also brought in from Loughborough University of Technology in the UK to install the system and train the library staff in the operations of the

automated system. The university librarian, who played host to the experts, had to arrange for hotel accommodation, meals and everything that made them comfortable for the time they were in Kenya installing the system.

Site preparation

As an activity that had to be completed before the new automated library system could be installed, site preparation posed a major challenge to the automation project management team. In 1994, a drawing of the library network layout was prepared with the help of consultants from Loughborough University of Technology in the UK. A local construction company built the library. The company also installed computer cables, electricity and telephone lines.

Probably because of inexperience, the installation of the trunking was poorly executed. It had to be repeated at an extra cost to the library. The ethernet cable, which acts as the communication link between computers and the server, was too thick to fit into the trunking that the construction company had made. Everybody looked to the university librarian to solve the problem which was probably too technical for him also. The contractor had to re-drill the library building to make it possible to install the ethernet cable.

Networking cables, when very long, need repeaters when optimal length is reached. The repeaters need a source of power to function well. However, the constructors did not put power points at regular intervals, thus the repeaters could not function. A power cable had to be passed through the same tunnel as the ethernet cable so that it could provide power for the repeaters.

TINLIB, the software that was used for automation is not manufactured locally in Kenya. It had to be customised to fit the Moi University environment. For instance there are no counties or zip codes in Kenya. The problem here was that the Moi University Library did not have the programme code to make customisation possible. If the programme was to be customised to the needs of Moi University Library, then the supplier would have to prepare a special upgrade for the Moi University Library. This would have been too expensive and the programme has had to be used as it is and some parts, which are irrelevant to the university library have been ignored.

The automation project management team has had to face infrastructure problems. Frequent power blackouts and non-working telephone lines have not been uncommon and have been a source of frustration to the team. A power blackout meant that work had to be postponed until the power was restored. A disconnected telephone line may take a very long time to be reconnected. This is an infrastructural characteristic of most, if not all, developing countries.

Conclusion

Managing a library automation project in a developing country may pose greater managerial and technical challenges than managing one in a developed country. Such managerial challenges as:

- importing technology;
- training staff in preparation for an automated system;
- soliciting funds from the government or from donor;
- persuading library staff to adapt to the information culture; and above all,
- to successfully acquire and install the system

takes patience and a skilled project manager.

Such managers are in short supply in Kenya, and in most developing countries for that matter. A major technical problem can be that of placing too much reliance on foreign experts, who may not be aware of all of the local problems, which are more than just financial and technical.

The managerial and technical challenges that the Moi University Library automation project management team has faced should not be looked on as an isolated case, but challenges that any library in the Third World intending to automate its library functions should expect to face. It may take time before the Third World countries start manufacturing the library automation technology or any kind of information technology for that purpose, but they should seriously start thinking of preparing local training programmes with a bias towards information technology. Designers of such programmes should also put a great emphasis on management courses. The Moi University Faculty of Information Sciences for instance may be a good training ground, but only if it is well equipped. Countries in the East African

region may pool resources and strengthen the faculty for the benefit of the citizens of the region. This may not be new in East Africa. The East African School of Librarianship at Makerere University in Uganda was, for a long time, the only institution that trained librarians in the East and Central Africa region. Most pioneer librarians in East Africa went through the East African School of Librarianship.

In spite of all these problems, the university librarian considers that there will be no return to the manual library systems, but that there will be greater use of the virtual library in Kenya.

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