University of Zululand

Proceedings of 13th Annual IS Conference

Theme

"Empowering and Inspiring Current Information Studies Worldwide"

Editors

Dennis N. Ocholla and Neil Evans

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Proceedings of 13th Annual IS Conference

The Information Studies Conference at the University of Zululand has been held under different names since 2000. The conference has grown from a Departmental project into a regular and recognized conference in South Africa and regionally in Africa. Looking back, we can say that this conference has been able to achieve its purpose that is popularizing LIS research largely among postgraduate students and LIS educators/faculty, particularly within South Africa. Over the past years, we have been fortunate to host prominent guests and speakers at our annual conferences from Botswana (UB), Kenya (Moi University and Kenya Polytechnic University College), New Zealand, South Africa (DUT, NRF, UKZN, UP, UNISA, UZ,), Uganda (Makarere University) and USA (University of Wisconsin Milwaukee), which has significantly improved the quality and visibility of the conference.

The purpose of the Information Studies conference has not changed. Above all, we aim to popularize LIS research and knowledge sharing among students and staff/faculty through research capacity building, research presentations, discourse and publications. As a result, we have published our conference proceedings both in print and electronic format for open access on our website (http://www.lis.uzulu.ac.za). Most of the conference papers have also been published as articles in scholarly journals and as chapters in books. We believe that researchers studying LIS in Africa will find the research publications relevant and worthwhile for LIS education and research.

The current 2012 conference was equally diversified by attracting papers both from within and outside South Africa.

The conference theme was "Empowering and Inspiring Current Information Studies Worldwide". Contributions are invited that address current research issues related to the LIS field. Themes and sub themes that may be addressed were wide and open:

• Research concepts and application
• Information and knowledge management
• Bibliometrics and Informetrics
• Social/community informatics and ICT4D
• Information seeking and user studies
• Information Retrieval
• Information Ethics
• Indigenous knowledge
• Institutional Repositories
• Open Access
• Scholarly publishing
• Digitization
• E-records management, e-learning and e-government
• LIS education and training

The Conference Program was based on accepted participants' paper proposals and special invitations issued by the Organizing Committee to selected experts in the Conference topics.

Enjoy the Conference

Dennis Ocholla and Neil Evans, University of Zululand, September 2012.

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Library and Information Science (LIS) Education and Training: Uganda Perspective

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Abstract

LIS education and training in Uganda has continuously responded to the global dynamics of change. As Uganda's economy grows, the demand for proper information management will continue to propel LIS educators to be innovative amidst dwindling support to public institutions of higher learning by the government. This paper makes a brief exploration of LIS education in Uganda. It highlights quality assurance management practices, the challenges affecting LIS Education and training and recommends some strategic measures that need to be adopted not only in Uganda but for most LIS Education and training institutions in Africa.

Keywords *– Library and Information Science Education, Library and Information Science Education and Training –Challenges, Uganda*

1. Contextual Background

Libraries and information science education institutions in Africa started quite early as 1960 in the continent. By 1980s there were five main LIS education institutions based in Ghana, Nigeria, Senegal and Uganda (Ocholla and Bothma 2006). Much as LIS education in Africa today no longer focuses on the training and education of librarians to work in libraries only, originally LIS schools' major focus in the education and training area was librarianship (Ocholla and Bothma 2006). With the changing need of employers and the proliferation of related courses and programmes to librarianship, many changes have taken place in the field of librarianship. The names of LIS education programmes, LIS Education awards and LIS education courses have all changed. These changes have been especially due to the re-orientation of higher education in the world and the need to stay relevant in the global competitive world (Okello-Obura and Kigongo-Bukenya 2008). A quick look at Africa shows that, in the past most departments were simply called Departments of Library Science / Library Studies or Librarianship.

In the eighties many departments changed their names to Department of Library and Information Science / Studies. In the nineties, many of these departments again changed their names to Information Science / Studies (Ocholla 2005 and Minishi-Majanja 2004). Through a combination with other (information-related) disciplines, some have incorporated this in their names as well, for example the Department of Information and Communication Studies at the University of Namibia (Ocholla and Bothma, n.d). At the University of Johannesburg, the Department's name was changed to the Department of Information and Knowledge Management (Ocholla and Bothma 2006). In Uganda, the East African School of Librarianship was changed to East African School of Library and Information Science (EASLIS). From then, the changes have made significant impact on the LIS Education, training and awards.

Given the competition now in the field of LIS and the realization of the LIS profession to remain relevant, the global reorientation has not spared the content. The issue of what constitutes or should constitute the 'core' in library and/or information science (LIS) education and training is one that is frequently debated in different circles by LIS professionals (Raju 2004). Drexel University (2000), notes that education for LIS professionals should integrate both human and technical aspects of information systems and exhibit a strong client orientation in service delivery to the library and information users. As noted by Feather and Sturges (2003), there is a clear manifestation for the need to balance between core skills of LIS and those, which apply to specific work environments. What remains unanswered well is what the "core" courses are? Most LIS schools look at this differently although they tend to agree with Wilson (2001) who proposed six fields that have to be factored in an LIS curriculum and these include:

- Information content (the traditional function of library and information centres).
- Information systems (human/systems interaction and organizational systems).
- Information users and providers (information use and information seeking behaviour).
- Information organizations (information producers, libraries and information centres, etc. and their operations).
- Supplemental knowledge skills not included in any of the above (such as subject bases, e.g. philosophy, history, etc).
- Practicum (prescribed practical experience as a programme of study) (Wilson 2001).

On the other hand Raju (2004) argues that "while it is possible to identify certain knowledge and skill components as being appropriate for the core library and/or information science curriculum for a first-level LIS qualification, it is difficult to be precise about what exactly constitutes or should constitute the core in library and/or information science education and training. This core is

continuously evolving, as the information environment to which LIS education and training programmes need to respond is also in a state of flux" (Raju 2004).

In view of the above arguments, it is, thus, prudent that Uganda looks at the development of human capacity broadly to manage information for democratic governance, transparency, accountability, and full observance of human rights, freedom of association and political consciousness among others so as to transform the society. This will be in line with Uganda's aspiration towards developing a society that recognizes information as a national resource.

1.1 LIS Education Development in Uganda

In Uganda, LIS Education started in 1963 at the East African School of Librarianship (EASL) now East African School of Library and Information Science (EASLIS) with a certificate in Librarianship and eventually Diploma and Postgraduate Diploma in Librarianship. Although some institutions, like, Kyambogo University, Kabale University, Uganda Christian University- Mukono, Uganda Management Institute, Kabale University and Busoga University have designed programmes for LIS Education, it is the East African School of Library and Information Science (EASLIS), Makerere University that has been providing the LIS education at the Bachelor level since 1989. Uganda Christian University, Mukono and Lugazi University introduced BLIS in 2006 and 2007 respectively. Unfortunately, Lugazi University that had started BLIS programme has had its provisional license withdrawn by the Uganda National Council of Higher Education in 2010. However, quite a number of private universities are now planning to introduce BLIS or similar programmes. It is also worth however noting that LIS education in Uganda has expanded from the certificate to PhD in Information Science at EASLIS. For a long time all LIS professionals (librarians, archivists, records managers, publishers, book sellers, documentalists etc) have been catered for in the following programmes:

- PhD in Information Science (EASLIS)
- Master of Science in Information Science (MSc. Inf. Sc) (EASLIS)
- Postgraduate Diploma in Librarianship (PGDL)-(EASLIS)
- Bachelor of Library and Information Science (BLIS)- (EASLIS & Uganda Christian University, Mukono, Kabale University)
- Bachelor of Records and Archives Management (EASLIS)
- Diploma in Library and Information Studies (DLIS)- (EASLIS, Mukono, Kyambogo, IUIU, Kabale University)
- Diploma in Records and Archives Management (DRAM)- (EASLIS), Kabale University

- Certificate in Library and Information Studies (EASLIS etc)- Now phased out

A situational picture of LIS Education and Training in Uganda can be summarized in the Table below:

Universities/LIS schools	**LIS Programmes**	**Number of students**	**Accreditation**
Makerere University-EASLIS (Public University)	-Ph. D in Information Science -Msc. In Information Science -Postgraduate Diploma in Librarianship (PGDL) -Bachelor of Library and Information Science -Bachelor of Records and Archives Management (BRAM) -Diploma in Records and Archives management -Diploma in Library and Information Studies	10 47 0(under revision) 738 743 49 58	Accredited Accredited Not yet Accredited Accredited Accredited Accredited
Uganda Christian University, Mukono (Private University)	Bachelor of Library and Information Science	150	Accredited
Ndejje University (Private University)	Certificate in Library and Information Studies	20	Accredited
Kyambogo University (Public University)	Diploma in Library and Information Studies	50	Accredited
Islamic University in Uganda, Mbale	Certificate in Records and Information management	22	Accredited
Kabale University	Bachelor of Library and Information Science Certificate and Diploma in Library and Information Studies		Not yet accredited
Mutesa I Royal University	Bachelor of Library and Information Science	35	Not yet accredited

Kampala International University	Bachelor of Library and Information Science	10	Not yet accredited

In handling of these programmes, most LIS departments are inadequately staffed and are relying on junior staff to run the programmes. It is EASLIS, Makerere University that has experienced staff because of its historical background as the oldest LIS School in the region.

The staffing at EASLIS is as follow:

Full time Staff

Rank	**Highest Qualification**	**Number**
Professor	Ph.D	3
Assoc. Professor	Ph.D	1
Senior Lecturer	Ph.D	0
Lecturer	Ph.D	4
Assistant Lecturer	MSc.	9
Teaching Assistant	BLIS	5
TOTAL		22

Part time staff (from within the University)

Professor	Ph.D	1
Assoc. Professor	Ph.D	1
Senior Lecturer/Equivalent	Ph.D	4
Lecturer/Equivalent	Ph.D	2
Assistant Lecturer/Equivalent	MSc. and Ph.D candidate	2
TOTAL		10

1.2 Quality Assurance Strategies

The meaning of quality assurance is very elastic. For the purpose of this study, Quality assurance refers to the set of procedures adopted by higher education institutions, national education systems and international agencies through which quality is maintained and enhanced. Quality assurance aims at preventing quality problems and ensuring that only conforming products reach the customer. The characteristics of an effective quality assurance mechanism are:

- An effective quality management system
- Periodic audit of the operation of the system,

- Periodic review of the system to ensure it meets changing requirements (Ogbodo and Nwaoku n.d)

Over the years, changes in LIS education have been profound, pervasive and universal (Rehman 2008). During the last couple of decades, this process of change has accelerated new areas of studies like information management, knowledge management, content management, information architecture, digitization and archival and record systems (Rehman 2008). With the expansion in the field the issue of quality assurance has become important just like in any other profession. Quality assurance in the context of LIS, Uganda perspectives can be looked at under the above three areas:

- **An effective quality management system**

Makerere University the oldest institution of higher learning has quality assurance policy. The policy requires that each college should have a quality assurance committee that is part of the College Academic Board. In order to ensure the implementation of Quality assurance policy at school level, EASLIS established a quality assurance committee headed by the Dean. This committee is directly responsible for ensuring an effective quality assurance system in the training of LIS and Records and Archives Management at EASLIS.

The existence of Uganda National Council of Higher Education for accreditation of programmes provides an effective system of quality assurance. No programme is expected to be established without the approval of Uganda National Council of Higher Education (the statutory body responsible for the accreditation of Universities and their programmes)

- **Periodic audit of the operation of the system**

As part of the periodic audit, academic staff is evaluated by students. This is a periodic audit of the teaching of the academic staff. The findings are analyzed by the College Quality Assurance Officer and results shared with the concerned lecturer. This helps the lecturers to improve on their areas of weaknesses.

The examinations at EASLIS are also moderated by a selected experienced staff within the school and the college of Computing and Information Sciences. Exams that are found to be set without conforming to Broom's taxonomy of assessment are normally rejected. Secondly, if a lecturer's set exams do not cover the entire curriculum, the exams are rejected by this committee and the lecturer is requested to reset. This helps to compel lecturers to complete the entire syllabus during the teaching.

There is also external examination as a quality assurance strategy. EASLIS has two external examiners while Uganda Christian University and Kabale University each have one LIS external examiner. This is part of the quality assurance mechanism

- **Periodic review of the system to ensure it meets changing requirements**

Periodic review of the system to ensure it meets changing requirements requires review of the curriculum after every cohort. All EASLIS programmes are reviewed after every cohort. In this review, a SWOT analysis is made of the programmes. This helps to strengthen the content, teaching methodology, transferable knowledge and skills required. In the review process, Uganda Library and Information Association is involved. Although programmes are reviewed, facilities are not. This has led to having fabulous syllabus but with insufficient facilities to support the teaching.

2.1 Challenges of LIS Education and training in Uganda

The challenges of LIS education and training include how to make LIS education relevant and effective. It is no secret that the circumstances affecting LIS Education and training in Uganda have changed drastically even in the last decade. There are several factors in this change. As Smith (1983) argues, one is technological development in the field of information creation and dissemination, which includes the increasing use of computers, microforms, word processing equipment, and the use of lasers and a wide range of developments in the field of communications, including satellites. This technological change has continued to pose a challenge to LIS field.

In Uganda, the challenges facing LIS Education and training are many. Some of these include:

- **Lack of adequate LIS Educators**

It is universally, recognized that, in our knowledge- and technology-driven global village, each country's economic and social well-being depends on its ability to harness its human resources through a dynamic and innovative educational system that thrives on, and propels, technological development (Okello-Obura and Kigongo-Bukenya 2011). This required link between educational and technological development is particularly critical at the higher levels of the educational system, and especially, university education (Sani and Tiamiyu, 2005). Unfortunately there are inadequate educators especially at Postgraduate level and especially in the fields of records and archives studies, publishing studies and IT related courses. Most of the educators/trainers in Uganda did

much of library science, information systems and information science at postgraduate level because the LIS profession has been very slow in addressing the special aspect of records and archives studies and publishing education and training (Okello-Obura and Kigongo-Bukenya 2011). It is only Makerere University, EASLIS that has a reasonable number of well trained professionals. Most of the other institutions are relying on first degree holders and part time Lecturers.

- **Limited research and publication among LIS scholars**

Because of the limited number of Lecturers, many LIS lecturers are engaged in teaching at the expense of research. Very few staff are involve in productive research. Due to inadequate number of staff, sometimes a professor is given a total of 18 hours of teaching in a week hardly leaving room for research. This heavy teaching is also slowly affecting the quality of research supervision of graduate students.

- **Standardization of LIS programmes**

Worldwide, extensive effort has gone into the creation and implementation of international standards for information management. This implies that even at national levels LIS education programs should be standardized. The main professional body in Uganda for professional librarians, documentalists, archivists, records managers and conservators is the Uganda Library and Information Association (ULIA). According to the Constitution of ULIA, ULIA is expected to monitor the standards of LIS education in Uganda. Unfortunately, this is not happening. Apart from EASLIS, sometimes LIS programmes in other institutions are launched without ULIA's official input (Okello-Obura and Kigongo-Bukenya 2011). As argued by Rankin (2003), the professional bodies have a strong tradition of supporting LIS training and education and this need to be tapped to improve LIS Education in Uganda.

- **Technology infrastructures at LIS schools**

Tsakonas and Papatheodorou (2006) note that digital libraries, e-journal platforms, portals, e-prints and other web-based information systems provide services supporting users to perform intense work tasks that require complex interaction activities. An important challenge is for individual LIS managers and the profession collectively to adapt to technological changes by acquiring sufficient knowledge to be able to use computers. There is now a preponderance of computers in all areas of life, including in the conduct of transactions of all kinds, meaning more and more records and information are being created and maintained digitally. As argued by Ocholla (2008), LIS schools are largely funded by the government through their affiliate institutions, such as universities. Because of rapid technological changes in the information environment, resource support has become fundamental in the growth and sustainability of LIS schools. Increasingly, LIS education

and training is becoming highly dependent on modern computer hardware and software, efficient internet access and connectivity, computer literacy and highly skilled IT staff, and well equipped computer laboratories (Ocholla 2008). The challenge of adapting to technological change provides the opportunity to handle information more effectively in every respect: creation, storage, retrieval and dissemination. Recent reports (Ocholla 2003, Minishi-Majanja and Ocholla 2004, Minishi-Majanja and Ocholla 2004), focusing on information and communication technologies in LIS education in Africa, recognized increasing investment on ICT for LIS education in the region for teaching and learning, research and for academic management and decision making. But in Uganda, there is still a lot to be done to match the increasing enrolments among the LIS schools. In Uganda, with the exception of EASLIS whose ICT needs were addressed as a result of the merger with former Faculty of Computing and Information Technology, Technology infrastructure in LIS schools in Uganda is poor with limited computers, lack of good maintenance and slow internet access.

- **Information illiteracy**

The Association of College and Research Libraries (2000) define Information Literacy to be "a set of abilities requiring individuals to recognize when information is needed and have the ability to locate, process, and use effectively the needed information. Information literacy forms the basis for lifelong learning". Unfortunately, the majority of the students who go for LIS Education in Uganda are information illiterate. This is because of the inherent poor reading culture deeply rooted in the poor school library system and services in the country. Currently, there is no national school library policy in Uganda and school libraries in Uganda have been neglected for a very long time. As a result, libraries are often lacking completely in many schools or are considered to be of an inadequate standard in the schools that do have them (Kigongo-Bukenya 1990; Magara and Bukirwa Nyumba 2004). Nevertheless, there have been efforts to improve on the situation. One of them is the School Library Development Project enacted by the National Library of Uganda (NLU) and the East African Book Development Association where books are selected and purchased annually and distributed among 36 primary schools in 12 districts every year (Jonsson and Olsson 2010). The NLU also monitors and evaluates the use of these books through regular visits (National Library of Uganda 2007). The primary and secondary schools in Uganda, especially the private ones, are also a problem. Due to the competition to excel in final examinations, many pupils/students are mostly taught how to pass exams but not how to look for information! (Okello-Obura and Kigongo-Bukenya 2011)

- **Changing enrolment**

LIS schools cannot exist without students just like businesses cannot exist or thrive without customers (Ocholla and Bothma 2006). Whereas students enrolling for library science has declined in most LIS schools in Africa, the number of students enrolling for LIS with diversified qualification programmes with either broader information orientation or specialized information qualification programmes (such as Records Management, Publishing, Multimedia, Knowledge Management, Information Technology) has either increased or stabilized (Ocholla and Bothma 2006). Although there is a perception that the decline of enrolment for Librarianship qualification is caused by limited job opportunities in libraries as the expansion of libraries in Africa is very minimal or in some cases non-existent, we tend to agree and somehow also disagree. It is true that after independence, in 1962, the library sector in Uganda developed due to support from foreign donors. Unfortunately, the progress that was achieved during the 1960s was reversed in the 1970s as a result of Idi Amin's terror regime.

The collapse of the economy in Uganda during the 1970s together with the ending of book donations from abroad hit the libraries hard. It was not until the 1990s when the financial situation improved in Uganda that libraries once again were able to serve the public and its communities (Nawe 2004). Now with the privatization of Education, many universities are being established and this implies the need for more librarians. What is needed is for LIS educators and professionals to refocus the curricula to address the changing pattern in LIS profession (Okello-Obura and Kigongo-Bukenya 2011). Currently, for instance, at EASLIS, the LIS profession has gain popularity in which in academic year 2012/2013 a total 1165 students were admitted for the different programmes as follow:

- PhD. In Information Science – 2
- Msc in Information Science – 30
- Bachelor of Library and Information Science – 518
- Bachelor of Records and Archives Management – 538
- Diploma in Library and Information Studies – 42
- Diploma in Records and Archives Management -55

Although this increase in number has brought in the much needed resources from private students, the pressure it is exerting on staff is enormous. Lecturers have classes with large number of students

- **Lack of cross-professional engagement**

LIS School members have to move out of their traditional comfort zones and ensure that they keep up-to-date with developments in other professions. It is very common with LIS professionals to attend LIS conference and miss the benefits of interfacing with other professionals to market the

LIS profession. Most people do not understand librarianship partly because LIS professionals are always talking to themselves in conferences. We need to move out and attend conferences of Engineers, Economists, Health Experts, Agriculturalists, Conflict resolution, etc. so as to market the profession so that LIS graduates are well received in the field.

- **Pressure from Employers**

The IFLA (2000) guidelines for education of library and information professionals recommend that core elements of a LIS curriculum should be:

- ✓ The Information Environment, Information Policy and Ethics, the History of the Field
- ✓ Information Generation, Communication and Use
- ✓ Assessing Information Needs and Designing Responsive Services
- ✓ The Information Transfer Process
- ✓ Organization, Retrieval, Preservation and Conservation of Information
- ✓ Research Analysis and Interpretation of Information
- ✓ Application of Information and Communication Technology to Library and Information Products and Services
- ✓ Information Resource and Knowledge Management
- ✓ Management of Information Agencies
- ✓ Quantitative and Qualitative Evaluation of Outcomes of Information and Library Use

There is now demand of some of the skills from the employers like, Knowledge in Entrepreneurship, Organisational psychology, foreign language knowledge like French, German etc. This has resulted into the expansion of the curriculum at the expense of some core courses of the LIS profession

- **Poor completion rates of graduate students**

All graduate students pursuing LIS in Uganda are working. After completing their coursework, they hardly find time to concentrate on their researches due the work pressure thus delaying them from completing. This is resulting into poor completion rate.

3. Strategies adopted to address challenges in LIS education and training in Uganda

In the increasingly knowledge-based economy, information is considered a vital resource in economic, social and political life and skills for information handling in all sectors are more than ever in great demand (Mackay… et al, 2001). In response to this, Library and Information Science education and training in Africa and Uganda in particular is undergoing rapid change though with

difficult challenges to overcome. In Uganda LIS education institutions especially EASLIS, Makerere University have adopted the following strategies:

- **Creation of both local and international partnerships**.

To address the problem of inadequate educators in the LIS field, there is need to create good local and international partnerships that can promote teaching, research and innovations in the field of LIS. Essentially, collaboration is about sharing and exchanging knowledge and skills. Thus, it involves knowledge, skills, and techniques' sharing and transfer; and enables visibility; and by using collective effort may solve problems faster. To echo what Ocholla (2008) has pointed out, fundamentally, collaboration and partnerships could be forged amongst LIS institutions in a country and internationally or regionally in areas such as teaching, research, student and staff exchange, conferences and workshops, curriculum development, publications, research supervision and examination and distance teaching, learning and research. This is one of the strategies adopted by EASLIS.

- **Involvement of stakeholders in curriculum design**

As noted by Ocholla (2001, 2008), opportunities for collaboration exist in the development of partnerships with industry/employers in curriculum development, teaching, research, publication and experiential learning. Anderson (2007) advice that curriculum designers and teachers of professional education courses can do a great deal to help make new professionals become independent lifelong learners is vital. Assessments can be designed not only to test mastery of course content, but to develop new skills needed to write and present the assignments. Learning resources can be provided in such a way that students further develop their own information-seeking skills. In the design of the curriculum, a wider consultation of stakeholders is made and comparison made with peer institutions in the East African region and outside the region.

- **Strengthening the provision of knowledge and skills through short courses**

To bridge the knowledge and skills gap between the University curriculum and employers' demand, practitioners are involved in the design of curriculum of short courses. Both education and training are essential to ensure optimum performance by practitioners, but the concept of education that is held by the profession needs extension beyond an entry-level qualification to embrace a culture of lifelong learning including higher education and research. As argued by Anderson (2007) and Shepherd (2005, 2006), the development of professional training, which will equip records managers to perform effectively in the context of technological changes and promotion of relevant standards and procedures, is emphasized.

- **Information literacy** as a course has been made compulsory for all bachelor students at EASLIS. This will go a long way in increasing the knowledge level of the learners regarding the use of information resources**.**
- **Mentoring of young authors.**

Young authors or scholars need to be mentored by experienced authors or professors. Mentoring should be to do with encouragement to publish quality articles. An experienced author could think of an area publishable and encourage a junior author to write about or when a junior author brings an area of interest, the experienced author should encourage and guide the junior author. To make this possible, workshops have been organized on authorship and mentoring. Secondly, the College of Computing and Information Science in the last financial year budget approximately 200 million (approx 80,000 USD) to support research projects between Senior and junior scholars.

- **Strengthening and full integration of ICTs in LIS education and training curricula**

Worldwide, there has been rapid adoption of electronic data processing in LIS practice and, therefore, giving students IT will give them not only a competitive edge in the labour market but will also make them competent in the work situation (Kuvulya 2007). ICTs are now becoming life-blood of businesses. LIS schools need to build synergies with computing faculties. EASLIS having realized this, merged with Faculty of Computing and Information Technology to form College of Computing and Information Sciences. This is helping in teaching some of the ICT based courses where EASLIS does not have competent staff to teach.

- **Development of field attachment based training for graduate students who do not want pursue academic career or research.**

Among the graduate students, there are those who do not have interest in pursuing academic career. To cater for this interest, EASLIS has included a provision of field attachment and comprehensive oral examination in its MSc. in Information Science programmed. All those who are not interested in rigorous research process and expect not to proceed to Doctoral studies are advised to take this path.

- **Developing more Graduate Training programmes**

To address LIS Lecturers human gaps, EASLIS as a pioneer LIS Education institution in Uganda has designed more graduate programmes awaiting the approval of the University Board of Research and Graduate Training. These include: MSc in Records and Archives Management, MSc. in

Agricultural Information and Communication Management and MSc. in Publishing studies. Once these programmes are launched, they are expected to help improve on the Human resources gap in LIS education schools/department in Uganda.

In conclusion, as LIS education and training seeks a wider role in society, the need to prepare students for careers in a rapidly changing world requires multidisciplinary education, greater emphasis on core knowledge. LIS Educators and practitioners should design and execute programmes which address the recruitment of emerging majorities and developing more diverse leaders for the profession.

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Establishing a Library and Information Service Environment Supportive To Knowledge Workers

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Abstract

The) paper delves into ways in which librarians may establish a library and information service environment supportive to knowledge workers. In this paper, it is extrapolated that LIS professionals should be able to establish a library and information services environment in which knowledge workers should be able to produce more knowledge and share it without major impediments. The environment in which LIS professionals are trained to work is now predominated by knowledge economy and information society perspectives. The labor market for LIS professionals is equally changing rather rapidly. LIS departments used to prepare professionals who worked in particular environments, but not anymore. The skills LIS professionals require to work in a knowledge economy environment may be different from the skills which were required to work in the traditional library environments. As knowledge workers, LIS professionals are expected to competently establish library and information service environments which may enable other knowledge workers to thrive in their knowledge work. Major objectives of the paper include: finding out who knowledge workers are; establishing the kind of library and information service environment favourable to knowledge workers; determining the kind of infrastructure for information favourable to knowledge workers; determining the challenges of establishing the library and information service environment favourable to knowledge workers; and identifying the skills required of LIS professionals to be able to establish a library and information service environment favourable to knowledge workers in a knowledge economy . A literature review conducted on the knowledge economy, training of LIS professionals, the information society, and other relevant topics. Findings of this study may inform trainers of LIS professionals on the kind of skills that are necessary for Library and Information Service providers in a changing work environment that is increasingly being predominated by knowledge economy and information society perspectives.

Keywords: Information Service; Librarians; Knowledge workers; Information Environment

1.0 Introduction

For many years, librarians have been seen as people who are charged with acquiring books, shelving such books and check them in and out. However, the environment in which Library and information service (LIS) professionals are working now is predominated by knowledge economy and information society perspectives. The labor market for LIS professionals is equally changing rather rapidly. LIS departments used to prepare professionals who worked in particular environments, but not anymore. In the paper, it is extrapolated that LIS professionals should be able to establish a library and information services environment in which knowledge workers should be able to produce more knowledge and share it without major impediments.

Developments in computers, microelectronics, and communication technologies have radically changed the library and information environments in which LIS professionals are hired to work (Vasanti 2001). According to Vasanti, gone are the days of stand-alone libraries, in which a library was judged less by the quality of its resources and services than by the number of documents it stocked.

Traditional libraries were dominated by print publications and the access mechanisms were also by-and-large manual. In a knowledge economy environment, the paradigm has shifted from stand-alone libraries to library and information networks, available via the Internet, which can provide end-users with a seamless connection to Internet-based services. Moreover, we are increasingly witnessing automated, digital, and virtual libraries as well as networked data, specialized networks, and library networks. Multimedia and the Internet have further made the job of library and information professionals more challenging. While technology makes great quantities of information available to audiences world-wide, perception-affecting factors provide the context which individuals use to translate data into information and knowledge. House (2003) contends that information technology has changed and keeps on changing the processes of knowledge work.

2.0 Knowledge Work and Knowledge workers

When talking about knowledge workers, one immediately gets the impression – whether wrong or right, that these are people who are involved in knowledge work. Van House (2003) identifies three critical characteristics of knowledge work as work which is situated, distributed and social. That it is situated means that knowledge work is performed by specific people under specific conditions for specific purposes. Knowledge work is distributed because it entails cooperation among people who don't necessarily know each other and those who do, across space and time. Knowledge work is social because people work and learn together and decide what and whom to believe and rely on

in the community. Much of what we claim to know comes not from our own direct experience but from what others tell us to be so, including our knowledge of whom to believe.

Who then are knowledge workers? Davenport (2005) defines knowledge workers thus:

> Knowledge workers have high degrees of expertise, education, or experience, and the primary purpose of their jobs involves the creation, distribution, or application of knowledge. Knowledge workers think for a living. They live by their wits – any heavy lifting on the job is intellectual, not physical. They solve problems, they understand and meet the needs of customers, they make decisions, and they collaborate and communicate with other people in the course of doing their own work. (Davenport 2005:10-11).

Davenport argues that it is easy to point to examples of knowledge workers but it is difficult pointing to people who clearly and definitely are not knowledge workers. This is because most jobs require some degree of relevant knowledge to perform them successfully and that the number of jobs requiring no knowledge whatsoever has decreased over time.

1.2 The concept of a Knowledge economy

The concept of the "knowledge economy" sounds abstract, but it is continuously gaining currency. Chatzkel (2003) defines a knowledge economy as one where people realize that productivity and performance come more and more from what people know and how they use what they know, more than it comes from selling a piece of software or a product. Peters (2001a, 2001b in McPhail, 2009) highlights five key characteristics of the knowledge economy which differentiate it from the traditional economies as shown in table 2.0 below.

Table 1.0: Characteristics of the knowledge economy

Economics of abundance:
The economics is not of scarcity, but rather of abundance. Unlike most resources that deplete when used, information and knowledge can be shared and may actually grow through application.
The annihilation of space:
The effect of location is diminished. Using appropriate technology and methods, virtual marketplaces and virtual organizations can be created that offer benefits of speed and agility, or around the clock operation and of global reach.
National boundaries:
Laws, barriers and taxes are difficult to apply on solely a national basis. Knowledge and information leak to where demand is the highest and barriers are the lowest.
Knowledge premiums:
Knowledge enhanced products or services can command price premiums over comparable products with low embedded knowledge of knowledge intensity
Pricing contexts:
Pricing and value depends heavily on context. The same information or knowledge can have vastly different value to different people at different times.
Embedded knowledge:
Knowledge when locked into systems or processes has higher inherent value than when it can walk out of the door in people's heads.
Human capital:
Human competences are a key component of value in a knowledge based company, yet few companies report competency levels in annual reports.

Source: McPhail (2009)

3.0 Information environment

According to the USA Department of Defense (2006) the information environment is the aggregate of individuals, organizations, and systems that collect, process, disseminate, or act on information. The actors include leaders, decision makers, individuals, and organizations. Resources include the materials and systems employed to collect, analyze, apply, or disseminate information. The information environment is where humans and automated systems observe, orient, decide, and act upon information, and is therefore the principal environment of decision making. Even though the information environment is considered distinct, it resides within each of the four domains. The

information environment is made up of three interrelated dimensions: physical, informational, and cognitive (see Figure I-1).

Figure 1: **The Information Environment**

Physical Dimension	▪ Where the information environment overlaps with the physical world ▪ Information systems and networks ▪ Key characteristics: computers and other communications systems, and supporting infrastructures
Informational Dimension	▪ Where information is collected, processed, stored, disseminated, displayed, and protected ▪ Dual nature – information itself and the medium ▪ Links physical and cognitive dimensions ▪ Key characteristics: information content and flow, information quality ▪ Where automated decision-making takes place
Cognitive Dimension	▪ Where human decision-making takes place ▪ Dimension of intangibles such as morale, unit cohesion, public opinion, situational awareness ▪ Key characteristics: perceptions, emotions, awareness, and understanding

Source: USA Department of Defense (2006)

(1) **The Physical Dimension.** The physical dimension is composed of the systems, and supporting infrastructures that enable individuals and organizations to perform operations. It is also the dimension where physical platforms and the communications networks that connect people and organizations reside. This includes the means of transmission, infrastructure, technologies, groups, and populations. Comparatively, the elements of this dimension are the easiest to measure in an information environment.

(2) **The informational Dimension.** The informational dimension is where information is collected, processed, stored, disseminated, displayed, and protected. It is dimension where knowledge workers' intent is conveyed. Consequently, it is the informational dimension that must be protected by all means.

(3) **The Cognitive Dimension.** This is the dimension in which people think, perceive, visualize and decide. It is the most important of the three dimensions. The dimension may also be affected by the knowledge worker's training, level of education and other personal motivations. Factors such as leadership, morale, emotion, state of mind, experience, situational awareness, public opinion, perceptions, media, media, public information, and rumours affect this dimension.

4.0 Librarians in the knowledge economy environment

Librarians are now increasingly working in a knowledge economy environment. It is in the knowledge economy environment that librarians interact with knowledge workers. How different is the knowledge environment in which librarians now work from the information environment? In information environment, librarians work with information objects (explicit representation of knowledge –documents and collections in different formats (Materska 2004). Materska argues that in the knowledge environment, librarians additionally have to work with people. Houghton and Halbwirth (2002) on the other hand contend that the complexity of human factors includes not just the organizational culture but the skills and abilities of the staff to be able to create, share and integrate knowledge. This implies focus on relationships, collaboration, critical thinking, innovation, adaptability, intelligence and individual and group learning – generally on communication – as communication is the means to connect human minds through interaction. In the knowledge age knowledge is power. People and organizations that have realized the true value of information (codified knowledge) and knowledge per se are succeeding today. However, working in the knowledge environment is not an easy task. Knowledge resides in human brains, in

individuals, in communities of interest, in relationships between individuals and communities, not in collections. Knowledge has a dynamic structure, which is permanently undergoing change by the thinking and learning processes. Knowledge is not static. What is innovative today will become core knowledge tomorrow. Knowledge is generated and shaped through interaction between people. Very often knowledge is intangible; the so called "tacit knowledge" comes from collaboration, innovation and sharing (Houghton and Halbwirth 2002).

In an attempt to establish a library and information environment supportive to knowledge workers, librarians should understand that much knowledge required by knowledge workers cannot be codified and remains inaccessible to modern information technology –intuition, hunches, subjective insights, and beliefs are all good examples of knowledge that is not easy to codify. Most information systems do not capture the knowledge or even the information that knowledge workers use in their daily lives.

5.0 What librarians should know about knowledge work and knowledge workers

Before establishing an information environment favourable to knowledge workers, librarians need to know one or two things about the nature of knowledge work and knowledge workers. Librarians should examine knowledge work, its tools and practices, the people who do the work, the institutions that support it and the interaction all this with the library and other information systems (Van House 2003). According to Van House, librarians should also understand that there are three critical characteristics of knowledge work - it is work which is situated, distributed and social. That knowledge work is situated means that it is performed by specific people, under specific conditions for specific purposes. Knowledge work is distributed because it entails cooperation among people who do not know each other and those who do, are distributed across space and time zones. Knowledge work is social because we work and learn together and decide on what and whom to believe and rely on in the community.

Knowledge work involves information gathering, imagination, experiment, discovery, and integration of new knowledge with larger systems (Myers 1996). With this nature of knowledge work, Myers (ibid)? argues that bosses cannot order about knowledge workers like the ditch diggers or assembly-line bolt turners of the yore. Myers further contends that if knowledge workers are any good at all, they soon learn more about what they are doing on a specific project than their bosses can. Knowledge work inherently has a large component of self-direction and team and may be hampered by remote control from distant bosses. As we move further into the knowledge economy and beyond bureaucracy, ways should be found to organize so that all work is knowledge-based,

bringing everyone's native intelligence and collaborative abilities to bear on constantly changing ways of achieving shared goals.

5.1 Knowledge workers

Ekekwe (2011) argues that unlike in the industrial era, the players in the knowledge economy are very mobile, adaptive, and agile, with brainpower instead of muscles at their core. Ekekwe thinks that the Internet has turned nations into conduits of knowledge, having the power to become richer by trading knowledge. The U.S., for example, exports knowledge management to other countries but buys knowledge IT skills from India. The knowledge leads to a new society. We have already seen the effects as citizens willingly share private information.

In the knowledge economy, there is a category of workers who have come to be identified as "knowledge workers." Who are the knowledge workers and what is the nature of their work? Gurteen (2006: include page nos, please?) defines knowledge workers thus:

"Knowledge workers are those people who have taken responsibility for their work lives. They continually strive to understand the world about them and modify their work practices and behaviors to better meet their personal and organizational objectives. No one tells them what to do. They do not take 'no' for an answer. They are self-motivated."

The above quotation to be single-spaced?

Gurteen (2006) outlines the characteristics of knowledge workers as:

- Workers who take responsibility for their work;
- Workers who cannot be coerced,
- Workers who cannot be bribed, manipulated or rewarded
- No amount of money or fancy technology may 'incentivize' knowledge workers to do a better job;
- Knowledge workers see the benefits of working differently for themselves;
- They are not 'wage slaves'– they take responsibility for their work and drive improvement.

In their review of the current literature, Reinhardt *et al*. (2011) show that the roles of knowledge workers across the workforce are very diverse. In two empirical studies they conducted, Reinhardt *et al*. (2011) have proposed a new method of classifying the roles of knowledge workers and some of the knowledge-related actions they perform during their day-to-day work. The typology of knowledge worker roles suggested by Reinhardt *et al*. include: controller, helper, learner, linker, networker, organizer, retriever, sharer, solver, and tracker.

Table 2.0 Typology of knowledge worker roles

Role	Description	Typical knowledge actions (expected)	Location of the role in current literature
Controller	People who monitor the organizational performance based on raw information.	Analyze, dissemination, information organization, monitoring	(Moore and Rugullies, 2005) (Geisler, 2007)
Helper	People who transfer information to teach others, once they have passed a problem.	Authoring, analyze, dissemination, feedback, information search, learning, networking	(Davenport and Prusak, 1998)
Learner	People who use information and practices to improve personal skills and competence.	Acquisition, analyze, expert search, information search, learning, service search	
Linker	People who associate and mash up information from different sources to generate new information.	Analyze, dissemination, information search, information organization, networking	(Davenport and Prusak, 1998) (Nonaka and Takeushi, 1995) (Geisler, 2007)
Networker	People who create personal or project related connections with people involved in the same kind of work, to share information and support each other.	Analyze, dissemination, expert search, monitoring, networking, service search	(Davenport and Prusak, 1998) (Nonaka and Takeushi, 1995) (Geisler, 2007)
Organizer	People who are involved in personal or organizational planning of activities, e.g. to-do lists and scheduling.	Analyze, information organization, monitoring, networking	(Moore and Rugullies, 2005)
Retriever	People who search and collect information on a given topic.	Acquisition, analyze, expert search, information	(Snyder-Halpern *et al.* 2001)

		search, information organization, monitoring	
Sharer	People who disseminate information in a community.	Authoring, co-authoring, dissemination, networking	(Davenport and Prusak 1998) (Brown *et al.* 2002) (Geisler, 2007)
Solver	People who find or provide a way to deal with a problem.	Acquisition, analyze, dissemination, information search, learning, service search	(Davenport and Prusak 1998) (Nonaka and Takeushi 1995) (Moore and Rugullies 2005)
Tracker	People who monitor and react on personal and organizational actions that may become problems.	Analyze, information search, monitoring, networking	(Moore and Rugullies 2005)

Source: Reinhardt*et al.* (2011), p. 160.

6.0 Establishing an Information Environment Favourable to Knowledge Workers

It may not be possible to establish an information environment favourable to knowledge workers if librarians lack an understanding of the nature of knowledge work and knowledge workers. Knowledge work is about such things as solving problems, performing research and creative work, interacting and communicating with other people, and so on (Berg 2010). Berg further argues that such work is by nature less predictable and repeatable than traditional industry work (transformational and transactional activities organized into repeatable processes). Both the inputs and outputs of knowledge work – which is information and knowledge – vary from time to time, from situation to situation. This also applies to the purpose, activities, roles and resources involved in knowledge work. Knowledge work is also less structured and the structure of knowledge work typically emerges as the work proceeds, which makes it difficult to determine the type of information required by those involved in knowledge work.

Berg (2010) is of the opinion that in a knowledge-intensive business environment, it is often very hard or even impossible to anticipate in advance what information knowledge workers need. Information services providers cannot easily know what information will be relevant ahead of time.

The information might not exist until the moment one needs it, or one may simply be unaware of its existence. Berg suggests that more is better when it comes to information supply in a knowledge-intensive business environment. The argument here is that if there is more to choose from, chances are there will be some information for almost any need. That's also why it has become critical for knowledge workers to have access to the information abundance on the Internet. Knowledge workers also need to have immediate access to anyone who might possess the knowledge and information they need but which is not captured – often because it is hard to capture or simply does not allow itself to be captured (tacit knowledge) and exchanged. Librarians should therefore organize for knowledge workers to have access not only to explicit information that is recorded in some format, but also to knowledge and information that may not be easily captured.

Considering that nature of knowledge work is highly unpredictable, librarians should give knowledge workers access to all information that exists and that might be relevant. Considering that librarians may not certainly know what might be relevant until a certain need arises (which one might never be aware of until one discovers certain information), it is not possible to really put the relevant information in one "for keeps" pile and all other information in another "to be trashed" pile. Librarians also need to provide knowledge workers with tools so they can create or capture information with each other, or else there will not be enough information available to serve the knowledge workers' information needs. To help people find and discover information that is relevant to their tasks when they need it, librarians also need to create powerful pull mechanisms which allow relevant information to automatically surface and be placed at the fingertips of knowledge workers just when they need it.

6.1 Intranets and the provision of information to knowledge workers

Intranets are associated with effective provision of information in all types of organizations. Sometimes, what the intranets are supposed to achieve is exaggerated. Goles and Hirschheim (1997) defines? the intranets as private computing networks, internal to an organization, allowing access only to authorized users. They may include an internal web along similar line to the World Wide Web with multiple websites and web pages, electronic mail, newsgroups, online meeting facilities and any number of applications. Web browsers are used to navigate across information on the network and, whilst authorized users can cross into the Internet, those outside the organization cannot cross into the Intranet. As the distribution of information is not restricted by time or geographical location and can be viewed by any employee within an organization, the intranet provides global communication within the corporate environment internally rather than externally.

Berg (2010) argues that intranets need to provide flexible access to both information and people by employing pull models for serving as many knowledge worker information needs as possible, including unanticipated information needs. Information supply needs to be maximized by supporting the creation and access to user-generated content as well as by allowing for easy integration of external information sources. This suggests that in order to create a favourable information environment for knowledge workers, librarians need to turn the intranet into an "information broker platform" where information is freely and easily created, aggregated, shared, found and discovered at minimal effort. Such an intranet gives everybody access to all information which is available and make room for virtually infinite amounts of information. Accessing information must not be seen as a punishment.

However, most of today's intranets primarily consist of pre-produced information resources which are intended to serve information needs which can be anticipated in advance. They aim to serve people who perform predefined and repeatable tasks. Knowledge workers' tasks are very unpredictable. Intranets are push platforms which might work well for repeatable routine work where the information needs can be defined in advanced, but they are quite dysfunctional for knowledge work. Many knowledge workers find it much easier to find information on the web than in their internal systems and that the intranet plays a marginal role in their daily work (Berg 2010).

Intranets have always been intended as a sort of miniature private Internet that contains the sum of an organization's tacit knowledge, ongoing work, and useful reference information (Hinchcliffe (2011). Librarians should be aware of the fact that the information that knowledge workers need can often not be anticipated and served by a push-based intranet. It is also important for librarians to know that knowledge workers should have access to ALL information that is available, including:

- collaborative content produced by teams,
- content produced by external resources, and
- tacit knowledge captured in conversations.

Considering that the information artifacts on an intranet are typically produced by a relatively small part of the organization's total workforce, the resources available for producing these information resources are limited. Librarians need to draw a line between information needs which can be served and those which cannot be served. A common approach is to identify the most common

information needs and focus available resources on serving these needs as good as possible. Assuming that the resources for producing and maintaining information resources are scarce as usual, this may be feasible approach. However, it is (we do not abbreviate in written work, except when making verbatim qoutations (it's) not a feasible approach for an intranet that needs to serve the highly varying, extensive and unpredictable information needs of knowledge workers.

Librarians serving knowledge workers should have the understanding that a major reason why traditional intranets cannot meet information needs of knowledge workers is that all information they provide access to is produced with a push-based production model. This is a model which assumes that all information resources on the intranet must be produced in advance (only serving information needs which can be predictable and anticipated) by a small subset of all available resources (employees) and that the entire body of information needs to be supervised by a few people for the purpose of controlling the message, format and/or organization of the information resources (Berg 2010).

6.2 The relevance of social intranets to knowledge workers'information needs

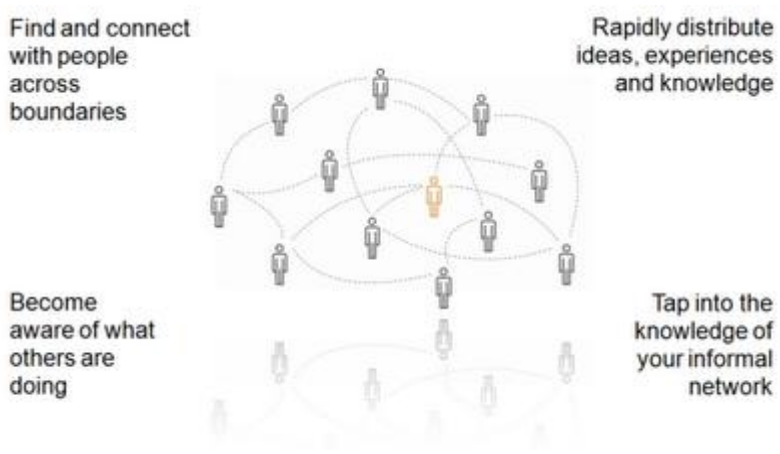
A social intranet is network that uses social software to securely share any part of an organization's information within that organization (Cavazza 2011). The intranet seems to continuously evolve.

Cavazza (2011) identifies five pillars of social intranets as:

- **Information**. To be social, an intranet must allow information to easily flow vertically and horizontally, and allow employees to express themselves in various ways (articles, status updates, comments, content sharing).
- **Knowledge**. Content repositories are way too statics, they must evolve to a more democratic and flexible way to capitalize on knowledge (enterprise wikis) and to spread it (social learning).
- **Communities**. A social intranet should enable communities to arise through stimulation and moderations.
- **Collaboration**. Social intranets should come with benefits of online collaborative workspaces, but one can do much more with socialized project management solutions, *ideagoras* or social serious games.
- **Business processes and data**. Last but not least, software allowing employees to produce, collect, structure, analyze and publish data is key to wider adoption. You will easily find pockets of users willing to participate in "social experiments", but to rally every employee; you will have to include business applications and processes in your internal social platform.

Berg (2010) contends that most definitions of social intranets in the literature do not define what a social intranet is. The available definitions have not been able to see beyond tools and technologies. Many of the available definitions do not capture the paradigm change that is transforming intranets into something completely different from what they are today.

Figure 2:0 Social Intranet



Source: Berg, 2010

In establishing a favourable environment for knowledge workers, librarians should understand that:

- The social intranet is not just about adding a layer of social collaboration tools; it is a platform that combines the powers of push with the powers of pull to supply anyone who participates and contributes within an extended enterprise with the information, knowledge and connections they need to make the right decisions and act to fulfill their objectives.
- It equips everyone with the tools that allows them to participate, contribute, attract, discover, find and connect with each other to exchange information and knowledge and/or collaborate.
- It connects information demand with information supply in knowledge-intensive businesses, something which can only be done by involving all employees in the information supply, removing bottle-necks created by the production model (such as approval workflows and that everything must fit in a central taxonomy) and enabling employee-to-employee information exchange.
- When it comes to information supply, the previously dominating "less is more" paradigm is being replaced by a "more is more" paradigm.

- A social intranet must necessarily be designed for information abundance.
- The increasing volume of information resources needs to be seen as opportunity to be embraced rather than as a problem – a problem which can only be solved by reducing the body of information down to an amount which can be managed by a few people (relatively to the entire population of the extended enterprise).
- Although too many options can decrease your performance and create stress, information abundance does not equal an abundance of choice; the social intranet is a pull platform with mechanisms for automatically attracting relevant information and people to you. What's important is that the options you are presented with are relevant and usable.
- If the information you need is not there in the first place, chances are that none of the options you will be presented with will do. That's of course an unwanted situation as you might not be able to perform your task or you might make an incorrect decision that can have serious consequences.
- Deliberately hindering information to reach people is not the way to avoid the sensation commonly called information overload, because the problem is not the amount of information but rather that the filters we have failed to sort it properly for us. We need to get the filters in place instead of blaming and demonizing ("Tsunami of data", "firehose of information" etc.) information supply and arguing that the only way to solve this "problem" is to limit supply (Berg 2010).

When designing a social intranet for use by knowledge workers, librarians should bear in mind that the social intranet should be designed in such a way that it supports serendipity; enabling people to find both information and people they did not? (didn't) know they were looking for. To do so it must have mechanisms that allow information and people that might be useful to knowledge workers to be pulled to them. Spending time and effort searching for relevant information and people where there is information abundance just would not? (won't) pay off. Librarians must have ways that "automatically" attract useful information and connections to knowledge workers. Knowledge workers just need to implicitly and explicitly share what they do and know what other people in their networks do.

The push-based production model used for most intranets would? (will) still have an important role to play - but only as a component within a social intranet. It would? (will) continue to serve the most common, stable and predictable information needs. Even though it is important and sometimes critical that these can be served efficiently and effectively, the greatest value that can be created with the use of an intranet relies on the long tail of information. This is because the long tail

of information supports the core of a knowledge-intensive modern business: the knowledge work (Berg, 2010).

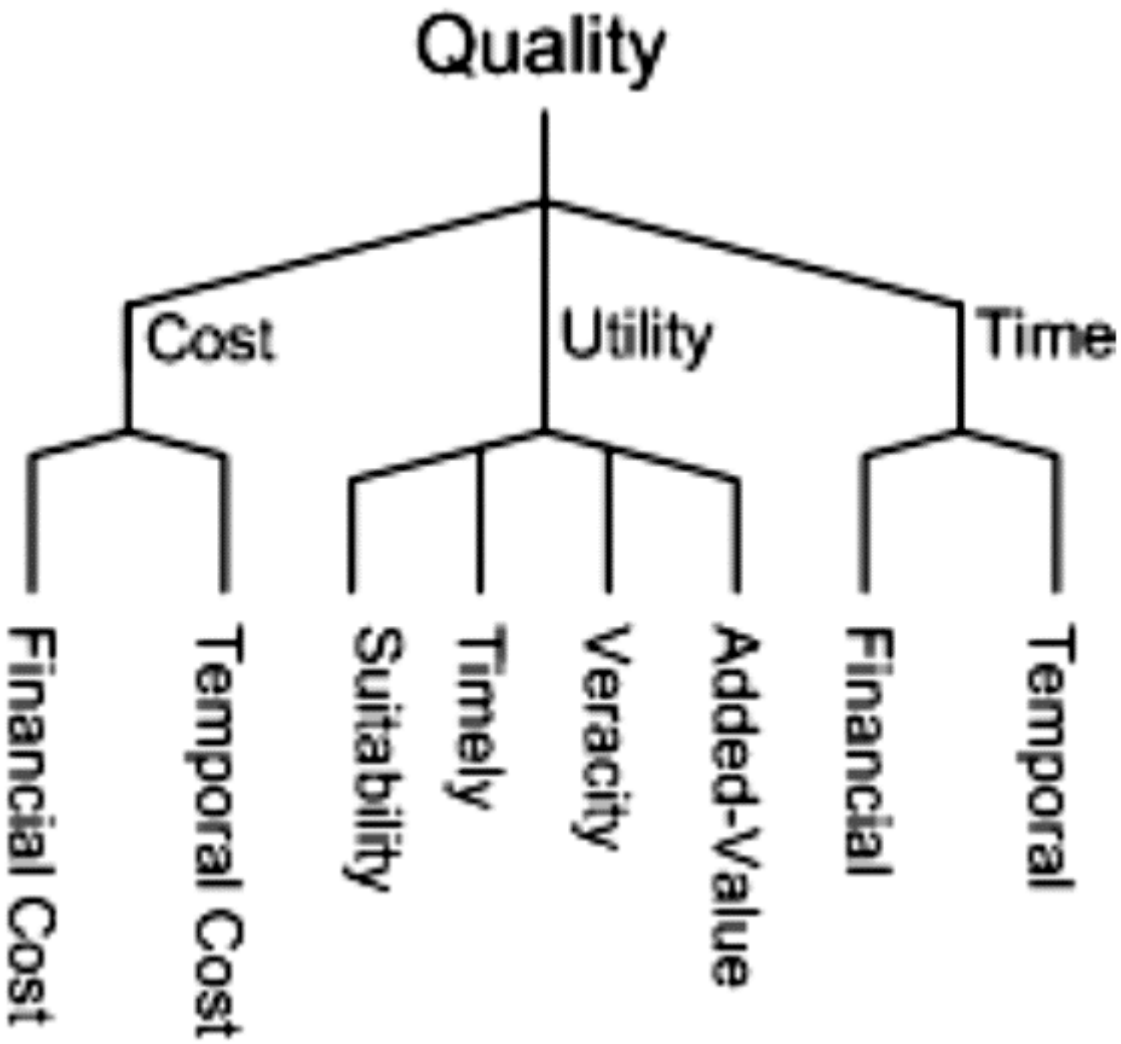
Will: definitive

Would: supposition

7.0 Criteria of quality of information

In establishing an information environment favourable to knowledge workers, librarians should take into account the issue of the criteria that should be used to determine quality of information made available to knowledge workers. One of the challenges facing today's information consumer, including knowledge workers, is how to find information that meets their personal needs, within an acceptable timeframe, and at an appropriate level of quality (Burgess, Gray and Fiddian, 2007). An illustration representing the highest level of this hierarchical criterion of quality of information model can be seen in Figure 3 below as presented by Burgess, Gray and Fiddian (2007). This figure illustrates the structure of the generic quality framework by presenting the high level quality dimensions. Each of these dimensions contains further sub-dimensions of quality, each containing either further dimensions or a set of individual quality criteria.

Figure 3: Criteria of quality information model



Source: Burgess, Gray and Fiddian, 2007, p.88.

On the other hand, the US Department of Defense spells out criteria for determining quality of information as accuracy, relevance, timeliness, usability, completeness, brevity and security as shown in Table 3 below. Both criteria emphasize the more or less the same qualities.

Table 3.0: Criteria of quality information

ACCURACY Information that conveys the true situation
RELEVANCE Information that applies to the mission, task, or situation at hand
TIMELINESS Information that is available in time to make decisions
USABILITY Information that is in common, easily understood format and displays
COMPLETENESS Information that provides the decision maker with all necessary data

BREVITY Information that has only the level of detail required
SECURITY Information that has been afforded adequate protection where required.

Source: Department of Defense (USA), 2006.

8.0 Concluding remarks

The paper has discussed (discusses how librarians) how librarians may establish a favourable information environment for knowledge workers. The paper looks at the concept of the knowledge economy, the characteristics of knowledge workers and what librarians may do in an attempt to establish a favourable information environment. It is established that knowledge workers collaborate a lot and like working in a wired environment. Information and communication technologies are therefore an important component in establishing a favourable information environment for knowledge workers. Librarians should be able to knowledge workers develop the required skills and judgment. But if knowledge workers are critical to getting value from information, IT must also better understand what they want from information, and how they use (and misuse) information in day-to-day work.

It is not easy establishing knowledge workers' information needs and requirements. This is not easy because knowledge workers' information needs vary by individual and across time. And you cannot? (can't) just ask them because knowledge workers themselves struggle to describe what information they need or how they would want to use such information. Librarians should however know that IT is more comfortable with traditional requirements setting, in a waterfall or agile model, where the goal is a stable process that applies to all users and where outliers are asked to get into line. Analytics (as well as social collaboration and to a lesser extent mobility) are different as knowledge workers have greater autonomy and choice. Librarians should strive to enable knowledge workers maintain their autonomy and social networking by designing social intranets which allow knowledge workers to share and collaborate. Any information system designed to serve knowledge workers should avail as much information as possible. This increases the chances of knowledge workers discovering any information they may require within short notice.

It is important to find other novel ways for identifying information needs of knowledge workers. Horne (2012) suggests that one novel approach is to apply anthropological techniques to identify roadblocks in day-to-day work of knowledge workers and develop solutions based on unarticulated

or unstated knowledge workers' information needs. Horne (2012) contends that anthropological research does not start from an ideal state to be achieved. Instead, it provides input to process redesign based on actual conditions on the ground. Horne (2012) suggests six anthropological steps which librarians may adapt in an effort to discover the information requirements of knowledge workers, and hence establish a favourable information environment:

- **Contextualize observation –** Observe knowledge workers in their natural environments, for example, by accompanying a sales team on customer visits or in sales meetings. Look across internal divisions and at organizational and cultural contexts.
- **Observe across space and time –** Observe knowledge workers across multiple spaces and points of time, looking for differences that may relate to location or time of day.
- **Self- and auto-report –** Ask knowledge workers to use written or audio-visual diaries to record their workflow and log stage gates that cause bottlenecks or stalls. Alternatively, record the use of collaboration and analytic tools, to gain insight into individual workflows.
- **Acknowledge expertise –** Neither pretends to know more about the subject matter than the knowledge workers do, nor buy in to easy answers, but always ask follow-up questions.
- **Reiterate and qualify –** Repeat what is heard to clarify meaning, but also ask whether these are the right questions to ask.
- **Read the silence –** Look for gaps in the knowledge workers' narrative, and identify variability across knowledge worker experiences. In the context of unarticulated needs, what goes unsaid may be highly significant.

A close look at the above anthropological steps may reveal these are techniques that librarians use all the time to establish information needs and requirements of many user groups.

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A Situational Analysis of Information Management in Selected Government Ministries In the Context of *Kenya Vision 2030*

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Abstract

Information is the fuel that drives government programmes and services. For Government Ministries in Kenya therefore, effectively managing information is key to provision of service delivery as well as to development and growth of the country, especially in successfully implementing strategies articulated in the Kenya Vision 2030, the country's long-term socio-economic development blue-print whose aim is to create a globally competitive and prosperous country with a high quality of life by the year 2030. Unfortunately, the role of information and by extension that of information management (IM), as an essential foundation upon which to base this growth strategy is not articulated. Yet, there is urgent need to ensure that line Ministries focus on effectively managing information as a driver for the socio-economic transformation envisaged in the Kenya Vision 2030.

This paper presents findings of an investigation into the state of IM in selected Government Ministries as a prerequisite to the successful implementation of strategies outlined in the Kenya Vision 2030. In carrying out this study, three broad objectives were pursued, that is to: establish the extent to which IM is implemented in Government Ministries in order to support the realisation of the Kenya Vision 2030; investigate the issues that the Ministries face with respect to their ability to effectively manage information within the Vision 2030 framework, and, suggest measures that can be taken to ensure that IM is successfully integrated in Government Ministries in support of the Kenya Vision 2030 implementation.

Qualitative research methods, including in-depth interviews with 60 respondents drawn from six line Ministries that have crucial projects to be implemented in six foundation areas of the Kenya Vision 2030, document and literature analysis, were used to build an understanding of the extent to

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which IM has been implemented in Government Ministries. The data was analyzed and interpreted qualitatively.

The study creates an understanding and appreciation of the urgent need for effective implementation of IM in Government Ministries, in order to enhance public service delivery, especially in the context of Kenya Vision 2030. The study will therefore be useful to policy makers in determining priorities for IM policy formulation and implementation.

Key Words: Information, Information Management, Kenya, Policy Implementation, Vision 2030, Public Service Delivery

1. Background

There were grave concerns about Kenya's economic performance when a new National Coalition Government took office in the year 2003. This resulted in the design of a socio-economic blue print, Economic Recovery Strategy for Wealth and Employment Creation (ERS) covering the period 2003-2007. ERS was largely credited for the country's economic recovery and as its lifespan came to an end there was need to develop a new development strategy to build on the successes achieved under the ERS. In 2005 the Government accepted a recommendation by the National Economic and Social Council (NESC) to prepare a long-term vision to guide Kenya's development up to the year 2030. NESC is an advisory body appointed by President Mwai Kibaki of Kenya in September 2004 to advice on important development matters across the sectors. The advisory body is composed of representative of government, the private sector and the international community.

The result was the unveiling of the *Kenya Vision 2030*, Kenya's long-term national socio-economic planning strategy, whose aim is to create a globally competitive and prosperous country with a high quality of life by the year 2030. The *Vision* is anchored on three key pillars: economic, social, and political (Republic of Kenya 2007) which are, in turn, firmly anchored on the following six foundations: infrastructure; science, technology and innovation; land reform; human resource development; security, and public service reform. The *Vision* is being implemented in five year medium-term plans, the first one covering the period 2008-2012. Simultaneously, the *Vision* aspires to meet the millennium development goals (MDGs) for Kenya by the year 2015.

The realisation of this vision will impact government ministries in a big way. Government ministries are the main source that citizens can turn to for information regarding policies, strategies and the requirements for the realisation of the *Vision*. Information is an essential component of effective management and service delivery in all organisations, in both the private and public sectors. In particular, information generated and held by government ministries is important to the development of a country because it concerns many issues relevant to the quality of citizens' lives, including public health, environmental problems, education, water supply, sanitation, housing, roads and demographic and employment trends. In other words,

information should be the fuel that drives government programmes and services. Wilson (2006) points out that:

> "All of the services that [government] provides to citizens, businesses, and to internal clients are about information in one way or another. The provision of information is often the service itself."

The consequence of all this should be the continued focus on improving the management of information by government through its various ministries and other public sector organisations, driven by a range of factors, including a need to improve the efficiency of business processes and the desire to deliver new and/or improved services to internal as well as external clients. It cannot be gainsaid, therefore, that for government ministries, effective management of information is key to development and growth of the country. In the Kenyan context, this is crucial, especially in shepherding the nation through the socio-economic transformation envisaged by the *Kenya Vision 2030*, and particularly in successfully implementing strategies articulated in that *Vision*.

Sadly, the role of information and by extension that of information management (IM), as an essential foundation upon which to base the growth strategy provided for in the *Vision* is not articulated. Indeed, Kenya has a poor track record of successfully implementing policy directives articulated in such visions or roadmaps. Good examples that come to mind include:

- *Sessional Paper No.1 of 1994 on Recovery and Sustainable Development to the Year 2010* which made some reference to the need to improve agricultural information flows, and hence the need for investment in agricultural information systems, production of appropriate literature and development of libraries at district and sub-district levels (Republic of Kenya 1994).
- *Sessional paper No.2 of 1996 on industrialisation to the year 2020* which aimed to map a strategy for Kenya's industrialisation policy and to lay the foundation for the structural transformation required to enable Kenya become industrialised by the year 2020. It mentioned the need to put in place "a well-defined means of transferring technology and information to entrepreneurs…" (Republic of Kenya 1996). There was no policy on how ministries were to integrate IM in the industrialisation strategy implementation matrix.

It is evident that there has only been the occasional reference to the role of information (and thus IM) or even adequate integration of information-related issues in these policy documents. This state of affairs may be attributed to various reasons, but arguably, the biggest shortcoming has been failure to anchor them on a sound IM strategy. Similarly, an analysis of the *Kenya Vision 2030* reveals the same situation. The *Vision* contains some mention of how information and communication technologies (ICTs) will be utilised to accomplish a few strategies in some of the growth areas but it does not assure a "whole-of-government" approach to IM, especially in the ministries. It is difficult to envisage how the *Vision* is to be implemented successfully without incorporating information in its implementation strategy.

Consequently, an investigation into the state of IM in Government Ministries is therefore more important today than at any other time in Kenya's history; it could be the start of a journey towards developing an overall IM strategy for successful implementation of *Kenya Vision 2030*, and any other related government initiatives. For the purpose of this study, the following six line ministries, namely Energy (MoE); Higher Education, Science and Technology (MHEST); Lands (MoL); Public Service (MoPS), Provincial Administration and Internal Security (MPAIS); and Planning, National Development and Vision 2030 (MPND), were investigated. These ministries provided a "whole-of-government" IM perspective.

1.1 Statement of the Problem

Information is a critical resource in driving government programmes and services. For Government Ministries in Kenya therefore, effectively managing information is key to provision of service delivery as well as to development and growth of the country, especially in successfully implementing strategies articulated in the *Kenya Vision 2030*, the country's long-term socio-economic development blue-print whose aim is to create a globally competitive and prosperous country with a high quality of life by the year 2030. Unfortunately, the role of information and by extension that of information management (IM), as an essential foundation upon which to base this growth strategy is not articulated. Indeed, apart from the occasional reference to the intention to use information and communication technologies in a few areas, the *Vision* has not targeted an overall IM strategy within government ministries.

In particular, it is postulated that the IM framework existing in government ministries is impeded by a number of weaknesses, including: poor planning for IM issues with the consequence that resources allocated for IM are inadequate; low regard for IM by managers and staff, and the information needs of public sector players are not adequately met. Consequently, an investigation into the state of IM in the public sector is deemed important, as a prerequisite to developing an overall IM strategy for successful implementation of *Kenya Vision 2030*, and any other related government initiatives.

1.2 Aim and Objectives

The aim of the study was to investigate the state of IM in selected Government Ministries as a prerequisite to the successful implementation of strategies outlined in the *Kenya Vision 2030.* In carrying out the study, three broad objectives were pursued, that is to: establish the extent to which IM is implemented in Government Ministries in order to support the realisation of the *Kenya Vision 2030*; investigate the issues that the Ministries face with respect to their ability to effectively manage information within the *Vision 2030* framework, and, suggest measures that can be taken to ensure that IM is successfully integrated in Government Ministries in support of the *Kenya Vision 2030* implementation.

2. Literature Review

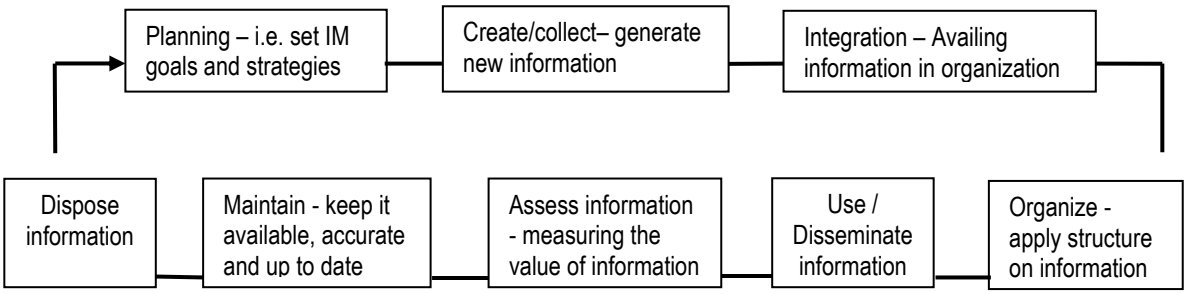
2.1 Conceptual Framework for Information Management

There are many ways to conceptualise what information management (IM) is. This is reflected by the many definitions of IM found in the professional literature. However, the scope of any such conceptualisation must be viewed in the context of the environment in which information itself will operate. For example, according to the *International Encyclopaedia of Information and Library Science* (quoted in Kahn and Blair 2004), IM may be understood to deal with the value, quality, ownership, use, and security of information in the context of organizational performance. Information in this case would refer to all types of information of value, whether having their origin inside or outside the organization, including data resources, such as production data, records and files related, for example to the personnel function, market research data and competitive intelligence from a wide range of sources (Williams 2004).

Others understand IM from the point of view of information processes that involve information technology (IT). This view does not include all information processes and unfortunately it is the view that has been shared by many chief executives for a long time, who more commonly limit the information officers' (whatever their designation may be) portfolio to IT processes. From these and other different approaches, it may be argued that in practical terms, IM consists of a wealth of actions that can be taken to achieve business objectives, and whose possible uses and relationships can be better understood through the lens of IM processes, which include: information planning; creating/collecting; evaluating; organizing/storing; analyzing; using/disseminating; reviewing; maintaining, and disposing information

The above processes compare very well with the stages of the information life cycle management framework, and a combination of these two (IM processes and IM life cycle management) may therefore be used to conceptualise a simplified framework of IM that can be applied in any organisation, including Government Ministries in Kenya, as shown in figure 1 below.

Figure 1: A Simplified Conceptual Framework for Information Management



This conceptual framework was adopted in this study as a basis on which to discuss the extent of IM integration in the business processes within Government Ministries. It also provides us with a working definition of IM within the context of this study, that is: the means by which Government Ministries plans for, identifies, creates, collects, organizes, governs, secures, controls, uses and disseminates, preserves and disposes of all types and formats of information from a wide range of internal or external sources, as well as any means through which the value

of that information is identified and exploited to its fullest extent. The focus of IM is to ensure that the right information is available to the right person, in the right format and medium, at the right time.

2.2 Impact of Information Management on Government Performance

Government is the largest producer of information. It cannot, therefore, be gainsaid that information is government's most critical resource for managing national resources, executing national functions, measuring performance and delivering services (Ngulube 2001). When such information (often existing in a variety of formats) is properly managed, it becomes the fuel that drives government and public sector programmes and services, which are often in the form of information itself. Thus, it is incumbent upon government to manage its information in such a way that it is easily accessible and useable by the policy makers and the public in general.

Governments empower citizens and place them at the centre of the development process by providing them with access to relevant, accurate, timely, and comprehensive information. This is in recognition of information as a key driver of socio-economic development and an essential component for effective management and service delivery, and for informed decision-making. IM can build public confidence in government planning and decision-making, result in the delivery of high-quality services and programmes, and lead to improved efficiencies in government.

2.3 Overview of Information Management in Kenya

2.3.1 Information Management Landscape

Information management infrastructure comprise all the systems, legislation and policies related to information generation, processing, access and use for a variety of purposes by both individuals and organisations. Like most other governments the world over, the Kenyan government and its public service have used paper records to record the decisions of government, the statutes of the nation and correspondence with citizens over the years.

There is evidence of a gradual recognition in recent years of the importance of information for development. Towards this end, there have been developments in the area of information

systems growth and policy environment. There are several local initiatives put forward by different groups such the Building Information Communities in Africa (BICA - Kenya) a collaborative effort between the British Council and key organizations in Kenya working towards providing a strategic direction and leadership on Information Society agenda and on the global knowledge society issues; the African Virtual Library Kenya Chapter (AVL-K) project aims at mobilizing mainly academic and public libraries around the country to form an on-line information sharing partnership (Wanyoike 2005); the Kenya Education Network (KENET) initiative; the Nepad e-initiative for schools – a program to connect all primary and secondary schools to the Internet in 10 years (Barasa 2005), and the DrumNet project, an IDRC-sponsored project that aims to improve the livelihoods of farmers through the provision of information via the Internet (Opala 2004).

However, the integration of information into the processes that lead to national economic, social, scientific and technological development has been far from satisfactory. Government is in the information business; everything it does is based on information - from briefing notes to senior executives, to cheques issued to citizens, to licenses issued to businesses, to statistics provided to researchers and academics, and to information designed to provide the accurate, complete, and relevant context public servants require to make decisions and deliver their programs (McDonald 2000). This is true of all governments, whether in developed or developing economies such as Kenya.

Information and its effective management are important at all levels: from the government as a whole, to individual ministries and programs, to individual civil servants. And yet at all levels, the ability to create, use and preserve information effectively is being challenged. Getting the right information to the right person or persons, at the right time, in the right form and format, at a reasonable cost is a generally accepted principle that is becoming difficult to operationalize, especially in an electronic environment. This study also raises concerns about the quality and integrity of the Kenya Government Ministries' IM infrastructure. These challenges are, of course, not unique to government ministries *per se*. The problems associated with different aspects of IM within the public sector in Kenya have been noted by scholars and practitioners (Wamukoya 1996; Mnjama 2003; Kemoni and Ngulube 2008). These help to illustrate the

inadequate way in which the issue of IM has been handled within the government and public sector as a whole.

Failure to address these concerns has resulted in a number of challenges, including:

- Citizens and public servants are unable to find government information recorded in multiple forms and formats, and access government services;
- the absence of a well-articulated IM strategy has increased the risk to government ministries of having to rely upon a poorly designed infrastructure to support decision making, and the delivery of programs and services, and;
- the absence of an effective accountability framework where public servants can be held to account for their stewardship of government information has resulted in confusion (in terms of roles and responsibilities), and increased costs.

2.3.2 Information Policy Environment

Kenya lacks a comprehensive national information policy. However, there are several sectoral policies in the form of legislation, regulations and guidelines that influence information acquisition, accessibility, dissemination, utilization and availability. They include, public libraries (the KNLS Board Act), archives (the Public Archives and Documentation Services Act), legal-deposit (the Books and Newspaper Act). Other relevant laws include the Copyright Act, the Industrial Property Act, the Science and Technology Act, the Museums Act, the Universities Acts, and the Education Act. There is also the Sessional paper No.5 of 1982 dealing with science and technology information and the District Focus for Rural Development Circular No. 1/86 which dealt with the establishment of the District Information and Documentation Centres (DIDCs).

Kenya has also not formulated integrated national ICT policies. The policy activities in the recent years indicate an eager awareness of the potential of IT in the development of Kenya's economy. The lack of integrated policies is probably due to the political, legal and technical difficulties of formulating and implementing them. The government is optimistic about setting up national frameworks for IT development by using less difficult approaches and is therefore in

the process of formulating and implementing IT sectoral policies, which would evidently bring about increased use of IT in the country.

It is instructive, however, that Kenya does not have a sessional paper or even a long-term strategy that focus on information policy as a strategic national resource which can become the foundation upon which the socio-economic development process can be anchored.

3. Methodology

The study adopted a qualitative approach, which was mainly concerned with the participants' perspectives of the topic under study. The units of analysis for this study were the Head Office Departments and Units in the six line ministries outlined above which have flagship projects that are being implemented within the six foundations upon which the *Vision's* three pillars (economic, social and political) are anchored.

Data were obtained through personal interviewing from the collective membership directly responsible for managing information, and those who influence, in one way or another, the implementation of IM in the Ministries. Personal interviewing is a preferred method in collecting qualitative data and when researchers seek to obtain data that is both reliable and valid (Silverman 1993). Each interview lasted 30-40 minutes. A total of 60 interviews were conducted as shown in the table below.

Table 1: Sampling Methods and Distribution of Sample Size for the Study (n=1… n=6)

Strata	Sampling Method	MPND (n_1) Sample size	MoE (n_2) Sample size	MHEST (n_3) Sample size	MoL (n_4) Sample size	MoPS (n_5) Sample size	MPAIS (n_6) Sample size	Total
Heads of Information-related Services (Library, Records Management, and ICTs)	Census	3	3	3	3	3	3	18
Other Information-related Services Staff	Systematic	4	3	4	4	5	4	24
Top Administrators	Purposive	2	2	2	2	2	2	12
Project Planning Unit Staff	Purposive	1	1	1	1	1	1	6
Total		10	9	10	11	11	10	60

4. Presentation of Findings and Discussion

4.1 Introduction

The study identified a number of issues that were deemed to hinder effective and efficient delivery of government programs and services within the *Kenya Vision 2030* context. The most significant of these issues are organized according to the conceptual IM framework identified above.

4.2 Information Planning

The study determined that a common understanding of the concept of IM, even among senior ministry staff, was lacking. Additionally, the role of IM in decision making, program and service delivery, among the middle and low cadres had yet to be established. There does not exist a Government-wide (nor Ministry-specific) IM policy framework to guide employees in handling and/or managing different types of information within the Ministries. It is instructive that though all ministries had strategic plans, none of those recognises or even states clearly the role that information should play in the successful implementation of the strategic plan.

4.3 Human Resource for IM

Questions were raised about the extent to which the Government Ministries had the right people in place with the requisite knowledge, skills, and abilities to build and maintain an IM infrastructure. Among the concerns expressed were the following:

- A government-wide perspective on the nature of the work required to build and maintain an IM infrastructure has yet to be established;
- A shared view of what ministries need to know about IM and what skills and abilities they need to have has yet to be established;
- The roles and responsibilities of ministry employees for managing the information resources they create, use and preserve to support their work have not been reflected in their job descriptions;
- An IM competency framework has yet to be defined and there is no mechanism in place for ensuring that whatever competency profiles are developed can be maintained;
- Existing training, education, and recruitment programs for ministry staff do not yet reflect IM considerations adequately;
- IM is not part of the performance appraisal process for civil servants;
- Where there is an absence of expertise, standards and practices for IM, users resort to making up their own rules concerning the management of their information.

4.4 Creating Information

The volume and complexity of information (in both paper and electronic formats) continues to be a major concern for information managers and users. It is obvious that in a complex environment featuring multiple forms of information from paper to electronic, ministry staff lack the criteria for helping them determine what information needed to be created, received, collected, and so on, to support or document their work. Consequently, although information contained in the documents that are generated by ministries is important for government operations, respondents were clear that their respective Ministries did not exercise adequate control in the creation of information and records. Indeed, there were no quality control procedures to ensure the information produced is based on the demonstrated needs of end-users, such as employees and the general public.

4.5 Organizing Information

An investigation into the adequacy and suitability of some of the resources or factors considered essential in supporting integration of IM into the Ministries' business process revealed the following results:

- The number of IM staff (technical, managerial and support staff) were inadequate, and even those available were not suited to handle IM-related tasks because they lacked appropriate training
- Funding was largely inadequate, with provision being made mostly for staff salaries
- Information-related procedures and guidelines were lacking
- ICT infrastructure (including computers and accessories, Internet, technical support) were inadequate
- Office equipment and supplies, as well as storage space and facilities were both inadequate as well as unsuitable for IM-related work.

4.6 Information Use

The following highlights from the interview sessions identify some of the challenges Government Ministries face and which make it difficult to implement IM in their business processes:

- information standards have not been established to set out the conditions to be used in accessing government information and services;
- standards and tools for describing information to facilitate access and retrieval have yet to be established;
- apart from Ministry websites, there were almost no other automated information systems for sharing information across the ministries. Yet, even the websites provided very little in the way of crucial information and policies to guide both ministry and non-ministry staff on the state of implementation of government projects and plans;
- mechanisms to support dissemination of published government information to the general public through libraries and documentation centres could be enhanced;
- citizens and government employees confront technology barriers (e.g., software and format incompatibilities) when accessing or exchanging information electronically; and
- it is difficult to access and retrieve the information needed to do specific tasks, because much of the information is already fragmented across different locations, paper-based file drawers, and other unique systems and databases.
- there were no mechanisms in place to manage government records generated in electronic formats. This constrained the use of such records.

4.7 Assessing Information

Government has not formulated any tool that can be used to benchmark IM practices across government ministries. Consequently, Ministries are unable to determine whether the information they generate and maintain is of benefit to intended users (both internal and external). It is paramount that any information that is generated is targeted to a certain group or groups of clients and their mode of accessing is determined. It is important also to establish a means that will be used to evaluate occasionally whether the information that is availed has been used and whether it satisfies the needs of those clients.

4.8 Maintaining Information

Information maintenance encompasses those activities meant to ensure authentic, reliable, available, usable, and understandable information over time. This is central to serving the

information needs of Kenyans and to supporting the successful implementation of strategies outlined in the *Kenya Vision 2030.* Many respondents expressed concern about the capability of Government Ministries to maintain information (especially that recorded in electronic form) in an authentic and reliable manner to meet user requirements. It also emerged that many employees did not appear to have the capability to know what information they should keep, for how long and what information they are permitted to dispose of and why.

Of particular concern was the long term preservation of electronic information. This can only be addressed effectively if the preservation requirements were identified at the time the information was being created, which is currently not the case.

5. Recommendations

It is imperative that Kenya builds a sustainable IM infrastructure in order to support the successful implementation of the strategies outlined in the *Kenya Vision* 203*0*. Although such an infrastructure may well take some time to emerge, initiatives leading to its development can, nevertheless, be established in the short-term based on the following principles and characteristics:

- information is an asset which needs to be managed with the same diligence as any other asset;
- information in both paper and electronic formats will continue to co-exist for a long time to come and so any IM strategies must take this fact into consideration;
- The requirements of government programmes or services drive the decisions about what information needs to be created, collected, received, etc. and how that information should be used and preserved.

Specifically, however, the following practical recommendations are made with regard to addressing the IM issues revealed in this paper:

a) Development and implementation of an IM policy framework, which will assist in the following ways:

- provide a basis at both the ministry and whole-of-Government level to identify and prioritise requirements for IM standards, policies and tools by mapping current policy efforts and identifying gaps or duplications;
- organize whole-of-Government IM policy, information standards, guidelines and tools, making ministry and other agency requirements in specific areas clearer and related assistance more accessible;
- develop policies, standards and practices, and technologies for the management of the multiple forms of information, and
- Incorporate preservation requirements and requirements for long term access to government information.

b) Enhance the awareness of government employees about the role and importance of government records, their responsibilities for managing records, and the implications of not managing records properly for decision-making, program and service delivery, and accountability.

c) Develop strategies for enhancing records management education and training programs directed at public servants (senior executives and officers) and records management specialists.

d) Incorporate IM considerations into:
   - the audit and evaluation function of government institutions;
   - the performance measurement systems for all government employees.
   - the systems development methodologies and related tools used to plan, design, install, test, maintain, and evaluate information systems in all sectors including finance human resource, procurement, among others;

e) Establish mechanisms for the exchange of information about standards, guides, services, best practices and other matters pertaining to the effective management of information.

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Publish or Perish: Remaining Academically Relevant and Visible In the Global Academic Scene through Scholarly Publishing

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Abstract

The paper reviews and analyzes ways and means of remaining academically relevant and visible in Africa by employing several methods in scholarly publishing. A literature-based opinion paper, survey and analysis of definitions of scholarly publishing and related methods for publishing, visibility of scholarly works by African scholars, problems with the current publishing models, initiatives for promoting African scholarly works, challenges hindering scholarly publishing in Africa, and strategies for making African scholars academically relevant. Despite the availability of many opportunities, African Scholars are yet to maximize their potential by taking advantage of these opportunities. Technological advances have helped in propelling the hitherto unexploited area of scholarly publishing by providing many avenues that were hard to come by in the recent past. Being an area without many options, academic visibility relies on publishing or perishing. Apart from a few, most African academic institutions rarely encourage and provide avenues for making themselves and scholars relevant and visible. To improve the visibility of scholars' works and make them relevant on the academic scene, electronic publishing will be advisable. This provides the potential to readers to search and locate the articles at minimum time within one journal or across multiple journals. This includes publishing articles in journals that are reputable and listed in various databases and peer reviewed. Academic institutions are advised to avail their publications in the listed databases and embrace electronic publishing through hosting of university journals in university websites, self-archiving or starting institutional repositories and also listing under directory of

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institutional repositories. Embracing open access in electronically published materials is another way.

Key words: Scholarly Publishing, African Scholars, Visibility, Electronic Publishing, Africa

INTRODUCTION

Nel and Teng-Zeng (2003) correctly argue that historically, African countries have not invested in science, technology, and general research to the same extent as Western nations. In 2003, at the Ministerial Conference on Science and Technology, organized by the New Partnership for Africa's Development (NEPAD) in South Africa, the sub-Saharan nations agreed that investment in science and technology would bring development benefits to their countries and signed a declaration that they would increase their investment to 1 percent of their gross domestic product. (The annual Western investment is 2 per- cent.) At the time of the declaration, only Egypt was meeting this target, and the ministers acknowledged that 1 percent of GDP would be a difficult priority to maintain in the face of the other challenges that the governments of this region faced (NEPAD 2003). In a study undertaken in 1998, African researchers were asked which publications they valued and required for their own work. Although the key international journals were high on their list, there was strong support for local information, to ensure discovery of findings relevant to their experience, needs, environment, and national policy judgments (Alemna, Chifwepa, and Rosenberg 1999).

To further support African journal publishers, several initiatives were launched at the end of the 1990s. For example, Bioline, supported by the Electronic Publishing Trust and initially also by INASP (INASP 2005), provided, and continues to provide, a website where journals from all developing countries can be published in full text Open Access (Bioline 2005). Within the African library and publishing community and the development agencies, the internet is perceived as an opportunity for African journals to make their content visible to the world, and therefore to strengthen their operation and build their sustainability.

The digital era has presented various opportunities for access of information but there are still many barriers in locating and accessing scholarly journal research. To improve the visibility of scholars' works and make them relevant on the academic scene, researchers and institutions are now forced to find new ways of keeping themselves academically relevant. The digital revolution provides the potential to readers to search and locate the articles at minimum time within one journal or across multiple journals. Publishing articles in journals that are reputable and listed in various databases and peer reviewed becomes easily achievable. Researchers and

academic institutions are therefore encouraged to avail their publications in listed databases and embrace other ways of electronic publishing like hosting of university journals in university websites, self-archiving or starting institutional repositories and also listing under directory of institutional repositories. The Open Access phenomenon has lately been one of the easiest ways of accessing and disseminating electronically published materials.

Scholarly publishing has been existence since the 17th century when scholars used to exchange their research findings amongst themselves. According to Oppenheim, Greenhalgh, and Rowland (2000) scholars would meet and exchange new experiments, present papers and announce results and those scholars who could not attend the regular meetings would sent private letters. These letters were later collated in form of a journal for archiving and that was the responsibility of the learned society. Ocholla (2011) stresses that the publication of research findings is a fundamental aspect of research dissemination and knowledge sharing processes, and such publications often go through a number of stages before they appear in the public domain for wider circulation and readership. According to Calvert and Gorman (2002) the purpose of engaging in scholarly publishing is to disseminate new research findings or ideas. The publication of a paper establishes precedents in the formation of new knowledge, and it puts new information in the professional domain where it can be scrutinized, criticized and either accepted or rejected. It may then contribute to further discourse. The author also makes personal gains by adding to a list of publications that can be used for tenure and promotion, for gaining professional acceptance that may lead to speaking engagements, consultancy work, perhaps even awards.

The purpose of scholarly publishing is to promote and support scholarship, research, and academic or learning activities. A large number of scholarly publications now occur in both print and electronic format, and web-based publications are growing increasingly popular in the academic community for the rapid dissemination of research results. Journal publishing is therefore a critical determinant of scholarly output of any place in the global academic environment (Ezema, 2010). Scholars in Africa can improve their visibility in the academic scene through publishing their research findings in journals that are widely read. Such journals have been listed in a number of directories and databases such as; African Journal Online (AJOL), Directory of Open Access Journals (DOAJ), Bioline, ISI, subinet, Access to Global Online Research in Agriculture (AGORA) among others.

VISIBILITY OR INVISIBILITY OF AFRICAN SCHOLARLY WORKS

The visibility of scholarly works of African scholars is affected by their sustainability, irregular publication of journals, their management and poor distribution. This is evident in the number of journals from African continent either in directory of open access journals or any other website. According to Rotich (2011) journals listed in Directory of Open Access Journals (DOAJ) from the whole continent of Africa represent a mere 3.2 percent. It has been observed by a number of researchers that research from Africa lack visibility. The research findings are mainly published in journals with very limited access. Some of the research findings are only read by the journal reviewers and the authors. These journals have very low circulation, which makes it even more difficult for them to measure up to international best practices (Rotich 2011 and Ezema 2011).

In the academic world, productivity of scholarly works enhances visibility, and visibility has a direct, positive, and significant effect on salary. In some countries, salaries of academic staff is determined by the number of publications produced per year, though majority of universities use publishing of scholarly work for promotion and tenure purposes. Visibility in an academic field is achieved when people know your name, are familiar with your work, and think highly of your intellectual contributions. The most important factor of visibility is recognition by peers in one's scholarly community that may result to invitations to give a talk or edit a journal. It may also lead to receiving strong letters of support for promotion and tenure, and perhaps when you have applied for external job, and therefore, leading to a pay increase. Thus, visibility is a non-pecuniary reward for scientific work (Diamond 1986) that could have pecuniary implications. However, some scholars have attempted to peg the importance of visibility to monetary rewards.

It is also important to appreciate that if departments, universities, and disciplines value work that is important and useful to other scholars, then scholars' visibility should also be rewarded financially. Avenues for these increases include raises associated with retention and recruitment efforts (particularly counter-offers) as well as merit-based raises. The more scholars publish, the more their names and their work will become known to other members of their scientific communities. As it has been pointed out by Smart (2005) while citing Lawlor (2004) that print journals have limited reach: they require physical dissemination, and in many developing regions, such as Africa, international distribution is problematic. However, with increasing globalization of information, the distribution and discovery of research has become more

important to all authors, and they look to their journals to reach out and disseminate their work globally. Introduction of the internet has led to a radical change in the way that research is discovered and transmitted. The African scholars have effectively used the technology in accessing and disseminating research findings and this is evident in the number of journals from Africa that are now electronic based. It has been rapidly adopted by the research community as the main tool for locating and disseminating information. These developments have dramatically changed academic research and communication. However, these benefits may not be reaching all researchers in Africa; those researchers who are able to access and use the internet are benefiting while those unable to access and use it are disadvantaged as they cannot access information, or use it to promote their own research findings.

Online articles may be more highly cited because they are easier to access and thus more visible and more likely to be read, or because higher quality articles are more likely to be made available online. Intuitively, it seems likely that the easier availability and improved visibility of online articles plays a significant role. Such initiatives include the Scholarly Communication in Africa Programme (SCAP) which is a research and implementation initiative aimed at increasing the visibility and developmental impact of a spectrum of research outputs from universities in Southern Africa. The project covers a number of universities the following countries; South Africa, Namibia, Mauritius and Botswana. Other projects include the Database of African Theses and Dissertations (DATAD) an affiliation of Association of African Universities (AAU) that seeks to make research output from Africa accessible to researchers and scholars in Africa and other parts of the world (Rotich and Munge 2007).

A number of researches have advanced various reasons of publishing in scholarly journals among them visibility. Stilwell (2006), Ocholla (2011) have advanced other reasons that include: to justify funding for an individual, department or institution; for tenure or permanent appointment, “publish or perish”, or as a job requirement; career progression/promotion and other forms of reward, gratification, or boosting one’s ego through recognition; knowledge sharing; announcement of propriety or ownership; community practice and incentive; and

education and training. Publishing of scholarly articles in electronic format has increased the visibility of institutions of higher learning and improved their ranking in world university rankings. It may be assumed that the development of websites and institutional repositories is becoming increasingly important for universities for their visibility. The web content of universities is always being improved to boost the frequency of visits and is driven mostly by e-scholarship, such as publications in institutional repositories and linkages to scholarly journal databases. As noted by Ocholla (2011), it may be difficult to gauge whether university rankings have anything to do with this burgeoning interest in web presence and visibility, but websites and web presence are becoming common practice and a showcase of achievement and credibility among institutions.

Harnad (2004) pointed out in his postings on discussion lists that scholarly authors do not want to get paid royalties based on usage of their output; what they want is that other researchers read and use their work. The driving force behind most scientists' careers is to achieve the maximum visibility for their research', whether it is OA or not. Harnad goes further than this and argues that the trend towards OA has acquired unstoppable momentum, and that the quickest and most appropriate way forward is by self-archiving ('the green route') rather than by the use of OA journals (the 'gold route'). In addition, Blackwell Publishing's President, Robert Campbell, has claimed in unpublished conference papers that the Gold route is not popular among authors, less well-funded institutes, or in developing countries, where even a 10-dollar charge to an author would seem excessive.

Visibility is the main issue now and according to Correia and Texeia (2007), new electronic publishing models, based on self/open-archiving (*e.g*. deposit of a digital documents in a publicly accessible website) - have been tested by scholars, in several disciplines and are sponsored by academic departments or research institutions in response to the rising costs of materials produced by the traditional publishing industry. The *Free Online Scholarship* (FOS) newsletter currently named The SPARC Open Access Newsletter (http://www.earlham.edu/~peters/fos/index.htm), published by Peter Suber, is a highly useful resource for keeping up to date with developments in all areas related to electronic scholarly publishing and open access.

Through archiving and eprint repositories, scholars and academics, will have their work more visible hence increasing the potential of creating an impact, reach more audience in a short time and they can be positively criticised that will lead to improvement of that research line in future.

OPEN ARCHIVES INITIATIVE (OAI)

The *OAI - Open Archives Initiative* (http://www.openarchives.org/) was established to develop and promote interoperability standards that aim to facilitate the efficient dissemination of content and has roots in the open access and institutional repository movement. It has also expanded to promote broad access to digital resources for eScholarship, eLearning and eScience. Researchers like Correia and Teixeira (2002), Pinfield (2001) and Pinfield, Gardner and MacColl (2002) have argued that *OAI* creates cross-searchable databases of research papers and make them freely available on the web by developing and promoting interoperability standards that will facilitate the efficient dissemination of content. They have further gone to say that using these standards, institutions can put content on the Internet in a manner that makes individual repositories interoperable.

The *eprints.org* (http://www.eprints.org/), at the University of Southampton, provides free software that enables any institution to install OAI-complaint archives (i.e. using the OAI metadata tags). It is designed to run centralised, discipline-based as well as distributed, institution-based archives of scholarly publications (Chan and Kirsop 2001). OAI-compliant e-prints servers provide value-added facilities. They can compile statistics which show authors how many times their papers have been accessed; they can also produce an online publications list by author or by academic department.

DIGITIZED THESES AND DISSERTATIONS

These research materials provide virgin knowledge to many academic institutions. The fact that many of them do not get an opportunity to get published in peer reviewed journals should be enough reason to make them more visible through digitization. Theses and dissertations assume a central role in scholarly communication, as they are sometimes the only tangible deliverables, after long and expensive periods of research. As such, they are a major source of new knowledge and contain valuable research results which, when published, are extremely useful to other

groups working in the same field (Gonçalves *et. al*. 2001). The creation of digital libraries of theses and dissertations generates an environment, which significantly increases the availability of students' research for scholars and empowers universities to unlock their information resources. This environment gives rise to a number of beneficial activities (Fox 1999; Moxley 2001; Suleman *et al.* 2001):

- Improving graduate education – where universities require Electronic Theses and Dissertations (ETDs) for graduation they inspire and instigate faculty and graduate students to experiment with new mentoring models; in the past, few (printed) theses and dissertations were read, beyond the evaluation committee. Works, archived in Digital Libraries, are read by thousands, potentially millions of people worldwide;
- Empowering students to convey a richer message through the use of multimedia and hypermedia tools, animation and interactive features;
- Endowing graduates with new capabilities and eliciting the preparation of the next generation of scholars as effective knowledge workers, by providing opportunities for students to produce electronic documents, training future graduates in the emerging forms of digital publishing and information access;
- Lowering the costs of submitting and handling theses and dissertations (eliminating binding costs and shelf space);
- Increasing accessibility, visibility and readership of students' work and at the same time, this exposure attracts to the University promoting ETD, the most innovative future candidates; those who are keen to have their theses and dissertations read are often likely to obtain the best professional offers;
- Helping universities to build their information infrastructure and extend and advance digital library impact.

The Networked Digital Library of Theses and Dissertations (NDLTD) is an international organization that, through leadership and innovation, promotes the adoption, creation, use, dissemination and preservation of electronic theses and dissertations. The NDLTD encourages and supports the efforts of institutes of higher education and their communities to develop electronic publishing and digital libraries (including repositories), thus enabling them to share knowledge more effectively in order to unlock the potential benefits worldwide (NDLTD 2012).

According to Correia and Teixeira(2002), the development of NDLTD that was conceived in 1987 was aimed to develop a federation of digital libraries, providing free access to graduate students' theses and dissertations and is a collaborative effort of universities around the world. Other researches that have dwelt on this subject of digitisation include Moxley (2001), Suleman *et. al*. (2001), Gonçalves and Fox, (2001). The network has promoted creation, archiving, distribution and access of ETDs to a wider audience and the membership of the network group, while keeping with the general desire, at each site to maintain their individual collections.

Most universities in Africa have slowly but surely began to go this route. Moi University in Kenya for instance collects all the electronic copies of theses and dissertations and stores them in a repository in the library for use by other researchers. The university is developing an open access policy and by end of 2012, the repository will be uploaded on the university internet and registered with Open Access Directory.

INITIATIVES TO MAKE SCHOLARLY JOURNALS VISIBLE

There are a number of initiatives that have been developed to make journals published to be widely visible and accessible to the target audiences. Most African institutions have impressed such initiatives and posted their journals in them. Among them are the African Journal Online (AJOL), Sabinet, and Directory of Open Access Journals (DOAJ) among others.

African Journal Online

African Journal Online (AJOL) is an online service that was established to provide access to African-published research and increase worldwide knowledge of indigenous scholarship. It was initiated in 1998 as a pilot project managed by International Network for the Availability of Scientific Publication (INASP) with an aim of promoting the awareness and use of African published journals. During its inception, it was providing tables of contents (TOCs) on the internet for journals in the sciences only. It was evaluated at the end of 1999, and it was recommended to be expanded and to include journals in other subjects and abstracts of articles. It is non-profit making organisation based in South Africa. Its vision is to see African learning to be translated into development and a mission to increase online visibility, access and use of African-published research output in support of quality African research and higher education. Some of the journals listed are on open access basis. AJOL's policy for journal listing is that the

journals must meet the following criteria: be scholarly in content, and contain original research; peer-reviewed and quality controlled; guarantee permission from authors to allow AJOL to operate a document delivery; and journals are published within Africa continent where management of publishing strategy, business development and production operation are all run from African country. A number of initiatives have been started in Africa that is geared towards the improvement of visibility of research outputs in Africa. The listed journals in the AJOL website has been growing steadily and covers various subject areas though with strong in health and agriculture, and from over 30 countries in Africa, by 2010 the total number was 396 and by 2011 it had grown to 417 (Rotich 2011). The number of journals had increased to 434 by September 2012 and similarly issues had increased to 6,977, abstracts 76,173 and full text 68,061. This indicates that the collection of African Journals are increasing exponentially and gaining wider accessibility and visibility. The numbers of open access journals listed in the directory across subject categories are 186 an indication that sharing of knowledge with limited restriction is being embraced by African scholars.

Table 1: NUMBER OF PUBLICATIONS IN AJOL PER SUBJECT AREA

SUBJECT AREA	NUMBER OF JOURNALS*	No. of OPEN ACCESS
AFRICAN STUDIES	46	10
AGRICULTURE AND FOOD SCIENCES	45	7
AQUATIC SCIENCES	8	2
ART AND ARCHITECTURE	7	0
BIOLOGY AND LIFE SCIENCES	40	17
CHEMISTRY, MATHEMATICS AND PHYSICS	18	5
EARTH SCIENCES	3	1
ECONOMICS AND DEVELOPMENT	28	9
EDUCATION	20	5
ENVIRONMENTAL SCIENCES	12	5
FINANCE & MANAGEMENT	9	2
FISH AND FISHERIES	4	1
GENERAL SCIENCE (Broad Subject Range)	54	22
HEALTH	133	55
HISTORY	3	0
HUMANITIES (Broad Subject Range)	23	10
INFORMATION, COMMUNICATION & LIBRARY SCIENCES	11	2
LANGUAGES AND LITERATURES	12	4
PHILOSOPHY	5	2
POLITICAL SCIENCE & LAW	8	6
PSYCHOLOGY AND PSYCHIATRY	16	5
RELIGION	4	2
SOCIOLOGY AND ANTHROPOLOGY	25	10
TECHNOLOGY, COMPUTER SCIENCES AND ENGINEERING	11	1
VETERINARY SCIENCES	13	3
TOTAL	**558**	**186**

*Some of the journals are cross (double) listed in the various categories.

Source: http://www.ajol.info/index.php/index/browse/category Accessed on 5th September 2012

Open Access Initiatives

The Budapest Initiative defines Open Access as free availability of literature on the public internet, permitting any users to read, download, copy, distribute, print, search, or link to the full texts of these articles, crawl them for indexing, pass them as data to software, or use them for any other lawful purpose, without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. The initiative originally targeted journal articles and this stemmed from the high cost of journal subscription and the scaling down of budget by most libraries. However, it has now extended beyond journal articles alone and includes free online copies of peer-reviewed journal articles and conference papers as well as technical reports, policy papers, theses and working papers. In most cases there are no licensing restrictions on their use by readers. They can therefore be used freely for research, teaching and other purposes.

DOAJ on the other hand lists all the journals that have no restriction in the access of their full text content. A comprehensive list of Open Access journals in all subject areas is maintained by the University of Lund. By 2012, the total number of journals was 7652 distributed in various subject categories as shown in the table 2 below. Many of these Open Access journals have impact factors and are indexed by the Institute for Scientific Information (ISI) for its Web of Knowledge/Web of Science service. Sabinet which a South African maintained database of journals that are highly rated and indexed were 279 by September 2012.

Table 2: JOURNALS IN DOAJ, AJOL AND SABINET PER SUBJECT CATEGORY

SUBJECT AREA	DOAJ	AJOL	SABINET
AFRICAN STUDIES		46	
AGRICULTURE AND FOOD SCIENCES	432	45	
AQUATIC SCIENCES		8	
ART AND ARCHITECTURE	217	7	
BIOLOGY AND LIFE SCIENCES	364	40	
BUSINESS AND ECONOMICS/FINANCE	457		55
CHEMISTRY	162		
CHEMISTRY, MATHEMATICS AND PHYSICS		18	
EARTH AND ENVIRONMENTAL SCIENCES	565		
EARTH SCIENCES		3	
ECONOMICS AND DEVELOPMENT		28	
EDUCATION		20	
ENVIRONMENTAL SCIENCES		12	
FINANCE & MANAGEMENT		9	
FISH AND FISHERIES		4	
GENERAL WORKS	193		
GENERAL SCIENCE (Broad Subject Range)		54	
HEALTH		133	
HEALTH SCIENCES	838		
HISTORY		3	
HISTORY AND ARCHAEOLOGY	263		
HUMANITIES (Broad Subject Range)		23	
INFORMATION, COMMUNICATION & LIBRARY SCIENCES	237	11	
LANGUAGES AND LITERATURES	531	12	
POLITICAL SCIENCE & LAW	332	8	34
MATHEMATICS AND STATISTICS	263		

MEDICAL AND HEALTH SCIENCES			55
PHYLOSOPHY		5	
PHILOSOPHY AND RELIGION	275		
PHYSICS AND ASTRONOMY	103		
PSYCHOLOGY AND PSYCHIATRY		16	
RELIGION		4	23
SCIENCE GENERAL	137		
SCIENCE, TECHNOLOGY AND AGRICULTURE			68
SOCIAL SCIENCES AND HUMANITIES	1366		99
SOCIOLOGY AND ANTHROPOLOGY		25	
TECHNOLOGY, COMPUTER SCIENCES AND ENGINEERING	917	11	
VETERINARY SCIENCES		13	
TOTAL	**7652**	**558**	**279**

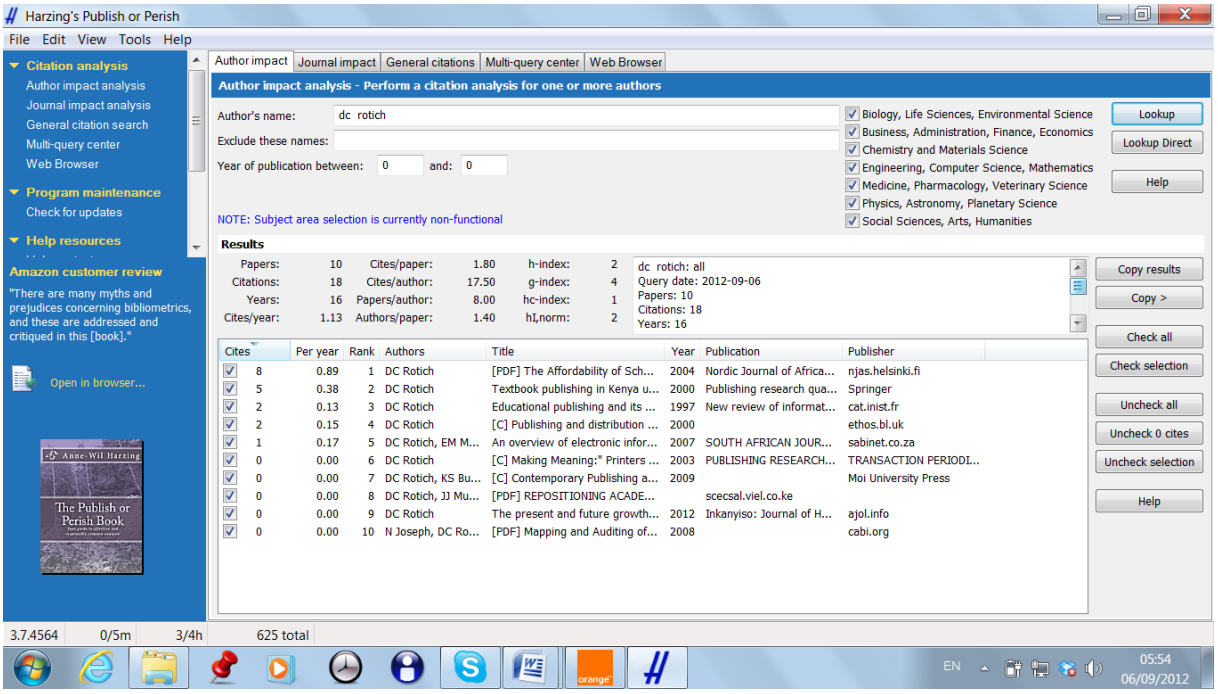
Sources: http://www.journals.co.za/collections/ accessed on 25th May 2012
http://www.doaj.org/doaj?func=browse&uiLanguage=en accessed on 5th September 2012
http://www.ajol.info/index.php/ajol/browse/category accessed on 5th September 2012

There are two ways of using OA to increase the reach and visibility of journal articles. These are commonly identified as 'the green route' and the 'gold route'. Green route OA involves placing online a version of a journal article published in a conventional journal. The article placed online can be a 'preprint', the version submitted to the journal, or a 'postprint', the version of the article revised after peer review, but before it is edited by the journal. The advantages offered include more immediate and wider circulation of the articles concerned, and access to this literature by scholars who could not normally afford journal subscriptions and readers from outside of the university community. Gold route journal publishing involves the publication of peer reviewed open access journals, which do not charge subscription fees. The cost of publication, instead of being recovered from subscribers, is borne by the publisher and recovered either from the author of the article (more commonly the organisation funding the research concerned); from donor

funding; scholarly society support, or from a combination of all of these. OA journal publication offers particular advantages to developing countries, offering greater citation impact and increased readership and reach. This therefore improves the impact of the author in his/her field as their work will be visible and cited as an authority in that respective field.

PUBLISH OR PERISH SOFTWARE

Publish or Perish is a software program that retrieves and analyzes academic citations. It is license free software that uses Google Scholar to obtain the raw citations, then analyzes these and calculates a series of citation metrics. This software also performs impact analysis of authors and journals. The Author impact analysis page allows you to perform a quick analysis of the impact of an author's publications. This page contains the minimum parameters that are necessary to look up an author's publications on Google Scholar. The following citation metrics are calculated when author impact analysis is performed; Total number of papers, total number of citations, average number of citations per paper, average number of citations per author, average number of papers per author, Hirsch's (h-index), Zhang's (e-index), Egghe's(g-index), contemporary h-index (hc-index), age-weighted citation rate and an analysis of the number of authors per paper. A search to determine the impact of an author will show results as indicated below.



The search can be controlled by the order of names or initials, restricted to a certain period, and the subject categories. The results that will be achieved will show articles that have been captured by Google scholar. The articles could have been published online or been cited by an article published electronically. The output will not show all the published work of the individual but will indicated the visibility and impact of that individual scholar in his/her own field globally. The papers that have a citation factor, the software can allow you to see the articles and authors that have cited that paper. Some senior scholars in some African universities may not have a significant citation impact due to lack of visibility. As noted by Rotich (2011) lack of visibility of scholarly works by African scholars is due to poor sustainability, irregular publication and management and poor distribution of their journals.

Scholarly journals that are visible and having some impact are normally those that have been subjected to peer-review. Scholarly peer review is the process of subjecting an author's scholarly work, research, or ideas to the scrutiny of others who are experts in the same field, before a paper is published in a journal. The work may be accepted, considered acceptable with revisions, or rejected. Although generally considered essential to academic quality, and used in most important scientific publications, peer review has been criticised as ineffective, slow, and

misunderstood. Peer review can be blind or open. Most scholarly journals are adopting blind review, either single or double, the editor and the reviewer know each other but the review does not know the author of the article and the author does not know the reviewer. Double blind review is where the editor sends the article to two reviewers and single is where one reviewer is used.

CONCERNS WITH ACADEMIC JOURNAL PUBLISHING INITIATIVES

Correia (2007) noted that fears that *e-prints* may give rise to some sort of vanity publishing and consequently have an adverse effect on research quality due to lack of peer review process. Since any individual can publish material on the Internet, there is a concern that low quality materials will appear on the e-prints archives giving rise to some poor quality articles that have not undergone the normal quality control procedures.

There is also uncertainty as to the ownership of research copyright and the debate is still ongoing (Correia 2007). In most Higher Education Institutions, accepted custom and practice is that academic authors are permitted to claim and dispose of the copyright themselves. The problem is that commercial publishers of many research journals require the authors to assign copyright to the publisher before publication. A movement taking shape within the e-print community is that authors should be encouraged to retain their copyright by submitting to journals that do not require signing over the copyright or will agree to the author distributing the papers through e-prints repositories. However, in some cases the authors may write to the publisher to inform them that they are posting their published articles in their institutional repositories and majority will accept.

Smart (2005) singles out the following challenges contributing to invisibility of African scholarly journals:

- Many journals feel extremely isolated. Most are managed by committed individuals, who feel unsupported by their parent bodies and are unsure if their judgements are correct. Journals desperately want support and encouragement; frequently, their editors lack knowledge of who reads them outside their immediate community, and they lack communication with a wider audience.

- Many journals find it difficult to publish on time. Although most or all journals completely agree that publishing to schedule is the cornerstone of success, insufficient emphasis is in reality placed on ensuring timely publication-for many different reasons.
- Many journals are started with limited research into the need for their publication and the long-term feasibility of continuing. There is little investigation into potential competitors. Frequently, multiple African journals have similar titles, or even the same title, and they compete for a limited number of articles and readers. There may be too many journals for all of them to be sustainable.
- Strong pride in the journals and a desire for individual identity often lead journals to discount-or not even consider collaborative publishing. This problem is common worldwide, but is particularly detrimental when it leads to competition in an already small and under-resourced environment.
- There is a strong desire to have a visible place in the international publishing community, and to become international; many journals have publication of local information as a primary objective, but they appreciate the need to cover a wide range of experiences if they are to serve their community well.
- It can take a long time for any new developments to be put in place. Sometimes delays are due to bureaucratic management systems, and sometimes to an unwillingness to take risks and introduce innovation; however, it may also be because the journals do not publish frequently, and so changes take a long time to be implemented.
- There are many different journal publications within and aimed at the research community, with different types of content, and it is difficult to set guidelines that are relevant and useful to all types of publications. Many journals have a mandate to support local research and are unwilling to reject papers submitted by their local com- munity. Unfortunately, because of a lack of investment in writing and methodology skills, many submitted papers are of poor quality, and the authors are insufficiently skilled to improve them. While many editors spend a great deal of time correcting submissions and liaising with authors, the lack of time and quantity or quality of submissions frequently leads to publication of weak articles-which is detrimental to both the journal and author.

- Publication skills are in short supply-i.e., the post-editorial skills to take accepted papers and ensure that they are published efficiently and become visible to the world, and to take advantage of available publishing technologies.
- Few African journals make a profit, and most are funded by their parent organization or through international sup- port. Those who manage the publication are often unaware about financial management, and they lack the incentive to introduce cost-saving methodologies and methods of better utilizing existing budgets.
- While there is a desire to make journals more visible to the world, there is usually a lack of promotional activities. Partly this appears to be due to the lack of emphasis on the post-editorial functions, and partly it is due to a lack of confidence and knowledge of how to ensure greater visibility to all potential readers and contributors.

CONCLUSION

There are indication that scholarly journals published in Africa are gaining visibility through the listings in AJOL and Sabinet. It is also presumed that these journals contain scholarly work from African scholars, although some senior scholars in Africa still lack visibility because they publish in journals that are owned by their universities and they are not widely distributed. To improve the visibility of scholar's work and make them relevant in the academic scene, electronic publishing will be advisable. This provides the potential to readers to search and locate the articles at minimum time within one journal or across multiple journals. Reference linking in scholarly journals is made possible through use of DOIs, which are unique identification codes assigned to online articles, and which provide permanent links for the user. This is one of the international standards being developed to assist different systems to communicate and link with each other, to help with visibility and discovery of online material. Free online availability facilitates access in multiple ways, including online archives, direct connections between scientists or research groups, hassle-free links from email, discussion groups, and other services, indexing by web search engines, and the creation of third-party search services.

African scholars are encouraged to publish their research output in journals that are indexed or that are visible. They can use the various directories and databases to locate refutable scholarly journals. Publishing your articles in those journals that are refutable and listed in the various

directories databases has the advantage of visibility and improvement of quality of the articles since they are subject to peer review process.

Most African universities have journals that they publish but not visible beyond their gates, it is advisable that they list those journals in the listed databases and embrace electronic publishing through hosting of university journals in university websites, self archiving or starting institutional repository and listing under directory of institutional repositories. There is also a strong need for African universities to embrace open access in electronically published materials to freely share knowledge. Embracing open access as a university and encouraging lecturers to publish in journals that are in the open access directory. For those universities who have not adopted reward system for lecturers who publish their articles in journals whose citation impact is high should do so. This system has been used in various countries in Southern Africa and it works well and has improved the visibility of articles published by scholars in those universities.

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Factors Motivating and Impeding Courseware Development in Nigeria

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Abstract

This paper is based on an in-progress project to detect challenges in the early stages of courseware development. Although the courseware system is common elsewhere it is not in Nigeria. An understanding of the perceptions and factors that motivate or impede faculty in the development of online course materials for their various undergraduate and diploma courses is to address and strengthen courseware development. The initiatives have been taken in the area of open courseware development for all undergraduate studies and the postgraduate diploma in education, PDDE at the University of Ilorin, Nigeria that is a pioneer in this regard in the country. This is a study on human aspects of use of technology in learning. A pure quantitative method using descriptive survey approach was adopted. Questionnaire was used for data collection. Test-retest reliability was embarked upon to determine the reliability of the questionnaire. A statistical package for social sciences (SPSS) was used to analyze the data and method of analysis included: percentages and frequency count. The findings reveal factors hindering faculty contribution to courseware development to include: lack of experience or orientation on courseware development, lack of motivation for faculty, lack of familiarity with courseware technology, etcetera. Adequate technical support is necessary for the lecturers to continue courseware development smoothly.

Keywords: open access; open courseware; institutional repositories; courseware development; developing countries; Africa; Nigeria.

Introduction

The development of Internet technology has created enormous opportunities for faculty and learners as a result of the use of technology for instruction delivery – to anyone, anywhere and at any time. The impact of the convergence of traditional modes and new technology makes it possible to access information conveniently and instantaneously. By "open courseware" or "courseware " much like "open access" in this literature, refers to course or teaching materials freely available on public internet, permitting any users to read, download, copy, distribute, print, search or link to the full texts of these course materials and associated links, communicate via an online chat facility or forum, crawl them for indexing, pass them as data to software, or use them for any other lawful purpose, without financial, legal or technical barriers other than those inseparable from gaining access to the internet itself (Budapest Open Access Initiative 2002). The design of the courseware template and content is referred to as "courseware development" which involves a lecturer developing instructional materials with less effort than commercial programming languages, but still requires significant effort to put together.

Open courseware plays a significant role in open, distance education or traditional/conventional learning. For instance in the United Kingdom, the Open University had already opened its courseware from as early as the year 2006. A country very similar to Nigeria, India, its Indira Gandhi National Open University (IGNOU) had taken up a project e-Gyankosh where all the courseware developed by the university was being placed in an open access repository online to facilitate wider accessibility. Close related concepts are other categories of educational software, classroom management software, classroom aids – electronic blackboard, virtual learning environment (VLE) and learning management system (LMS). At the Massachusetts Institute of Technology (MIT), for example, Open Courseware (OCW) is a major successful project that provides free access to around 2,000 courses. Its philosophy is to bring MIT education to the doorsteps of learners who are not fortunate. Universities from developing countries (Tae, 1998) and Nigeria in particular need to be evaluated as to why they have either not explored this option

of open courseware development or why progress in this drive is so slow? What are the perceptions of faculty of courseware development? How motivated are faculty for courseware development? There are challenges for courseware developers who in this study are lecturers. Lecturers' teaching loads are much and hardly have time to develop courseware. There are also fears of poor designs of courseware. Yuri, Bongalos, Bulaon, Celedonio, Allan, de Guzman and Cronica (2006) reported that the problem of courseware development was not technology but human resources. Several studies (such as Tella and Isah 2011; Vrasidas and McIsaac 1999, Curtin, 2002; Ali and Elfessi 2004; Association of Research Libraries 2004; Barab, Makinster, and Scheckler 2004 and; Zhang, Zhou, Briggs and Nunamaker 2006) have reported advantages of courseware. This present study will explore human aspects of the courseware system.

However, there are several issues challenging open courseware development such as the issue of intellectual property and ownership of courseware. In fora where the issue of ownership has been discussed, very strong opinions come forth from both the administration and faculty on whom should hold copyright and each constituent group makes it clear they are concerned with protecting their investment in the final product (Crowther, Keller and Waddoups, 2004). Several studies such as (Twigg 2000; Pinfield, Gardner and MacColl 2002; Hickey and Davies 2003; Kasirun 2005; van Westrienen and Lynch 2005; Yiotis 2005) showed that courseware development has been abandoned by faculty in many cases as a result of time consuming processes of design and development, low perceptions of courseware development by faculty, little or no training of faculty in design/development of courseware, absence of motivation, copyright and ownership issues and fears held by faculty, lack of studies on faculty perceptions and requirements to meet open courseware development to name but a few. Perkins (1985) cited in Surry (2000, p. 146) proposed conditions on achieving the effectiveness of technology utilization that included users' sufficient motivation to take use technology and innovation. These issues are not only new in the context of the courseware system in Nigeria but will lead also to better understanding of courseware development even in countries where the phenomenon has had a much longer history.

Open Courseware Development in the University of Ilorin

The reason for the choice of faculty of the University of Ilorin, Nigeria as target population for the study is because the University is not only a pioneer in this regard but also a leading institution in the country in recent years. The university is a federal establishment with a broad base of faculty from all around the regions of Nigeria and a sizeable number of international scholars. The courseware development initiative began with the establishment of a university wide courseware development committee in 2008, saddled with responsibility of providing expertise in learning styles, pedagogy, instructional design, teaching and learning, learner-center environments in the process of courseware design, development and implementation. At various fora during the kickoff of the courseware development training for faculty in a series of workshops, some participants demonstrated a reluctance to embrace open courseware development due to what they termed peculiarities in their disciplines, issues of premature disclosure, plagiarism, fear of upsetting the current system, indifference, long term storage and retrieval, and intellectual property rights of their work, faculty preference for traditional workflows and practices, etcetera. It is the responsibility of lecturers to develop courseware for their courses. The courseware project is on-going but at present is a text based e-learning platform complemented with groupware and group mails for feedback purposes and interactivity amongst lecturers and students, accessible on the university's domain and is being upgraded to an open distance learning system (ODL). ICT infrastructure has been enhanced to support courseware development. The number of courseware developed in comparison to total number of courses showed a wide gap (see Table 5 below). There is a need to better understand why lecturers are not developing courseware for their courses.

Objectives of the Study

The objectives of the study are to:

1. Determine faculty perceptions of impact of courseware on teaching and instruction delivery
2. Investigate motivating factors of courseware development
3. Determine barriers to courseware development

Literature Review

Courseware Development

Ghosh and Das (2007) in a descriptive survey of open access and institutional repositories in India found that the Open Courseware (OCW) movement in that country had gained momentum with announcements of the availability of learning resources on the Internet by three important national level organizations, namely the Indira Gandhi National Open University (IGNOU), the National Council of Educational Research and Training (NCERT) and the Indian Institutes of Technology (IITs). Ghosh and Das (2007) reported that open access was the way out for developing countries to internationalize their publications and tap in the global pool of scholarly work (Ghosh and Das 2007).

Durdu, Yalabik and Cagiltay (2009) development and tested a model and found that courseware development teams that work in different institutions may be needed to develop high quality, reduced cost, on time products that will be used by students. The research conducted a collective case study, including four cases with distinctive characteristics to reveal the several practices in online curriculum and courseware development work. It included the important components that should be considered for the success of the development effort. It emphasized effective communication and facilitating skills, management based on leadership rather than an authoritative mode was emphasized for effective collaboration in courseware development.

Liu, Yi and Lim (2009) reported on the instructor’s roles in courseware development focusing on the system features and on the technologies employed and to integrate IT well with pedagogical principles, it stressed the importance of involving instructors in the courseware development. This study sought to gain insight on courseware development by investigating instructor's different roles in each courseware development phase. It used an educational system development model and role theory as theoretical lens, the research conducted multiple case

studies involving three sets of language courseware and revealed that courseware development was a gradual process requiring dynamic role playing of the instructor. Lessons were drawn from the case study to improve courseware development efficiency by facilitating instructors' role transition and reducing their role overload and role ambiguity.

Beng and Seh (2007) found that lack of experience in the use of self-instructional material among the faculty members was a major challenge to their contribution to courseware development. It found that while the institution it surveyed had achieved some success in implementing self-instructional online learning, the experience was restricted to the language team only and not institution-wide. The survey concluded by identifying that lack of specific funding for courseware development, lack of provision for full spectrum of expertise led to ill-defined courseware development teams.

Moonen, and Schoenmaker (1992) employed a methodology based upon courseware engineering, being a combination of instructional systems development and software engineering, that had emerged over the last 10-15 years. Recently, software engineering aspects have gained extra attention. The study like many other previous studies dwelt on technological aspects of courseware system. It explained that continuing developments in hardware and software were opening new perspectives for courseware engineering and connected research.

Park, Lee and Cheong (2007) examined the factors that influenced instructors' adoption and use of an Internet-based course management system and tested the applicability of the Technology Acceptance Model (TAM) by Davies (1986), in the context of e-learning practices in university education. The authors collected data from an online survey from university lecturers (N=191). A path analysis revealed that perceived ease of use (PEOU) of the system had a significant impact on perceived usefulness (PUA) as Davies (1986) suggested in TAM. The authors also reported a direct effect of PU on behavioural intention (BI) to use and an indirect effect of the variable on actual system use, both of which were proposed in the TAM were also found. The authors revealed that motivation to use the system played a significant role in affecting PEOU, PU, evaluation of functions, current system use and BI to continuance of use of the system. The

study suggested syndication between TAM and use of other approaches for future research on diffusion of Internet-based technological systems.

In summary very limited studies have looked at human aspects of the courseware system particularly from the perspective of faculty who in this case is responsible for courseware development in the context of Nigeria. The previous studies cited above have also used mostly Technology Acceptance Model (TAM) to test and answer nagging research questions. TAM has been criticized in several studies such as (Bagozzi 1992; Bagozzi and Warshaw 1990, Ventakesh, Morris, Davis and Davis 2003; Bagozzi 2007). This present study has used a different approach in line with the suggestions of Park, Lee and Cheong (2007) and has underpinned the theoretical framework of this study on Laurillard (2002).

E-Learning Models

There are several models for instructional development. Britain and Liber (1999, 2004) framework was based upon the Laurillard conversational model and the Beer viable systems model (Beer 1979). Laurillard's (2002) framework focused on learning mediated through conversations between learners and teachers. The framework described five factors of the academic learning process. These were: (1) the need to organize and structure the content; (2) understanding and practice of the forms of representation; (3) learning to manipulate these descriptions; (4) use of feedback actively and lastly; (5) learning to reflect on the goal-action-feedback cycle. Laurillard (2002) adopted a phenomenographic perspective to link these learning requirements to a teaching strategy. The framework was constructivist, but placed more emphasis on the interaction between teacher and individual student and emphasized the need for meaningful feedback to be a central feature of e-learning. This present study was based on the factors identified by Laurillard (2002) and the questionnaire items have been largely drawn from this framework and related studies.

Methodology

The study chose a pure quantitative method using descriptive survey approach. A questionnaire was used for data collection. The questionnaire was developed with items adapted from previous related studies (Yuri, Bongalos, Bulaon, Celedonio, Allan, de Guzman and Cronica, 2006). The

questionnaire was trail tested. Data collected was analyzed so as to determine their validity and reliability. Test-retest reliability was embarked upon to determine the reliability of the questionnaire. A statistical package for social sciences (SPSS) was also used to analyze the data and method of analysis included: percentages, frequency count, mean and standard deviation.

Population and Sample

All faculty staff of the University of Ilorin, Nigeria were invited to respond to the online survey (n=812). All faculty members were sent invitations in their email accounts in August 2011 to participate in the survey. The emails contained web link to the online survey and reminders/follow up mails were sent to all faculty emails on a weekly basis till 31 August 2011. The data collection spanned over 4 weeks. The questionnaire was developed by the researcher based on a review of literature and a careful observation and analysis of those features in UNILORIN courseware template that were available to the population. There was a response rate of 22% to the survey (n=180) which met the desired sample size of 82 (Isreal 2003). Data was collected mostly with a 3-point likert scale measurement and validated by Davis (1989). There were a total of five different scales for this study, with four of them using the Likert or Likert-type scales and one of them using the check-all-that-apply type of scale. The four Likert scales are the Perception of Open Courseware (OCW) scale, Impact on teaching beliefs, the Motivators of Courseware scale, the Barriers of OCW.

Reliability

The rating scale items on the questionnaire were tested post-data collection for internal consistency reliability, using Cronbach's alpha reliability coefficient. The alpha reliability value stood at .763 indicating that the data collected via the rating scales showed satisfactory reliability, in excess of the 0.70 level routinely considered adequate for survey instrument items (DeVellis 1991).

Findings and discussion

Demographics

A close observation indicated that out of the 180 respondents only 13 had no experience with courseware development and their status showed they were staff engaged in the period less than

2 years. The male respondents were 110, female 60 and 10 respondents did not indicate their sex. Other information included seminars attended on courseware development, number of years in teaching, status, the number of classes taught per semester, the method of conducting classes (face-to-face, simulation, online, etc), 180 responses were received and analyzed using SPSS. The analysis of demographic information included the respondents who were experienced with courseware development, 13 who had no experience and 34 others who had developed courseware at one point or the other but who indicated that they did not use courseware presently in the teaching of their courses.

Table 1 Years of experience with Open Courseware (OCW) (n=180)

No of years	**Frequency**	**%**
No Experience	13	7.2
1 yr or less	17	9.4
2 – 4 yrs	124	68.9
5 – more	24	13.3
I do not know	2	1.1

Table 2 Number of Years of Teaching Experience

Years	**Frequency**
Less than 2 years	**19**
2 – 4 years	**97**
5 – 7 years	**21**
8 – 10 years	**20**
11 years and above	**23**

Table 3 Number of Respondents by Faculty (n=180)

Faculty	**No of respondents**
Agriculture	31
Arts	17
Basic and medical sciences	13
Business and Social Sciences	19
Communication and Info. Sciences	40
Clinical Sciences	4
Education	21
Engineering and Technology	9
Law	12
Science	14
Veterinary Medicine	0
Pharmaceutical Sc.	0

Table 4 Status of Respondents (n=180)

Rank	**No of Respondents**	**%**
Graduate Assistant to Lecturer I	102	56.7
Senior Lecturer to Reader	59	32.7
Professor	19	10.6

Table 5 Faculty contributions to courseware

Faculty	No of Respondents	Total No of Courses in Faculty	No of Courseware Developed (for courses) by Respondents available on UNILORIN Website
Agriculture	31	193	6
Arts	17	633	3
Basic and medical sciences	13	93	0
Business and Social Sciences	19	350	0
Communication and Info. Sciences	40	256	12
Clinical Sciences	4	0	0
Education	21	270	0
Engineering and Technology	9	249	0
Law	12	107	5
Science	14	429	0

1. Perception and Values of faculty of courseware development (n= 180)

The design of this section of the questionnaire was based on these components: ease of use (5 items), time (2 items) and functionality (4 items), which included communication (item 2), effectiveness (4 items) and instruction delivery (4 items). The perception and values of faculty of

courseware development were measured by a 3 point Likert scale (Agree, Neutral, Disagree). Some of the questions items were:

(1) I am aware of courseware development

(2) I would say courseware development is easy enough

(3) I get a lot of feedback from students using courseware

(4) I do not have to be technology savvy to develop courseware

(5) Courseware has contributed to students' learning

(6) Courseware has assisted in my teaching and instructional delivery

(7) Courseware is suitable to my style of teaching

Findings showed that the overall mean and standard deviation of the Perception and value scale were 59.20 and 8.73, respectively. The value of skewness was -.75, which indicated that the overall perception and value of courseware was positive.

2. Impact of Faculty Perception of Courseware on Teaching Beliefs

This section of the questionnaire was developed and validated by two experts in the field from the faculty of education to assess teacher-centered, learner-centered, and learning-centered beliefs (adapted from several related studies such as: Avraamidou, Lucy and Zembal-Saul 2003; Cho and Brown 2007; Barkley 2001). The section of the questionnaire comprised of three subscales, teacher-centered beliefs, learner-centered beliefs, and learning-centered beliefs. As for the construct validity of the measure, a factor analysis was performed using the principal axis-factoring, extraction method. As predicted, a three-factor structure was found. The results below showed that the impact of faculty perception of courseware on teaching beliefs was three-fold, learner centred, faculty centred and learning centred. Factor loadings are displayed in Table 6 below:

Table 6 Factor Analysis Results of Courseware Impact on Faculty Teaching Beliefs

	Learner Centred	**Faculty Centred**	**Learning Centred**
I encourage learners to constantly check their own understanding while they are studying.	.655		
When evaluating learners, it is important to consider multiple approaches	.682		
It is important to help learners ponder on their thinking and learning processes.	.645		
Effective teachers consider students' prior knowledge/experience.	.609		
I give avenue for learners to discuss their development of understanding of concepts.	.570		
Giving lectures is important because they model subject matter expertise		.741	
I focus mainly on information students will need to pass the tests/exams.		.739	
Tests should have clear and correct answers.		.724	
My methods of grading are mainly on tests and assignments.		.721	
I use textbooks to plan my course.		.541	
It is important to present basic knowledge to students.		.538	
Many of my assignments require students to work in groups/teams.			.921
I grade students' team work skills.			.719
My course activities usually require students to work individually.		.361	-678
I encourage students to work together to solve authentic problems that students help identify.			.647

I provide opportunities for my students to critique each other's' work.			.581

3. Perceived Impact of Courseware on Teaching

This consisted of similar 3- Likert-scale items. There were 10 items that represented very common features of open courseware. The results showed the degree of usefulness of the University of Ilorin (UNILORIN) open courseware. The 10 items were divided up in three sections of aesthetics/graphical features, features for instruction/teaching and thirdly communication/participatory features. Respondents were asked if they found any specific features useful in teaching of their courses (from the three broad features) by selecting either 'Disagree', 'Undecided' or 'Disagree'. The 'Undecided' has a value of 0. The mean score indicated that on the average, the respondents agreed that the three common features of courseware were moderately useful in their teaching. Further comparison among the three different groups of features, classified in this study as interactive, visual and instructional, indicated that instructional and interactive features were perceived as more useful in their teaching of learners by the respondents and visual features less useful. The table 7 below illustrates the distribution of the averaged scores for the perceived usefulness of the overall features and by group. It illustrates only the items that were responded to out of the 10 items listed.

Table 7: Perceived Impact of Courseware

Courseware Features	**Overall Average Score**
Aesthetics/Graphical	0.53
Images, colours	0.01
Interactive – groupware, groupmail, discussion forum, wikis, blogs, emailing, chat, online communities	5.5

Course Documents	3.54
Instruction/Teaching Features	4.1

4. **Motivators of courseware development**

Table 8 below shows the motivators of courseware development to include: earning of additional points for promotion, monetary rewards, reduction in teaching/admin workloads, peer influence and relative advantages of courseware such as publicity for my work.

Table 8: Motivators of courseware development (n=180) frequency

	Agree	Undecided	Disagree
Earning additional points for promotion for courseware development efforts	165	2	11
Courseware helps me get feedback from students	105	34	28
Posting courseware for my courses on publicly accessible UNILORIN website will enlarge the readership of the materials	141	10	16
I perceive that courseware development is important	76	35	55
Monetary rewards will boost courseware development	171	5	0
Reputational rewards for my courseware development efforts	98	13	56
Increase in awareness of potentials of courseware development	35	9	23
Reduction in teaching and administrative workload to make more time for courseware development	158	15	14
Availability of infrastructural andtechnical support for courseware development	11	4	152
Courseware development helps my teaching	87	11	69
Courseware development helps my research	143	3	21
My decision to develop courseware was influenced by my fellow lecturers (peer influence/team teaching) and collaborators	110	12	45

Availability of regular training in courseware development	19	22	99
Compulsory/mandatory participation in courseware development directed by university management	14	31	123
Relative advantages of use of courseware in my teaching	56	23	42
User friendliness of courseware development	50	49	78

Table 9: Perceived Barriers to Courseware Development

Time to learn new system	Lack of electricity
Lack of financial motivation (stipends, etc) for courseware development	Lack of clear direction on how to use it
Lack of non-financial motivation	Lack of pedagogical rational for using courseware
No time for development of courseware	Rigid courseware template from UNILORIN courseware committee
Too tight schedule, no time	
Resistance to change	
Student resistance	
Lack of time to learn/use/develop it	
Lack of Departmental support	
Lack of regular training and workshops on courseware development	
Technology issues – lack of skills and IT support	
Courseware cannot be developed for my discipline	
Concern about increase in faculty workload	
Lack of Internet access	
Lack of materials to develop courseware	
Issues of ownership rights/copyright infringement on my intellectual property	
Lack of encouragement from colleagues	

Table 9 above shows the variety of responses of faculty to multiple choice questions regarding the challenges of courseware development. Time and lack of motivation emerged as the most common challenging issues in relation to courseware development. Another challenging issue involved issues of ownership rights (whether ownership is by institution or the individual and then complaints about the template adopted for use which some respondents said was too rigid (in their own comments). Sixteen other respondents indicated they wanted multimedia alongside their courseware development.

Implications

Findings showed the human aspects of the learning system – courseware with faculty having wide ranging perceptions of the value of courseware use and development such as a learning tool, good for feedback from learners. The faculty that participated in the survey highlighted outstanding features of the open courseware to include communication and collaborative tools such as email lists, groupware, discussion forums and online communities. Faculty showed positive perception of courseware development. These findings are similar to several studies (McMahon 1997; O'Reilly 2005; Weller 2006; Cantoni, Cellario and Porta 2003) that the Web is an ideal forum for constructivist learning. The studies mainly see e-learning platforms such as open access courseware, Web 2.0, VLE 2.0, weblogs and wikis as social and active processes. Many lecturers in this survey shared the views of Weller (2006) and O'Reilly (2005) that courseware seemed more interactive, less static, with no programming and being user-centered or learner-centered. The findings in this study in Nigeria are similar to those of Anderson (2003), Halawi and McCarthy (2007), Heaton-Shrestha, Gipps, Edirinsingha, and Linsey (2007), Woods, Baker and Hooper (2004) on the usefulness of different features in Blackboard software. The study found that some lecturers were dissatisfied with lack of images and multimedia available on the courseware. Meanwhile, Cantoni, Cellario, and Porta (2003) emphasized the importance of visual components in the development of future e-learning systems. Furthermore, this present study found that faculty perceptions of the value of courseware use were related to the faculties' teaching beliefs. This is not too different from the study by Teo, Chai and Lee (2008) that examined the possible relationship between teachers' beliefs about teaching and use of technology. Faculty motivation is very necessary for the success of courseware development

with motivators such as a reward system, technical support and training. Ng and Gunstone (2003) reported that teacher motivation plays a significant role in the use of ICT in the classroom. The lack of time, training and technical support were major problems faculty faced in courseware development

Conclusion

Courseware development may be a richer experience for faculty if fears of ownership, plagiarism and copyright are adequately addressed. Technical support is necessary for the faculty to embark on courseware development in a smooth flow. Faculty expects support from peers as well as the institution. As compared to the traditional classroom teaching the teachers need to spend significantly more time and effort in the courseware development experience. There should be close coordination among the various technical, faculty, and managers of courseware materials as open courseware development is a team effort.

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Pursuit of effective pedagogy through *Facebook* in an ODL landscape

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Abstract

This article reports on the use of Facebook by UNISA students to improve effective pedagogy. This study was informed by the Satisfaction and E-learner Satisfaction Theory. A survey research design was used and questionnaires were administered to all Communication Students Association executives (10) and 100 Unisa Radio student employees, chosen by simple random sampling. The data was analysed using thematic categorisation and tabulation and the findings were presented descriptively. The findings indicate that students spend most of their time socialising on Facebook and that students would like see UNISA's academic content posted on Facebook because that is where most students spend most of their time. They based their argument on the premise that on Facebook they meet different people from all over the globe who could assist them in their studies. Other than socialising, the findings depict that students are reaping many benefits from the use of Facebook in their studies. Therefore, when designing Learning Management Systems for their students, universities should bear in mind that many students prefer to use Facebook for their studies.

Keywords: Social networking sites; Information and Communication Technology; *Facebook* ; Open Distance Learning; E-learning; Leaning Management Systems

1. Introduction

Social networking sites (SNSs), which are the preferred method of communication of the millennium generation, are also gaining popularity with people from other generations. Brown (2010) observes that SNSs have become very popular and are the way the 21st century communicates today. It is also true that SNSs play a major role in the grouping of individuals into specific groups, like small rural communities or a neighbourhood subdivision, so to speak. Although social networking (SN) is possible in person, especially in the workplace, universities, and high schools, it is most popular online (Brown 2010).

Facebook is an SNS that started out strictly for college students and was available by invitation only (Top Ten Reviews 2010). Now, it is a cultural phenomenon stretching across the globe. *Facebook* has taken hold as undisputable leader amongst SNSs. Kim and Yun (2007, 15) acknowledge that SNSs have become most popular among younger users such as university students. One reason they may have become so popular among younger individuals is that they have an equalising effect in that individuals often feel the freedom to express themselves in ways not possible through other outlets. SNSs have even been found to increase self-esteem among younger people (Kim and Yun 2007, 15). Aleman and Wartman (2009, 12) argue that SNSs such as *Facebook*, *twitter*, *MySpace*, and many others allow vast communities of Internet users to create and maintain profiles of personal information and interact with each other in a variety of ways. The current statistics show that *Facebook* has more than 500 million active users globally. Fifty per cent of *Facebook*-active users log in on any given day (*Facebook*, 2010). SNSs generally give an impression of informal use and entertainment-based escapism. However, they have the potential to influence teaching and learning practice in higher education institutions. Aleman and Wartman (2009, 13) believe that it may be possible for higher education institutions to take advantage of students' use of SNSs for the good of an institution by using social networking sites creatively and productively to benefit students' development and to build positive online campus communities. Bassford and Ivins (2010, 68) support this belief by arguing that undergraduate students are beginning to use SNSs to discuss coursework with friends. *Facebook* is also being used by teachers and students as a communication tool. Since many students are already using a wide range of SNSs, teachers have begun to familiarise themselves with this trend and are now using it to their advantage (Liebeskind 1996, 428).

This article reports on research on Communication Science students' views on the use of SNSs in their studies as a transformational and educational tool in collapsing the transactional distance by answering the following research question: What are the perceptions of Communication Science students' on the use of *Facebook* as an educational tool? The problem that was investigated pertains to students' inadequate use of the learning management systems (LMSs), caused by the fact that many students spend most of their time on SNSs chatting amongst themselves. Also of note is that many tertiary institutions world-wide have invested millions in electronic learning (e-learning) resources in order to bridge the geographical distance between the students and their institutions. Moreover, e-learning resources can be used to supplement the traditional way of teaching. Yet some students at UNISA do not use these e-learning resources adequately (Mbatha and Naidoo 2010, 171).

Many studies have been conducted globally on SNS usage in teaching and learning (e.g. Liebeskind 1996, 428; Aleman and Wartman 2009, 15). For example, another recent study on the use of electronic learning resources (Mbatha and Naidoo 2010, 171) established that the majority of Communication Science students at UNISA do not adequately use e-learning resources for their studies. Rather, they prefer SNSs. UNISA introduced the LMS popularly known as *my*Unisa as a way of enabling communication between students and students and students and the university. The main intention of introducing *my*Unisa was to bridge the space of time and geographic location between the students and the university. In a nutshell, *my*Unisa is an e-learning system that UNISA has put in place for its students. However, students do not make use of this LMS (Mbatha and Naidoo 2010, 171). LMSs seem to be catalysts in teaching and learning, more especially in an open distance learning institution (ODL) like UNISA. If students do not use learning management systems that many tertiary institutions have put in place for them, there would be no effective engagement between the stakeholders in learning. Consequently, throughput might be negatively affected. It is therefore recommended that SNSs be used in conjunction with the LMSs that tertiary institutions have established for their students. Accordingly, tertiary institutions should think of posting students' study material on SNSs because that is where the majority of students spend most of their time.

2. Literature review

Facebook plays a major role amongst university students with regard to information sharing and communication. Lyon (2006, 2) argues that among online SNs, *Facebook* stands out for two reasons: its success, both in terms of membership and quality of information available on it; and the fact that, unlike on other networks catering for young users, the information is uniquely and personally identified. Accordingly, *Facebook* is of interest to researchers in two respects: firstly, the phenomenon itself – with over nine million users – the behavior of its users and the gains as well as the risks they face; and secondly, it is a unique experiment in information revelation, a source of highly valuable information about privacy attitude and privacy behaviour among young individuals. College-oriented SNSs are based "on a shared real space" (Lyon 2006, 2; McGrath 2004, 6).

Facebook, in particular, has spread to thousands of college campuses across the USA (before targeting high schools) and more than nine million (and counting) users (Lyon 2006, 2; McGrath 2004, 7). In addition, *Facebook*'s market penetration is impressive – passing the barrier of 80% of the undergraduate population in many colleges. The amount, quality, and value of the information provided are impressive. Also of note is that not only are *Facebook* profiles most often personally identified, but by default they show contact information (including personal addresses and cell phone numbers) and additional data rarely available on other SNSs. *Facebook* requires a college's email account for a participant to be admitted to the online SN of that college. As discussed in Malcolm and Floyd (1996) and Gross and Acquisti (2005), this increases the expectations of validity of certain personal information, as well as the perception of the online space as a closed, trusted and trustworthy community. Unlike other online SNs, *Facebook* offers its members very granular control on the searchability and visibility of their personal information (in particular, by friend or location, by type of user, and by type of data). Nobody is forced to reveal certain data. However, by default participants' profiles are searchable by anybody else on the *Facebook* network, and actually readable by any member at the same college. The barriers to entrance to any *Facebook* college community are low, since various forms of social engineering or technical attacks are possible. Those attacks allow individuals not affiliated to a campus to become members of their *Facebook* network, or allow information to be

visible to members who were not supposed to see it (Nip 2004, 409; Poster 1996, 176). In addition, the amount and nature of information provided on *Facebook* have attracted significant concern about *Facebook* in the media (Taylor, 2006: 318). *Facebook* has reacted by adapting and extending its privacy policy (without, however, significantly altering its most basic tenets), and by addressing some of its security issues (Taylor 2006, 318; Orwell 1949, 7; Gross and Acquisti 2005).

3. Theoretical framework

This article is informed by Satisfaction and E-learner Satisfaction Theory. Satisfaction is an important aspect of product or service marketing because it determines whether a customer will continue using a product or service or not. The theory postulates that when a customer is satisfied with the service(s) offered by an institution or a company, he or she is more likely to continue using that institution's products or services. However, when a client is dissatisfied with the service on offer, he or she may decide to discontinue using that particular product or service. Satisfaction refers to a customer's "cognitive state of being adequately or inadequately rewarded for the sacrifice they have undergone" (Kim, Yeon and Park 2002:11). In this connection, it should be emphasised that the main reason why the students do not adequately use learning management systems (e.g. *my*Unisa) in their studies could be due to dissatisfaction. Mbatha and Naidoo (2010, 172) established that one of the main reasons why students do not use LMSs provided by their institutions is the complexity of the systems. According to the students, most of the LMSs are not user-friendly. In addition, the findings of the current study further indicate that most university students prefer to use SNSs like *Facebook* because there are many people who are on *Facebook* most of the time. Most of the students in Mbatha and Naidoo's study also indicated that the other reason they prefer *Facebook* over LMS is that on *Facebook*, for example, they communicate with other students from all over the world and if they happen to experience any challenges regarding their studies, they just put a question on *Facebook* and it will be answered promptly.

4. Methodology

A survey research design was used whereby questionnaires were administered to all Communication Science Association (COMSA) executives (10) and 100 Communication

Science UNISA Radio student employees who were chosen using purposive sampling to select 50% of 200 students. These groups were chosen because they were able to provide valuable data emanating from their active involvement at the Muckleneuk and Sunnyside campuses in Pretoria, the hub of the university's activities. In addition, they were chosen because they had physical access to e-learning resources. The response rate was 76 (69%). The questionnaire sought information pertaining to the demographic profile of the respondents; SNSs used by the students; SNSs used by the students in their studies; factors that motivate the students to use SNSs; frequency in using SNSs; students' views on posting UNISA academic content on SNSs; and major reasons in favour of posting academic content on SNSs. The data collected was analysed using thematic categorisation and tabulation, and the findings were presented descriptively.

5. Results

The results are reported in the following categories: demographic profile of the respondents; SNSs used by the students; SNSs used by the students in their studies; factors that motivate the students to use SNSs; frequency in using SNSs; students' views on posting of UNISA's academic content on SNSs; and major reasons for posting UNISA's academic content on SNSs.

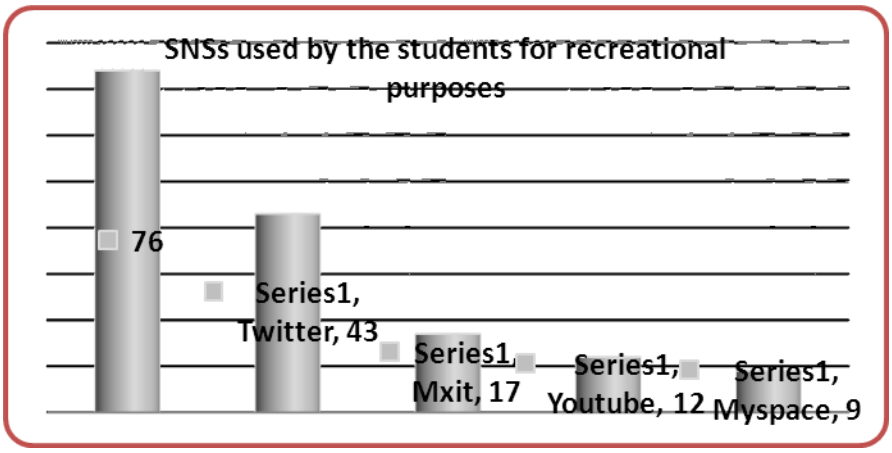
5.1 Demographic profile

The study was male dominant (67%) while females constituted only 33%. Most of the respondents were between the ages of 20 and 29 years (89%), while only (11%) were between 30 and 39 years. With regard to marital status, all the respondents were single and were residing in urban areas. In as far as the level of study was concerned; the majority of the respondents (57%) were in their third level of study.

5.2 SNSs used by the students for recreational purposes

One of the objectives of the study was to establish the types of SNSs the students use for recreational purposes. SNSs have been adopted in teaching and learning in order to supplement the traditional methods of teaching and learning (Mbatha and Naidoo, 2010, 170). A list of SNSs was provided to the students to choose from as was applicable to their situation and they were asked to choose more than one option where necessary. Figure 1 summarises the responses.

Figure 1: SNSs used by the students for recreational purposes (N=76)



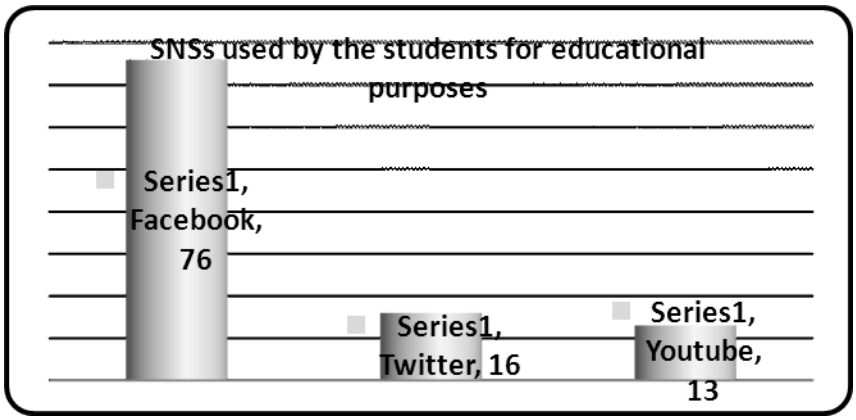
NB The figure above includes multiple responses

Figure 1 shows that all the students 76(100%) use *Facebook* for recreational purposes, while 43(57%) used *twitter*. When it comes to those who use *mxit*, only 17(22%) reported to use it and only 12(16%) use YouTube. The findings further indicate that only 9(12%) of the students use *Myspace* for recreational purposes. These findings confirm what ICT enthusiasts such as Aleman and Wartman (2009, 12) pointed out in their study that *Facebook* is the leading SNS that is used by many students in tertiary institutions for both educational and recreational purposes.

5.3 SNSs used by the students for educational purposes

After the students were asked to indicate the SNSs they use, it was important for them also to indicate the SNSs they use for educational purposes. Once again, the respondents were provided with a list of SNSs to choose from and asked to respond as was applicable to their situations (illustrated in Figure 2). The students were allowed to choose more than one option where necessary.

Figure 2: SNSs used by the students in their studies (N=76)



NB The figure above represents multiple responses

The figure above shows that all the students 76(100%) used *Facebook* for educational purposes, while 16(21%) used *twitter* and only 13(17%) used *YouTube* for educational purposes. This could be attributed to the fact that there is a lot of information which students can access on *Facebook*.

Students' reasons for using *Facebook* for educational purposes

The respondents were required to reflect on the main reasons for their preference to use *Facebook* in their studies over other SNSs. When asked to provide reasons for using *Facebook* in their studies, the students noted the following (quoted verbatim; the abbreviation FB used for *Facebook*):

- My friends are always on FB. As a result, we do not use discussion forums on *my*Unisa.
- I can always communicate with my fellow classmates.
- Sometimes I do not receive updates from the UNISA fan page.
- FB helps me a lot when I do research for my studies.
- I use FB to communicate with my fellow students especially those that I do not get to see on campus due to geographical location.
- Studying through FB helps me engage with both national and international students.

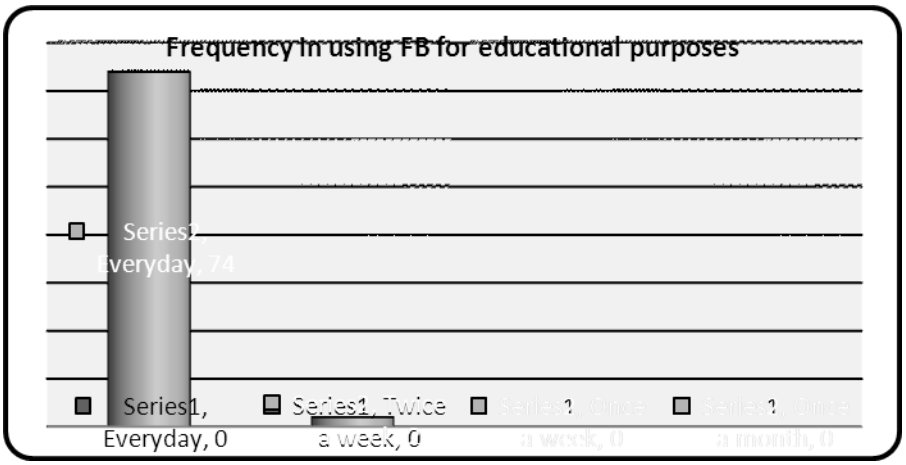
- There is a lot of information that one can find on FB which is not on *my*Unisa.
- FB enables me to interact with my fellow students and lecturers about challenges we face in our studies.

These findings concur with the study conducted by Liebeskind (1996, 429) who established that online SNs offer exciting new opportunities for interaction and communication. Among them, *Facebook* stands out for its vast membership, its unique and personally identifiable data, and the window it offers on the information-relevant behaviour of young adults.

5.5 Frequency in using *Facebook* for educational purposes

This item provides responses to the question "How often do you use *Facebook* for educational purposes?" The respondents were provided with a list of options to choose from and students were asked to reflect as was applicable to their situations. The figure below summarises the responses.

Figure 3: Frequency in using *Facebook* for educational purposes (N=76)



It is clear from the figure above that a significant number of the students 74(97%) used *Facebook* every day, whilst only 2(3%) used it twice a week. These results confirm that *Facebook* plays a pivotal role in students' academic work (Brown, 2010).

5.6 Students' views on posting UNISA's academic content on *Facebook*

Students' views were required as to whether it was necessary for UNISA to post its academic content on *Facebook* because that is where many UNISA students spend most of their time compared to the time they spend on *my*Unisa. In order to measure their responses, a binary choice of 1 = Yes and 2 = No was used. An examination of data shows that the majority of the respondents 73 (96%) would like to see UNISA's academic content posted on *Facebook*, while only 3 (4%) said they did not want to see UNISA's academic content on *Facebook*. This shows that there is more reliance on *Facebook* among the students.

5.7 Students' reasons for posting UNISA's academic content on *Facebook*

The students were required to provide their motivation for posting UNISA academic content on *Facebook*. The findings show that the main reasons why students prefer to see UNISA's academic content on *Facebook* are expressed in the following verbatim and unedited responses:

- A number of UNISA students participate in discussion forums on *Facebook*. Thus, FB helps the students to share and disseminate knowledge related to their studies.
- If UNISA's academic content is posted on FB, it would increase my chances of meeting both my national and international fellow students and lecturers pertaining to the challenges of being a student in the 21 century and in an ODL institution.
- FB is more interactive and a useful SNS. I use it to interact with a lot of people nationally and internationally.
- Posting UNISA's academic content on FB would allow frequent access to information because majority of students can be easily accessible on FB.
- I would get frequent update on my studies because I am on FB every day.
- It would be great in view of the fact that my fellow classmates are always on FB instead of discussion forums on *my*Unisa.
- FB is user friendly. It also gives one time to interact with it and gives feedback.

6. Discussion

It is clear that *Facebook* has a great impact on the lives of university students. Their use of *Facebook* not only assists them on campus, but may also partially define the university experience of this generation. *Facebook* is a place where students find sources for their studies, interact with their lecturers outside classes, communicate among themselves and share knowledge with other people all over the world. A similar study conducted by Gasser (2008, 64) established that in their free time, many students use *Facebook* to express themselves creatively, share their beliefs, engage in dialogue with others, and define (and redefine) themselves. There is clear evidence that students use *Facebook* regularly, but for the most part, these activities are not integrated into all aspects of their university experience (Gasser 2008, 64). It should be noted that not all students are comfortable with participating in real-time, real-life student groups on campus, nor do all students have the ability to be in the same place at the same time. These students may be more comfortable with the anonymity and community provided by an online student group through a social networking site (Burleson 2005, 34).

While *Facebook* and other uses of online communities have many advantages, it is important to note the limitations inherent in using these tools for outreach to students. Even though these tools may facilitate communication among students who would not otherwise meet in person, there are drawbacks to online methods. One significant disadvantage is the so-called digital divide between students who have readily available access to the Internet and computers and peripherals needed to navigate it efficiently, as well as to students who do not have these resources (Galuszka 2007, 21). Access may be an issue for first-generation and low-income students and those from rural areas where low-speed Internet connections keep them from using websites to the fullest extent. Furthermore, if a student does not own a computer, sharing a roommate's computer or visiting on-campus computer laboratories may not only be less convenient, but also less private and therefore less safe for exploring issues of identity. Student support programmes could integrate technology and provide access to computers as one solution to the digital divide and access concerns.

Another issue that is important to address with the use of SNSs is the potential for addiction and distance between students. For those just entering the university environment, the lure to spend more time chatting than studying is great (Jones 2002). An earlier study by Young (2001 44) established that a new student is faced with new-found freedom, less parental involvement and control, and large blocks of unstructured time. These factors, combined with alienation or awkward social skills, may direct many new students to turn to the Internet instead of developing social circles on campus (Young 2001, 44). A final concern to note here is the potential for the invasion of privacy and personal safety concerns. As students use SNSs to create profiles, there are no pre-imposed limits to the amount of private information they can post about themselves. The inaccurate belief that only a limited community of close friends is interested in or looking at a student's profile can lead to issues of cyber-stalking, code of conduct violations, or other negative results (Wilson 2007, 31). Students who are new to using these sites may not be aware of the privacy controls or security issues. Student affairs administrators can help educate students to consider their online privacy as well as their personal safety (Wilson 2007, 31).

Another important point to observe is that the majority of the students would prefer to use *Facebook* over *my*Unisa because *Facebook* is user friendly. Some of the students further indicated that they prefer to use *Facebook* to other LMSs because it gives them time to interact with it and it gives feedback. These findings confirm what the Satisfaction and E-learner Satisfaction Theory postulates. As indicated earlier, this theory postulates that when a customer is satisfied with the service(s) offered by an institution or a company, he or she is more likely to continue using that institution's products or services. However, when a client is dissatisfied with the service on offer, he or she may decide to discontinue using that particular product or service (Kim, Yeon and Park 2002:11).

Rogers (1995) states that innovations are more readily adopted when they provide a relative advantage compared to old ideas. It is clear from the results of this study that *Facebook* provides a new and innovative way of teaching and learning. Innovation theorists postulate that there are certain characteristics that determine the rate at which an innovation is adopted by a social system. These characteristics include relative advantage, compatibility, complexity, trial-ability and observability of the innovation. Thus the majority of students prefer to use *Facebook* instead of other LMSs because *Facebook* provides a relative advantage to the students. Also, students

find that *Facebook* is not difficult to use, as the majority indicated that it is user friendly. In their study, Kim and Yun (2007, 15) posited that SNSs have become most popular among younger users such as university students. One reason they may have become so popular among younger individuals is that they have an equalising effect in that individuals often feel the freedom to express themselves in ways not possible through other outlets. SNSs have even been seen to increase self-esteem among younger people (Kim and Yun 2007, 15). Nip (2004, 409) argues that one will not only make new friends, but one might learn a thing or two about new cultures or new languages and learning is always a good thing. Nip (2004, 409) further mentions that students can learn from their online friends how to solve a particular problem they are experiencing in their studies.

7. **Conclusion**

The main aim of this article was to report on Communication Science students' views on the use of SNSs in their studies as a transformational and educational tool in collapsing the transactional distance at UNISA. In answering the research question, the results of this study indicate that students concur that *Facebook* plays a major role in their studies. Also of note is that all the students revealed that they use *Facebook* in their studies because it enables them to interact with their national and international fellow students. It is clear that the students are reaping many benefits by using *Facebook* and will continue reaping more benefits in their studies. Therefore, when designing LMSs for their students universities should bear in mind that the majority of students prefer to use SNSs for their studies. It is worth mentioning that if tertiary institutions post their academic contents (i.e. messages and announcements) on SNSs students would engage more effectively with their study material because that is what they prefer. This might improve throughput, which all institutions are striving for. This can be done by posting academic content on an SNS. The content could range from study material, feedback on assignments, examination preparation, previous question papers, assignments and student results, to name but a few aspects. It is clear that SNSs are revolutionising the way teaching and learning is done and are continuing to be key catalysts in the academic setting.

8. Recommendations for further study

This article serves as a foundation for further study on UNISA's student perceptions on the use of *Facebook* in their studies as an educational tool for bridging the transactional distance. This article demonstrates that much more research is needed on the perceptions of UNISA students on the use of SNSs. This research relied only on the views of Communication Science students at UNISA, thus a broader study that will sample all UNISA students is recommended. Based on the number of participants on the study, these results could not be generalised. Also, in the light of the results, it is recommended that an in-depth study be conducted to ascertain core issues in respect of why students do not engage actively with what is meant to promote a deep learning experience (LMSs). Furthermore, this study relied on group samples of UNISA students in urban locations (Pretoria campuses) and was thus not representative of all the living areas (rural and urban). Therefore, future studies that include representative samples of students from rural and urban areas could contribute further to the understanding of SNSs usage at UNISA. It is also suggested that future study should focus on the lecturers' perceptions on the use of SNSs in teaching and learning.

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Overview of research on information behaviour in contexts of palliative care with an indication of some research gaps

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1 INTRODUCTION

An increasing number of people are affected by palliative care often associated with life threatening or life limiting diseases such as cancer, HIV/AIDS, chronic obstructive pulmonary disease and renal failure (Fourie 2008; Docherty *et al*. 2008; Veinot 2009). With more people preferring to die at home, there is also an increase in reliance on communities to care for patients (Abernethy, Wheeler & Bull 2011). According to Wolkowski *et al*. (2010) there is an urgent need to increase understanding of what is needed in palliative care, and how this can be mapped in terms of information needs.

Research on information behaviour in palliative care is required to improve information systems and services for patients as well as healthcare professionals (Abernethy, Wheeler & Bull 2011; Johnson & Nelson 2008; Sanderson & Tieman 2010; Street *et al*. 2007; Street & Ottmann 2007; Wilkes, White & O'Riordan 2000), to improve the quality and appropriateness of information provided to patients (Payne 2002) and to empower patients through information (Zambrano 2011). Timely and appropriate information have proofed to be very important in influencing decisions to transfer to hospice care (Higginson *et al*. 2011; Massarotto *et al*. 2000). Timely and appropriate information can also help patients and families in dealing with dying and preparatory grief, and to take part in decision-making (Tomlinson, Burker & Soden 2012). It can help with patient empowerment through information; especially if healthcare professionals take responsibility in determining what information is available and in identifying appropriate channels and means to share such information (Wilkes, White & O'Riortan 2000). Selman *et al*. (2009) comment on the impact of unmet information needs. While we strongly focus on what is to be gained from information provision, we too seldom argue in terms of what is lost if information needs are not met.

Although there is a growing body of literature on information behaviour and palliative care, there are also many research gaps that need to be identified and filled, and which might be interpreted as a research agenda in this field. With this in mind, the paper will briefly review reports on research in terms of the following: target groups and participants, settings, research methods and methods of data collection, components of information behaviour addressed, and the factors influencing information behaviour. For each of these, some research gaps will be noted. A few key findings on information behaviour in palliative care will also be highlighted. The intention is not to offer a comprehensive review; merely an overview to stimulate research in the field, and to offer a point of reference.

2 CLARIFICATION OF CONCEPTS

2.1 Information behaviour

Acknowledging a spectrum of definitions of information behaviour as portrayed by amongst other Case (2007; 2012) and Fisher and Julien (2009), this paper accepts the following interpretation of information behaviour: Information behaviour includes active information seeking (directed, undirected, purposive, problem-based, conscious efforts), passive information seeking (unconscious efforts, which may include encountering information, serendipitous discovery of information, glimpsing, information exposure), browsing, semi-directed information seeking, scanning, information foraging, information discovery, information giving, information sharing, information use, information transfer, choice of information sources, preferences for information sources/channels, information avoidance and ignoring information needs (based on Case 2007, 2012; Courtright 2007; Wilson 1999 – and many others). It is "the totality of human behavior in relation to sources and channels of information" (Wilson 1999:249).

2.2 Palliative care

The definition of palliative care proposed by the World Health Organisation (WHO) is widely accepted (Doyle 2003; Fourie 2008). It defines palliative care as "...an approach that improves

the quality of life of patients and their families facing the problem associated with life-threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual". The WHO also stresses that palliative care should address patients and their caregivers and ensure that they are supported throughout illness and death (Bee, Barnes & Luker 2009).

A discourse analysis by Pastrana *et al.* (2008), analysing 37 English and 26 German definitions, revealed no consensus on definitions of palliative care, only overlapping categories and common elements. These include the following: one or more **problems, such as diagnosis with a life-threatening disease,** and various sub-issues, such as pain and symptoms that require treatment; different **phases of the disease,** such as the time of diagnosis, progression to a more advance stage, moving from curative care to palliation, the terminal phase, and days before dying; specific **purposes**, **objectives, and goals** of palliative care, which are mostly related to palliation – relieving pain and aiming for quality of life and dignity in dying; **tasks** associated with palliative care, such as management of symptoms and comprehensive care; **processes** related to palliative care, such as dying and grieving; **target groups** affected by palliative care, including patients, their relatives and healthcare workers; a **multi-disciplinary team approach** drawing on physicians, nurses, social workers, councillors, dieticians, etc.; **specialist expertise and skills,** e.g. in breaking bad news and grief counselling; a **specific setting** to which patients are confined e.g. hospice, cancer hospital ward or home care; **elements** of palliative care, such as ethics, disclosure, confidentiality, and **palliative care structures,** such as legislation on euthanasia and treatment policies. Fourie (2012) refers to these elements as interrelated conditions applying to palliative care.

How the WHO's definition of palliative care, the inter related conditions for palliative care and other definitions and descriptions of palliative care can be used to conceptualise palliative care as context for studies of information behaviour is currently under investigation by the author. What is important to note, is that differences in understanding of palliative care between healthcare professionals, but also patients, families and healthcare professionals have often been noted (Aggarwal *et al*. 2006). This can have an important impact on the scope and demarcation of research studies, data collection and the interpretation of participants' responses. It is very

important that researchers working on information behaviour in palliative care are clear about their interpretations and those they check the interpretations of people participating in their studies.

3 RESEARCH ON INFORMATION BEHAVIOUR IN PALLIATIVE CARE

The following sections will give a brief review of the *status quo* of research on information behaviour in palliative care as reflected in reported studies. The intention is not to be exhaustive or to offer a systematic review, but merely to stimulate interest in the field and to offer a point of departure.

3.1 Target groups and participants

Studies of information behaviour in palliative care mostly focus on the information needs and information seeking of patients (Barnett *et al*. 1995; Brown *et al*. 2012; Clayton & Tattersall 2005; Fourie 2008; Hoff *et al*. 2007; Innes & Payne 2009; Johnson & Nelson 2008; Kutner *et al*. 1997; Selman *et al*. 2009). Tuffrey-Wijne *et al*. (2006) report on patients with intellectual disabilities and their need for cancer information.

An increasing number of studies are also reported on the information needs of families (Noor Siah *et al*. 2012). This include studies on the information behaviour of parents of children (Knapp *et al*. 2011; Davies *et al*. 2010; Davies, Contro & Lason 2008; Davies, Larson & Contro 2007), and children of parents who are patients (Kennedy & Lloyd-Willias 2009). The interpretation of "family" has, however, been noted to be problematic (McClement & Woodgate 1998). Some studies include a variety of family members (depending on who is available to participate), and some also include more than one family member in the same study (Fourie 2008). Although such studies can collect richer data, there is also the danger of getting contradictory views. Studies combining patients and family members – and even caregivers are also noted (Kirk, Kirk & Kristjanson 2002, 2004). Selman *et al*. (2009) report on the need to meet the information needs of patients with incurable progressive disease and their families in South Africa and Uganda. Fourie (2008) also report on the South African context, while Lin and

Tsao (2004) report on family caregivers in Taiwan. They are highly involved in their ill family member's symptom management and must stay at the bedside to share the nursing and caregiving tasks in the palliative care unit. The six domains for which family members participating in their study needed specific information included the basic tenets of caregiving, the disease, the social welfare of the patient, psychosocial issues, palliative care, and spirituality/religion. Wilkes, White and O'Riordan (2000) report on the support needs of families (primary needs), which might be interpreted in terms of (secondary) information needs.

An increasing number of studies are reported on informal caregivers (Bee, Barnes & Luker 2009; Belletti *et al*. 2011; Docherty *et al*. 2008; Fukui 2004; Lin & Tsao 2004). The information needs of informal caregivers are especially important in ensuring that they receive sufficient support. Wong *et al*. (2002) report on differences between patients and caregivers. Mazanec, Ferrell and Prince-Paul (2011) report on the experiences of distant caregivers of parents with advanced cancer.

Only a few studies have been reported on the information behaviour of healthcare professionals including the work by Sanderson and Tieman (2010) on information for general practitioners. Hussainy *et al*. (2006) report on the education needs of community pharmacists involved with palliative care for patients. The study by Philip *et al*. (2012) targeted patients and healthcare professionals, while Clayton *et al*. (2005) worked on the needs of patients and their caregivers. Fourie (2008) also involved patients, families and healthcare professionals; the emphasis was, however, on healthcare professionals' perceptions on the information behaviour of patients and families.

Some of the studies address not information behaviour, but issues underlying information behaviour. Clayton *et al*. (2005) e.g. report on the discussion of end-of-life issues with terminally ill cancer patients and their caregivers. Philip *et al*. (2012) report on negotiating hope, while Lokker *et al*. (2012) deal with awareness of dying, adding "it needs words". Respite care is very important to palliative care service users and carers (Wolkowski *et al*. 2010). Belletti *et al*. (2011) report on complementary therapy and support services.

More research is especially needed on the information behaviour of other stakeholders forming part of the multidisciplinary team taking care of patients in palliative care such as social workers and social councillors, religious/spiritual advisers, and medical aid workers. Research on the information behaviour of employers and colleagues might also shed light on the supporting infrastructure for patients. These people all can play an important role in meeting the information needs of patients, and in supporting their information behaviour. They can also act as information intermediaries in giving and providing information to patients and families and also in patient education. They furthermore can fulfil an advisory role and they can also do proxy searching on behalf of patients.

3.2 Settings

Although a variety of settings feature in studies of information behaviour in palliative care, most studies focus on hospices (Belletti *et al*. 2011; Johnson & Nelson 2008). Studies of patients in specialised (e.g. oncology or terminally ill) hospital wards (Noor Siah *et al*. 2012; the study is not in English), out-patient care centres (Wong *et al*. 2002) and home care (Bee, Barnes & Luker 2009) are also reported. Vigano *et al*. (2001) report on the Alberta Cancer Board Palliative Care Research Initiative (ACBPCRI), Lin and Tsao (2004), Payne *et al*. (2000) and Tomlinson, Barker and Soden (2012) on palliative care units, Schweitzer *et al*. (2009) on out-of-hours palliative care, Massarotto *et al*. (2000) on a hospital and hospice setting, Mazanec, Ferrell and Prince-Paul (2011) on a comprehensive cancer center, Sinnarajah *et al*. (2008) on a regional palliative care service, and Noor Siah *et al*. (2012) on an intensive care unit at a tertiary hospital. Selman *et al*. (2009) report on four palliative care settings in South Africa and one in Uganda covering multicentre, rural, urban, and peri-urban locations.

Considering that the setting such as a hospice might influence patients' and families' awareness of an illness and pending death, there seems a need for more cross-sectional comparisons between different settings. This can be combined with studying patients from various backgrounds and ethnic groups (e.g. how many patients from different ethnic groups are treated in hospice care), and alternatively in home care. Cross-country comparisons might also be useful such as reported by Kirk, Kirk and Kristjanson (2002), Schweitzer *et al*. (2009) on settings in

England, Denmark and The Netherlands, and Selman *et al*. (2009) on settings in Uganda and South Africa.

3.3 Research methods and methods of data collection

Both quantitative and qualitative research methodologies feature in research on information behaviour in palliative care, with an increase in mixed methods or triangulation, using both methodologies. Centeno *et al*. (2010) argue that qualitative research methods can make an important contribution to our understanding of the features of palliative care that are most relevant to patients and their relatives. LaDonna (2011) also argues for the value of qualitative research. Good examples of qualitative research include the study by Clayton *et al*. (2005) and the study reported by Davies *et al*. (2010). The latter offers an excellent report on culturally-sensitive information-sharing in pediatric palliative care, and how the parents of children in palliative care are affected. Reading the words of parents made me realise how strong the voices of people can be to reflect their lived experience. The following is but two examples:
"The doctors would tell you exactly what was happening. They talk to you, but they don't explain… telling me [only] facts means 'that's it,' [that's all] they can do. That doesn't make you feel better" (Davies *et al*. 2010:e861). During a month's stay, a Spanish-speaking mother of a child in palliative care washed in her child's bathroom sink because she received no orientation regarding available facilities. She feared asking questions. "I didn't know. I thought if I asked someone they would answer me in English, and I wouldn't be able to communicate" (Davies *et al.* 2010:e861).

Questionnaires are frequently used, and often these are standardised instruments from the Health Sciences such as questionnaires on needs, information needs, well-being, quality of life, and experiences of pain. Examples include the study reported by Brown *et al*. (2012) using a Question Prompt List or the Death and Dying Distress Scale (DADDS) reported by Lo *et al*. (2011). Questionnaires can be distributed by hand, or by means of email or online via a website. Although questionnaires are mostly self-administrated, there are also studies where a structured questionnaire is used to guide interviews with participants. In such cases, the questionnaire is completed by the interviewer, and the interview is recorded with consent from the participant(s).

Fourie (2008) reports a study where structured interviews were conducted by an oncology social worker with a Master's degree in Medical Social Work. Tomlinson, Barker and Soden (2012) report the use of focus groups, followed by inductive, thematic analysis. Focus group interviews were also used by Clayton *et al*. (2005), and Tomlinson, Barker and Soden (2012). Examples of studies based on individual interviews include Clayton *et al*. (2005). Philip *et al*. (2012) used semi-structured interviews with patients and focus groups with healthcare professionals, while Bee, Barnes and Luker (2009) report on a systematic review of informal caregivers' needs in providing home-based end-of-life care to people with cancer. The study by Lokker *et al*. (2012) used questionnaires as well as the screening of medical records for statements indicating that a patient had been informed about the imminence of death.

Although not about information behaviour, it is worth noting the study by Daveson *et al*. (2011) about constructing understandings of end-of-life care in Europe. They used cognitive interviewing to note differences in the understanding of quality at end-of life in two European countries, namely the United Kingdom and Germany. According to them "cognitive interviewing involves collecting respondents' thoughts and feelings to identify and correct difficulties in survey items by determining whether each question generates the required information". After the interviews they applied an interpretive ontology to inform the inductive process which according to them allows for "the analysis of socially and experientially developed responses". Daveson *et al*. (2011) also applied grounded theory and meta-ethnography, and raise the issue of the potential of the reinterpretation of the concepts and metaphors of primary findings, including the researcher(s)' own studies. According to them this might allow for the anticipation and not just the prediction of what might be involved in situations. This seems worth further exploration.

Tomlinson, Barker and Soden (2012) report on participants' views on an issue such as written information, their experiences, and their thoughts on the value of the written information. Centeno *et al*. (2010) analysed letters from relatives of patients. They see this as a source of information, providing rich insight into the experiences of families in palliative care. Chassignol (2008) argues for a participatory approach to palliative care and providing Information: "The participatory approach allows the global care of patients and takes into account the suffering of healthcare professionals"… "This participatory approach to palliative care, which includes the

process of keeping patients informed, is not possible without a service proposal that includes a system of care centred on patients, the role of intercommunication forums, anticipation and ethical decision-making". Participation is also evident in the reports by Street and Ottmann (2007) and Street *et al*. (2007) on participatory action research in the design of a portal to meet with information needs in palliative care.

To deepen understanding of the complexity of information behaviour a combination of quantitative and qualitative methods is necessary. Although quantitative methods can deepen our understanding of the numbers of people affected (e.g. in hospice care) or involved (e.g. using the Internet as their main information source), qualitative methods can deepen our understanding of "lived experiences" through the eyes, hearts and voices of the people. In particular we need more very large scale quantitative studies – over a spectrum of target groups and settings. Expert statistical help can be called in for this. It would also be useful if post-doctoral researchers would be willing to engage in larger scale qualitative studies to gain findings that lend themselves more to generalisation. The value of quantitative and qualitative research methods, as well as different methods of data collection when studying information behaviour in palliative care thus need to be considered in their own right. As for methods of data collection, I would like to suggest that the potential of narratives and storytelling (including digital storytelling) is investigated. Some studies are labelled as exploratory and descriptive (Belletti *et al*. 2011; Fourie 2012). Too many such studies can hinder research progress in the field of information behaviour. However, if followed-up by full-scale studies building on findings and insights gained, it can turn out to be very valuable in expanding research approaches and scopes.

Ethical issues are very important in research in palliative care and need to be dealt with with great sensitivity. Kvåle (2007) offers good advice on this.

3.4 Components of information behaviour addressed

The components of information behaviour as discussed in this section are noted against a wide interpretation of information behaviour as explained in section 2.1. At present studies of information behaviour in palliative care mostly focus only on information needs in general

(Kutner *et al*. 1997, 1999; Lin & Tsao 2004; Selman *et al.* 2009), or information needs in combination with a specific element or condition of palliative care. Philip *et al*. (2012) report on information needs and treatment preferences. Docherty *et al*. (2008) report on knowledge and information needs of informal caregivers, and Krik, Kirk and Kristjanson (2002) on whether we are meeting the information needs of palliative care patients and their families. McConigley, Kristjanson and Nikoletti (2001) address information and support needs, while Brown *et al*. (2012) report on information needs with regard to trials. They identified four trial information related needs: understanding foundational information, conflict of interest issues and financial implications of trial participation. For many studies on information needs participants are questioned on their information needs, without acknowledging the inability of participants to recognise information needs (i.e. dormant information needs as explained by Wilson 1999), or to adequately explain information needs. Problems with the latter is captured in Taylor's (1968) seminal article on questions and answering where he notes four levels for the expression of information needs: visceral, conscious, formalised and compromised needs. Some studies such as reported by Rainbird *et al*. (2009), focus on needs *per se* which again might imply information needs.

Many studies focus on information seeking where the emphasis is often on preferences for sources such as preferring doctors or nurses, or intimate personal circles or social networks. A few studies on using the Internet have also been reported, including Willis, Demiris and Oliver (2007) reporting on Internet use by hospice families and providers. Zanchetta (1998) reports on self-determination and information seeking in cancer recurrence.

Hardly any studies refer to "information behaviour" as the umbrella concept as depicted in the definition by Wilson (1999) and the discussion of Savolainen (2007) who also introduces the concept "information practice" into the terminological debates of information behaviour. Examples of studies explicitly referring to information behaviour is Fourie (2008, 2010).

A substantial number of studies report on the needs and preferences of patients and families to be informed (Clayton *et al*. 2005; Curtis *et al*. 2008; Hu *et al*. 2002; Kirk, Kirk & Kristjanson 2004; Wong *et al*. 2002). This includes studies on healthcare professionals' views on full disclosure

about the disease and prognosis (Michiels *et al*. 2009). How patients have been informed and their awareness of the disease prognosis and pending death may have an influence on their information behaviour.

The need and preferences to be informed is mostly not emphasised in definitions of information behaviour, or as the focus of studies conducted in Information Behaviour as a sub-discipline to Information Science and related to Library Science. There are studies, however, reporting on the preference of some people to avoid information and especially "bad news"; these also apply to health in general (Brasher, Goldsmith, & Hsieh, 2002; Case *et al*. 2005; Lambert, Loiselle & MacDonald 2009; Miles *et al*. 2008).

There is increasing recognition of the importance of good communication between healthcare professionals and patients facing cancer or end of life (Friederichsen, Strang & Carlsson 2000; Kennedy & Lloyd-Williams 2009; Parker *et al*. 2007; Turner, Payne & O'Brien 2011). An extensive body of studies on information communication with regard to advanced diseases, cancer and palliative care can be noted such as Back *et al*. (2008) and De Haes and Teunissen (2005). The focus is mostly on the need for excellent verbal communication within the palliative care setting (Tomlinson, Barker & Soden 2012). In addition there are many studies reporting on communication in disease phases such as near the end of life (Clayton, Butow & Tattersal 2005). Mazanec, Ferrell and Prince-Paul's (2011) report on the lack of communication and control experienced by distance caregivers of parents with advanced cancer, while Turner, Payne and O'Brien (2011) report on mandatory communication skills training for cancer and palliative care staff, asking "Does one size fit all?" Plu *et al*. (2007) address ethical issues arising from legislation in France for a requirement to inform patients.

Effectiveness of communication with general practitioners regarding palliative care is addressed by Taubert and Nelson (2010) exploring information exchange and communication issues, while Mazanec, Ferrell and Prince-Paul (2011) report on a lack of communication and control, and providing written information in palliative care; according to them this leads to a gap between the legislation and the nature of the physician-patient relationship in palliative care.

Studies reported on patient education imply “information giving”, a component of information behaviour which seldom features in studies labelled as information behaviour or outside the healthcare disciplines. In the healthcare literature, reports on patient education and providing or giving information to patients and families, are, however, not linked to Information Behaviour as sub-discipline. Examples of studies on information giving include Payne *et al*. (2000) and Plu *et al*. (2007), where the latter also address the ethical issues arising from the requirement to provide written information in palliative care. Tomlinson, Barker and Soden (2012) report on the experiences of cancer patients' in palliative care and their preferences for the provision of written information. Schweitzer *et al*. (2009) report on the transfer of information, and Vigano *et al*. (2001) on the modelling of the information process in palliative care.

In addition to the current studies of a spectrum of information related activities captured in the concept of information behaviour, what seems to be required are studies focusing specifically on the searching and retrieval of information, i.e. the search terms, search strategies and interaction with electronic information sources such as search engines. Studies on searching for images and using social media such as blogs might especially be useful. Studies are also required about the role and manifestation of browsing, foraging, information use, information sharing, collaborative information seeking, and information encountering in palliative care.

3.5 Factors influencing information behaviour

Many factors that can influence information behaviour have been noted in reviews of the research field e.g. Case (2006, 2007, 2012), Courtright (2007) and Fisher and Julien (2009). These include age, education, gender, ethnic group or culture, and experience. With regard to palliative care the following can be highlighted as factors influencing information behaviour that have been studied with regard to palliative care (some of these factors feature explicitly in the titles of studies):

- Role, such as caregiving (Fuiki 2004; Lin & Tsao 2004). Mazanec, Ferrell and Prince-Paul (2011) explore the complex phenomenon of distance caregiving regarding an advanced cancer population.

- Relationship e.g. spouse, parent, child (Davies, Contro & Larson 2008; Wilkes, White & O'Riordan 2000).
- Cultural/ethnic group. Davies, Contro and Larson (2008) offer an excellent report on giving information to Latino and Chinese families in pediatric palliative care. Davies *et al*. (2010) report on culturally-sensitive information-sharing in pediatric palliative care.
- Type of palliative care e.g. pediatrics (aimed at children) or geriatrics (aimed at elderly people) (Davies, Contro & Larson 2008; Davies *et al*. 2010).
- Country specific differences. Fukui (2004) report on Japanese family caregivers, and Kirk, Kirk and Kristjanson (2002) on a comparison between the perspectives of Canadian and Australian palliative care patients and their families. McConigley, Kristjanson and Nikoletti (2001) report on information and support needs in palliative care in Western Australia.
- Setting such as hospice, hospital, or home care (Bee, Barnes & Luker 2009; Belletti *et al*. 2011). The impact of "setting' is also addressed in section 3.2.
- Disease such as cancer (Barnett *et al*. 1995; Hussainy *et al*. 2006), HIV/AIDS (Veinot 2009), chronic obstructive pulmonary disease (Philip *et al*. 2012), chronic neuromuscular disease (LaDonna 2011). Selman *et al*. (2009) report on incurable progressive diseases: cancer, HIV infection (including 6 dual HIV/cancer diagnoses), and motor neurone disease.
- Disease stage such as advanced cancer (Aggarwal *et al*. 2006; Barnett *et al*. 1995; Innes & Payne 2009; Mazanec, Ferrell & Prince-Paul 2011; Lo *et al*. 2011). Zanchetta (1998) reports on cancer recurrence. There are also reports on the terminal phase (Fukui 2004; Kutner *et al.* 1997).
- Disease location such as different types of cancer has also been studied with regard to information behaviour. Hoff *et al*. (2007) report on the views of patients with acute leukaemia, myeloma or lung cancer about information (especially "bad news"), from diagnosis to cure or death.
- Copying style (Nikoletti *et al*. 2003).

More studies are, however, needed on a cross-analysis of various factors such as role, setting and copying style; or culture, age and copying style. Studies are also needed on the Internet as orientation tool in supporting information behaviour in palliative care. In multilingual and developing communities the impact of mother tongue and the medical terminology used by

healthcare professionals and the information provided to patients and families can be studied. Although health information in countries such as South Africa is mostly available in English, the country in fact has eleven official languages. For the majority of South Africans one of these is their mother tongue; often this is not English – the language is which health information is mostly made available.

3.6 Key findings

Although a spectrum of findings are noted by studies on information behaviour, we are still touching only the surface of a complex phenomenon (information behaviour), in a very complex context (palliative care). I am mentioning only a few findings in order to stimulate interest in the research field:

- Although there are some commonalities, information behaviour in palliative care is very diverse, and very individual: one size does not fit all (Fourie 2008). In particular, tensions are often revealed in the wishes of patients for general advice versus specific information (Payne 2002).
- When receiving or finding information relevant to their information needs patients and families often still experience a need for contextualisation (Fourie 2008). Various preferences for receiving information have been noted, and preferences may frequently range between a preference for no information, to some information, to a preference for as much information as possible (Innes & Payne 2009; Kirk, Kirk & Kristjanson 2004; Payne 2002; Wells-Di Gregorio *et al*. 2010; Wong *et al*. 2002). Research findings with regard to preferences for receiving information especially focus on the time of diagnosis. In addition preferences with regard to receiving information on the prognosis also feature strongly. Clayton and Tattersall (2005) compare the needs of terminally ill cancer patients versus those of caregivers for information regarding prognosis and end-of-life issues. Clayton *et al*. (2005) explain: "Discussing end-of-life issues is of key importance to terminally ill cancer patients and their families, and a challenging topic for both healthcare professionals and patients/carers". Selman *et al*. (2009) noted that a lack of information from general healthcare providers meant that patients and caregivers had to draw on alternative sources of information.

- Differences in the information behaviour of people in the same palliative care situation have been noted e.g. differences between the information behaviour of patients and their spouses or caregivers. It does not seem possible to predict the nature such behaviour may take.
- Massarotto *et al*. (2000) note that while medical information was nearly always provided on referral, information on the psychological, spiritual and social dimensions of care was often absent.
- According to Wilkes, White and O'Riordan (2000) families often only became aware of needs for information at the time when a crisis occurred.
- Patients and families have little understanding of the complexities of decision-making around treatment escalation (Philip *et al*. 2012).
- The information needs of patients and families change and diverge as illness progress and communication between them becomes less verbally explicit.

4 COMMENTS ON A RESEARCH AGENDA FOR INFORMATION BEHAVIOUR IN PALLIATIVE CARE

Although considerable progress has been made with regard to research on information behaviour in palliative care, and although this paper is putting some issues on the table, I am not feeling quite ready to propose a research agenda for studies of information behaviour in palliative care based on this. For the moment there are, however, some first steps I think should be taken. These include:

- A conceptualisation of palliative care (as defined in the Health Sciences).
- A conceptualisation of context (as defined in Information Behaviour literature) that can be taken with a conceptualisation of palliative care to conceptualise context of palliative care as framework for research on information behaviour in palliative care.
- A next step would be to consider contexts in specific environments/spheres/situation(s) as well as specific incidents/moments, and to consider a diversity of multiple, overlapping contexts (Fourie 2010, 2012).
- Systematic reviews reflecting the *status quo* on various issues related to palliative care e.g. issues related to specific diseases, treatment and quality of life (at end-of-life); this might also help to reflect research gaps.

- Mapping the research settings/locations of palliative care in terms of population groups receiving palliative care.
- Mapping the multi team that participates in palliative care.
- Mapping the people affected in and by palliative care.

Before-mentioned issues might shape research on information behaviour in palliative care, and might help to gain a better picture of the *status quo* before moving on to theories and models that can direct research.

5 CONCLUSION

Although a wide spectrum of issues is covered in research on information behaviour in palliative care, there seems to be much that requires further understanding. Following an argument by Fourie (2010; 2012), for considering multiple, overlapping contexts of palliative care such as "context of awareness", "contexts of pain", and "context of informing", it seems as if publications on palliative are in general such as textbooks on palliative care as well as key issues such as books and articles on quality of life (Yang & Mahon 2011) might shed light on issues to address in research if being read through an information behaviour lense.

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Review of Service Quality Model and Their Implications on Service Quality and Customer Satisfaction With Reference To Academic Libraries

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Abstract

During the last few decades' service quality has become a major area of attention to practitioners, managers and researchers. Owing to its strong impact on: - business performance, lower costs, customer satisfaction, customer royalty and profitability (Leonard and Sasser, 1982; Cronin and Taylor (1992); Silvestro and Cross (2000), Sureshchander et al., 2002; Guru, (2003). Service quality has continued to attract research interests in terms of: definition, modelling, measurement, data collection procedures, data analysis etc., and issues of service quality. All these parameters have led to the development of a sound base for the researchers to develop service quality models. In this paper, we review and compare service quality models and discuss the implications of the models to service quality and customer satisfaction with reference to academic libraries.

Keywords: Service quality, customer satisfaction, theoretical framework, service quality models, academic libraries, Kenya.]

1. INTRODUCTION

During the last few decades' service quality has become a major area of attention to practitioners, managers and researchers. Owing to its strong impact on: - business performance, lower costs, customer satisfaction, customer royalty and profitability (Leonard and Sasser, 1982; Cronin and Taylor (1992); Silvestro and Cross (2000), Sureshchander et al., 2002; Guru (2003).

Indeed the subject of service quality has continued to attract research interests in terms of: definition, modeling, measurement, data collection procedures, data analysis etc., and issues of service quality. All these parameters have led to the development of a sound base for the researchers to develop service quality models.

According to Seth, Deshmukh and Vrat (2008) researchers and managers thrive on learning details about components of service quality in their organization for obvious reasons such as customer satisfaction, increased profitability etc. In this context, therefore, the service quality models gain specific importance as they not only help in informing the factors associated with it but also in the provision of direction for improvement(s).

The primary aim of this is to get a better understanding of the service quality concept with the view of enhancing the quality of service delivery of the organization. The paper will focus on reviewing some of the models; with each of them being representative of different The primary aim of these models is to enable the management to understand and enhance the quality of the organization and its offering. For each the major highlights are cited. Since there are various service quality models/frameworks by diverse scholars. Fifteen conceptual service quality models are reviewed in this paper. Each of them is representative of different points of view/approaches regarding the concept of service quality services.

This is important in light of the growing globalization and liberalization which is affecting economies worldwide. The pressure(s)of competition is/are forcing the organizations, to not only re-look on their service delivery processes; but also on the way the services are delivered (i.e. the how of the service). Hence the focus for organizations has been shifting; from mere profit maximization to the maximization of profits through increased customer satisfaction.

Owing to the factors like opening up of markets, increased use of information technology (I.T), increased customer knowledge and awareness etc. it becomes a must for an organization to deliver its services in a much better approach than its competitors at an agreed price. In this context therefore, the subject of service quality needs a fresh understanding in the current business scenario. This adds credence to the need to assess the service quality in academic libraries since these organizations too, have been faced by the challenges highlighted above i.e. increased use of I.T heightened customer awareness etc.

Faced with the challenges of tighter budgetary restrictions, growing user population, increasing user expectations in terms of quality and quantity of resources and services library managers today feel more pressure to fully exploit available resources. Therefore, several libraries and information services have adopted quality management practices in recent years.

Quality management has been extensively applied within the manufacturing industry. More recently, the service industry has increasingly emphasised this area. The public sector has also put forward major initiatives to improve quality with the central governments adopting the e-government conept and performance contracts. Closely examining available quality management techniques in service industries and the public sector reveals their effectiveness and positive impact on the customers. Thus quality management is increasingly being integrated into the library services, following their perceived success in the manufacturing sector, with particular emphasis on improving service quality. Libraries have developed numerous programs to fulfil user requirements.

Effectively implementing quality management in libraries and information services requires an understanding of the following:

- The unique characteristics of library operations
- The nature of interaction between librarians and customers

• The making of recommendations on the application of appropriate quality management concepts and techniques.

2. The importance of service quality

Recent years have seen a proliferation of work on the topic of service quality,and its close cousin, customer satisfaction. This research has extensively investigated the nature of service quality (Parasuraman et al. 1985, 1988;Bolton and Drew 1991a, 1991b; Cronin and Taylor, 1992, 1994) or satisfaction (Cadotte et al. 1987; Churchill and Surprenant 1982; Oliver, 1980 1991; Spreng et al., 1996; Tse and Wilton, 1988), and the relationship between the two (Oliver 1997). In addition researchers have explored in detail the antecedents and consequences of service quality (Coulson-Thomas 1990) including its effect on behavioral intentions (Zeithaml et al. 1996), customer retention (Bolton 1998), usage rate (Danaherand Rust 1996), price tolerance (Anderson 1996), word-of-mouth (Anderson 1998; Danaher and Rust 1996), and financial impact (Anderson et al. 1994;Rust and Zahorik 1993; Rust et al. 1995).

In spite of these efforts, there has been remarkably little work on directly linking service quality to competitive marketing decisions. Yet if service quality is to be truly important within an organization, it must connect to decision making.

The importance of quality to business outcomes is now well established in the academic literature. It has been demonstrated that higher quality results in higher stock prices (Aaker and Jacobson 1994), higher corporate performance (Buzzell and Gale 1987; Easton and Jarrell, 1998), and higher market value of the firm (Hendricks and Singhal 1997). In the customer satisfaction/service quality arena, aggregate market studies have shown that higher customer satisfaction leads to better financial returns (Anderson et al. 1994; Hallowell 1996; Nelson et al. 1992).

The mechanisms by which this happens are clear. Quality improvement programs produce specific improvement efforts that produce positive outcomes by either reducing costs (Carr, 1992; Crosby 1979; Deming 1986) or increasing revenues (Kordupleski et al. 1993). Cost reduction mechanisms are usually studied in operations, while revenue expansion is typically

studied in marketing. The way in which service improvement efforts yield increased revenues is usually held to be a chain of effects (Rust et al. 1994, 1995; Zeithaml et al. 1996; Heskett et al. 1994; Loveman 1998; Rucci et al. 1998).

The chain goes like this:

(1) The service improvement effort produces an improved perception of service, at the service attribute (Bolton and Drew, 1991a), business process (Kordupleski et al., 1993), or sub-process level, typically measured on a customer satisfaction (Oliver, 1980), service quality (Bolton and Drew 1991a), disconfirmation (Parasuraman et al. 1988;
Devlin et al. 1993) or service performance (Cronin and Taylor 1992,1994) scale.

(2) The improved customer perception of the service attribute (process or sub-process) then contributes to an increase in the overall evaluation of service (measured as overall customer satisfaction, overall service quality perception, or overall service performance perception) (Rust et al. 1995).

(3) Improved overall evaluation results in improvements in behavioral intention, such as repurchase intention (Woodside et al. 1989; Cronin and Taylor 1992; Boulding et al. 1993), willingness to recommend to others (Danaher and Rust 1996; Zeithaml et al. 1996), price tolerance (Zeithaml et al. 1996) or intention to increase usage (Danaher and Rust,1996).

(4) Ultimately, the shift in behavioral intention results in behavioral impact, such as repurchase or customer retention (Bolton, 1998; Rust and Zahorik, 1993), positive word-of-mouth (Swan and Oliver,1989), and increased usage (Danaher and Rust, 1996).

(5) Behavioral impact leads directly to financial outcomes (Anderson et al. 1994; Fornell 1992; Nelson et al. 1992; Zahorik and Rust 1992).

Service quality is considered a critical determinant of competitivenessLewis,1989).
Attention to “service quality” can help an organization to differentiate itself from other organizations and through it gain a lasting competitive advantage(Moore 1987). High quality of

service is considered an essential determinant of the long-term profitability not only of service organizations, but also of manufacturing organizations(Margolies 1988) In some manufacturing industries “service quality” is considered a more important order winner than “product quality”. Superior “service quality” is a key to improved profitability, and not the cost of doing business. Exemplary service is the next sale in the making. “Service quality” affects the repurchase intentions of both existing and potential customers. Market research has shown that customers dissatisfied with a service will divulge their experiences to more than three other people (Horowitz 1990).

Thus, it is reasonable to conclude that poor service will reduce the potential customer base. According to the Technical Assistance Research Project (TARP), it costs about four times more to attract new customers. Their research indicates that six times more people hear about a negative customer service experience than hear about the positive one. Positive word of mouth can be a very powerful tool for attracting new customers. Negative word of mouth can have a devastating impact on the credibility and effectiveness of organizations’efforts to attract new customers. Smith and Lewis(1989) have observed in addition that, customers’ service expectations are constantly rising, while their tolerance for poor service is declining. As a result customers are increasingly likely to migrate to competitors with a perceived higher “service quality”.

Despite the increasing importance of the service sector and of the significance of quality as a competitive factor, service quality concepts are not well developed. In this respect, the service sector lags behind the manufacturing sector. Moreover, the service sector lags behind the manufacturing sector in embracing philosophies such as “total quality management” and “continuous improvement”. There are major differences between service and manufacturing sectors as far as “quality” is concerned. Certain inherent characteristics of the service sector increase the complexity of “quality control” and “improvement efforts”. In this article we examine the underlying concepts of “service quality” and review several of the “service quality improvement” models. The aim of this wide-ranging review is to bring a variety of ideas and models together. This will promote a better understanding of pertinent issues and of improvement strategies open to service organizations. The starting point, however, is a brief examination of differences between service and manufactured goods. This will set the scene and help to put “service quality” in a proper context

3. Quality – Differences between Manufacturing and Service Sectors

There are arguably major differences between service and manufactured goodsLockyer,1986) These differences have an impact on the approach and substance of quality management. The salient differences are discussed below:

(1) *Inseparability of production and consumption*. In service industries, usually the marketer creates or performs the service at the same time as the full or partial consumption of the service takes place. The high visibility of the conversion process means that it is not possible to hide mistakes or quality shortfalls. Moreover, the involvement of the consumer in the delivery process introduces an additional process factor, the consumer, over which the management has little or no direct control.

However, the behaviour of one group of customers does influence other customers' perception of service quality.

(2) *Intangibility of service*.

Many services are essentially intangible. The lack of tangible attributes means that it is difficult for the producer to describe the service and for the consumer to ascertain its likely virtues. The consumer cannot see, feel, hear, smell, or touch the product before it is purchased. Therefore, the consumer often looks for signs of quality: for example: word of mouth; reputation; accessibility; communication; physical tangibles; etc.

In services, the influence of intangibles, that is to say word of mouth and reputation, on purchasing decisions is much greater than the influence of tangible product specifications. This places greater responsibility on service organizations to deliver what they promise, right, the first time.

Moreover, in service organizations frontline staff and physical facilities fulfil the dual functions of production and marketing(Haywood-Farmer 1988) They are viewed by the potential customer as signs of quality.

(3) *Perishability of services*.

Services are perishable and cannot be stored in one time period for consumption at a later date. This means that, unlike manufactured goods, it is not possible to have a final quality check. The service provider needs to get the service right first time, every time.

(4) *Heterogeneity of services*.

It is often difficult to reproduce a service consistently and exactly. A number of factors can affect the extent of the heterogeneity of service provisions. First, delivery of service often involves some form of contact between the consumer and service provider. The behaviour of the service provider influences the consumer's perception of quality. It is difficult to assure consistency and uniformity of behaviour. Moreover, it is not easy to standardize and control this facet of service delivery. In effect what the firm intends to deliver may be entirely different from what the consumer receives.

Second, service operations depend on consumers to articulate their needs or provide information. The accuracy of the information and the ability of the service provider to interpret this information correctly has a significant influence on the consumer's perception of service quality.

Third, the priority and expectations of the consumer may vary each time he or she use the service. Moreover, priority and expectations may change during the delivery of the service. The variability of service from one period to another and from consumer to consumer makes quality assurance and control difficult. Service providers have to rely heavily on the competence and ability of their staff to understand the requirements of the consumer and react in an appropriate manner. The statement from Jan Carlzon, president of Scandinavian International Airlines, puts this point into context. He stated that "we have 50,000 moments of truth out there every day". He was of course referring to the fact that SIA's staff come into contact with each consumer 50,000 time each day and the consumer evaluates the quality of SIA's service based on these interactions.

4. REVIEW OF SELECTED SERVICE QUALITY MODELS

A service organization can broadly adopt one of two basic approaches to service quality management:

(1) passive or reactive; or

(2) strategic or proactive.

In the case of *a passive or reactive approach*, "quality" is not considered as a major source of service differentiation or competitive advantage. The principal emphasis of "passive quality planning and control" is minimization of customer annoyance, rather than realization of customer satisfaction. The efforts of quality planning and control are focused on hygiene factors. These are the factors that are taken for granted by the customer: for example, time of departure of a plane or clean tables and utensils at a restaurant. In the case of a library it is crucial to ensure that the opening/closing hours are maintained and the time to make certain deliveries to the user kept.

To ensure customer satisfaction, it is not sufficient solely to comply with the hygiene factors. Meeting these requirements does not ensure customer satisfaction; however, failure to meet them will normally result in customer dissatisfaction. , for example having to use dirty tables.

In the case of a *strategic or proactive approach*, "quality" is used to differentiate the organization's service offering. "Quality" lies at the heart of the organization's strategy to gain competitive advantage. Here, usually, quality is one of the primary drivers of the business. Corporate image is built around the quality of the offering; for example, British Airways' emphasis on customer care. The accent, here, is on gaining customer satisfaction. According to Ghobadian ,Speller and Jones(1994) the "quality"phenomenon is the source for strengthening and differentiating the offering and the organization from what is offered by the competitors.

This should be the case in the academic libraries-where the goal should be to exceed customer expectation.The launch of a "strategic quality management" programme requires a clear understanding of the service quality vantage point (definition and vision), customers' expectations, perceived quality, measures of quality, and generic determinants of quality. A clear understanding of these concepts is necessary but not sufficient to guide the management's search for positive improvements in service quality.

Thus, there is a need for conceptual models which will enable management to identify "quality" shortfalls and plan the launch of a "strategic quality improvement" programme. In broad terms, a model attempts to show the relationships that exist between salient variables. It is a simplified description of the actuality.

A conceptual model attempts to show the relationship(s) that exist between the salient variables in explaining a phenomena (Ghobadian, Speller and Jones 1994). It is a simplified description of the actual situation(s). It is thus envisaged that conceptual models in service quality will enable the management to identify problems. This way they are useful to the management in planning for the launch of a quality improvement program thereby improving the efficiency, profitability and overall performance. Neuman (2006:74) defines a theoretical framework, which he also refers to as a theoretical system or paradigm as a, *general theoretical system with assumptions, concepts and specific social theories*.

He further envisages that theoretical frameworks are the widest range and the opposite extreme from empirical generalizations. Nachmias and Nachmias (1996:39) argue that a theoretical system is comprised of propositions that are interrelated in a way that permits some propositions to be derived from others. They further posit that when such a theoretical system exists, social scientists can claim to have explained and predicted the phenomenon at hand.

Theories on the other hand play a vital and central role in the research process by being a source for the generation of problems and hypothesis and the meaning. In addition the significance of key concepts can only be interpreted within the context of a theory (Nachmias and Nachmias 1996:35).Hence the different approaches or theories which have been advanced by various scholars to understand service quality. This is so since "quality" is not a singular but a multi-dimensional phenomenon. It is not possible to ensure product or service quality without determining the salient aspects of "quality". The genetic determinants of "service quality" are identified and discussed in this section as several models are reviewed. The utility value of these determinants is situation-dependent. The primary aim of the models reviewedin this paper is to enable the management to enhance the "quality" of the organization and its offering in a systematic manner. Each of them is representative of a different point of view. The models are constructed to emphasize the particular bias.

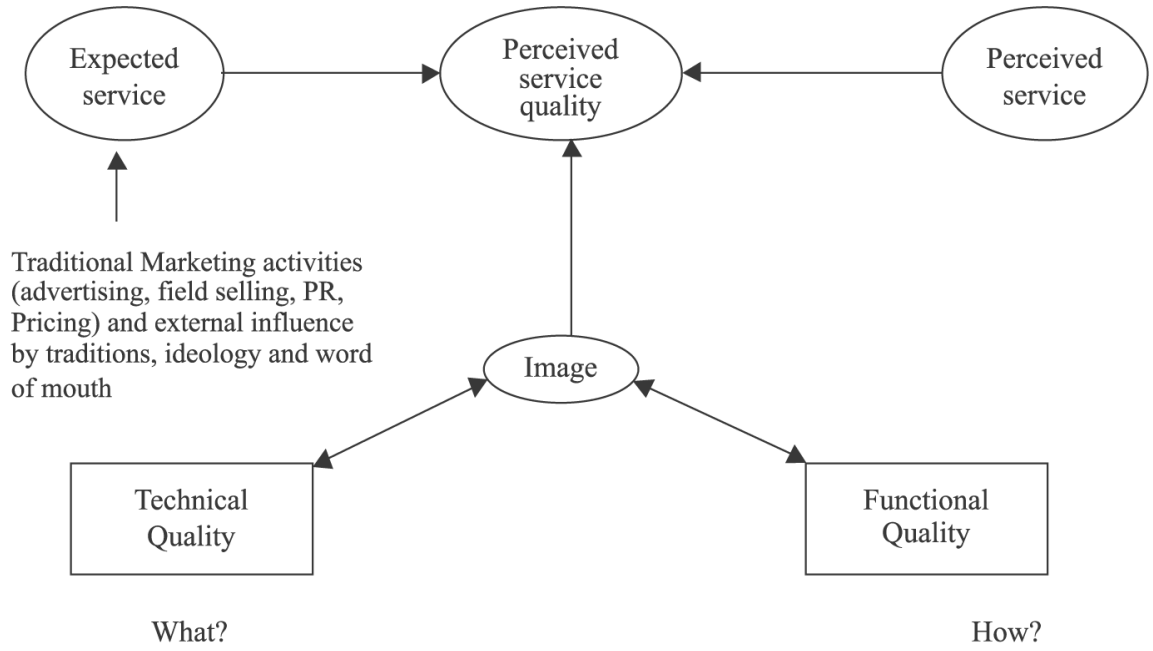
4.1 TECHNICAL AND FUNCTIONAL QUALITY MODEL (Gronroos 1984)

Gronroos (1984) argues that in order for a firm to compete successfully it must have an understanding of consumer perception of the quality and the way service quality is influenced.

Managing perceived service quality means that the firm has to match the expected service and perceived service to each other so that consumer satisfaction is achieved. In the model three components of service quality, namely; *technical* quality*; functional* quality and *usage* are singled out (*See fig 4.1*)

1) Technical quality is the quality of *what* the consumer actually receives as a result of his/her interaction with the service firm and is important to him/her and to his/her evaluation of the quality of service given. That is to say, the actual outcome of the service encounter. The service outcome can often be measured by the consumer in an objective manner. In a library setup and this important as it relates to the front service operations- are the staff available as per the agreed hours of opration. Or the are the availability of the lbrary carrel at the agreed time, and in a tidy condition.
2) Functional quality is *how* he/she gets the technical outcome. This is important to the user and to his views of service he has received. This element of "quality" is concerned with the interaction between the provider and recipient of a service and is often perceived in a subjective manner. Returning to the above example of library front service operations , this element of service quality is concerned with: the courtesy shown to the customer; physical circumstances of the reception area; amount of explanation provided in terms of what needs to be done; contacting the customer if the car is not going to be ready at the agreed time, or if additional expensive work is required, etc.

Fig.4.1-Technical and functional quality model



Source: Grönroos (1984)

3) Image is very important to service firms and this can be expected to be built up mainly by technical and functional quality of service including the other factors (traditional, ideology, word of mouth, pricing and public relations). This is concerned with consumers' perceptions of the service organization. The corporate image depends on: technical and functional quality; price; external communications; physical location; appearance of the site; and the competence and behaviour of service firms' employees.

Lehtinen and Lehtinen(1992)argue that in examining the determinants of quality it is necessary to differentiate between the quality associated with the process of service delivery and the quality associated with the outcome of the service. This is a useful separation and it is taken into account in reviewing the determinants of "service quality". Lehtinen and Lehtinen(1992) also contend that "service quality" has three dimensions.

These were:

(1) *Physical quality*. This includes such items as the condition of buildings and enabling equipment.

(2) *Corporate quality*. This refers to the organization's image and profile.

(3) *Interactive quality*. This derives from the interaction between service organizations' personnel and the customer as well as the interaction between customers. `In a library setup this a good example of this is a "user instuction "programme in which participants' experience and perception of quality is not only influenced by the competence of the library staff and the interaction with the providers of the service, but also by the interaction among participants.

Lehtinen and Lehtinen(1992) argue that in examining the determinants of quality it is necessary to differentiate between the quality associated with the process of service delivery and the quality associated with the outcome of the service. This is a useful separation and it is taken into account in reviewing the determinants of "service quality".

These attempts to identify the service quality determinants ,however,suffer from lack of sufficient detail. Their most significant contribution is to divide service "quality" into quality of process and quality of outcome. Other researchers and interested organizations have suggested a more detailed classification. In the following paragraphs the generic determinants of the service quality put forward by Parasuraman ,Zeithmal and Berry(1985*)* are reviewed.

4.2 GAP MODEL (Parasuraman et al. 1985)

Parasuraman et al. (1985) proposed that service quality is a function of the differences between expectation and performance along the quality dimension ,i.e. what the customer expects or considers as quality service compared against how it is delivered. The model posits that there is a gap left a void when the two parameters are compared hence the gap model. Though the model has been revised several times the original idea has remained. The model suggested by Parasuraman ,Zeithmal and Berry(1985*)* is depicted in Figure 4.2 The model attempts to show the salient activities of the service organization that influence the perception of quality. Moreover, the model shows the interaction between these activities and identifies the linkages between the key activities of the service organization or marketer which are pertinent to the delivery of a satisfactory level of service quality. The links are described as gaps or discrepancies: that is to say, a gap represents a significant hurdle to achieving a satisfactory level of service quality.

They developed a service quality model based on gap analysis – this depicts service quality as a fulfillment of certain conditions/criteria, failure to which there are shortfalls in the service delivery otherwise referred to as gaps-these (shortfalls) have to be satisfied/ addressed to, for the service to be within the acceptable levels. Parasuraman ,Zeithmal and Berry(1985*)* identified these gaps as the major determinants of service quality.

The model suggested by Parasuraman ,Zeithmal and Berry(1985*)* is depicted in Figure 4.2 The model attempts to show the salient activities of the service organization that

The Fig. 4.2 below illustrates the gaps.

Gap 1: *Consumer expectation – management perception gap (Gap 1)*:

Difference between consumers' expectation and the management perceptions of those expectations i.e. the provider not knowing what consumers expect. Management may have inaccurate perceptions of what consumers (actually) expect. The reason for this gap is lack of proper market/customer focus. The presence of a marketing department does not automatically guarantee market focus. It requires the appropriate management processes, market analysis tools and attitude.

Gap 2: *Service quality specification gap (Gap 2)*:

Differences between management's perception of consumer's expectations and service quality specifications i.e. improper service quality standards There may be an inability on the part of the management to translate customer expectations into service quality specifications. This gap relates to aspects of service design. For example, an airline may find that its customers require a better meals' service on its short-haul routes. This requirement needs to be translated into food and beverage menus for different times of the day.

Gap 3: *Service delivery gap (Gap 3)*:

Difference between service quality specifications and service actually delivered i.e. the service gap – what was requested for vis a vis what is offered. Guidelines for service delivery do not guarantee high-quality service delivery or performance. There are several reasons for this. These include: lack of sufficient support for the frontline staff, process problems, or frontline/contact staff performance variability. For instance, the airline of the previous example may introduce an exotic and extensive menu that does not leave enough time to serve or consume. This results in a

perception of poor quality. The manner of service also influences the perception of quality. If the stewards or stewardesses are not competent or friendly, once again the investment in the meal service will not improve perceptions of quality.

Gap 4: *External communication gap (Gap 4)*:

Difference between service quality and the communication to consumers about service delivery i.e. whether promises made to the consumers match delivery finally made. Consumer expectations are fashioned by the external communications of an organization. A realistic expectation will normally promote a more positive perception of service quality. A service organization must ensure that its marketing and promotion material accurately describes the service offering and the way it is delivered. This is why in service organizations it is counterproductive to separate the operations and the marketing functions.

Gap 5: *Expected service – perceived service gap (Gap 5)*:

Focus on the difference between the consumers' expectation and perceived service. This gap depends on size and direction of the four other gaps associated with the delivery of service quality on the marketers' side. Perceived quality of service depends on the size and direction of Gap 5, which in turn depends on the nature of the gaps associated with marketing, design and delivery of services

The above model is a diagnostic tool. If used properly, it will enable the management to identify systematically service quality shortfalls. In other words, it facilitates the identification of gaps between a numbers of variables affecting the quality of the offering. This model is externally focused. If used correctly it has the potential to assist the management to identify the pertinent service quality factors from the perspective of the customer.

According to this model, the service quality is a function of perception and expectations can be modeled as:

$$SQ = \sum_{J=I}^{K} (Pij - Eij)$$

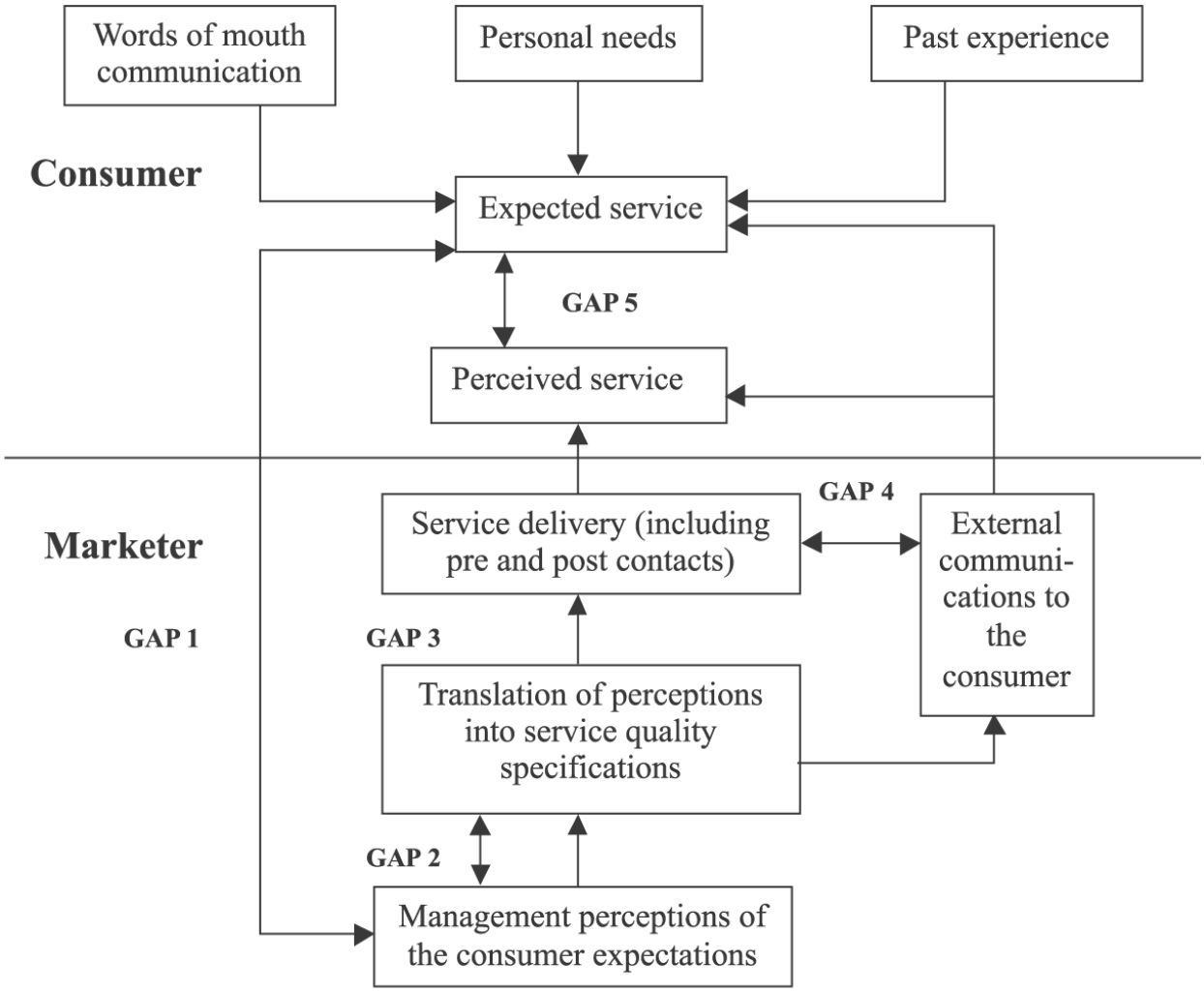
Where SQ = Overall service quality

K= number of attributes

Pij= Performance perception of stimulus ***I*** with respect to attribute ***j***

Eij= Service quality expectation for attribute j that is the relevant and norm for stimulus i

This exploratory research was further, refined by Parasuraman et al. (1988) together with their subsequent scale named SERVQUAL for measuring customers' perceptions of service quality. At this point the original ten dimensions/areas of service quality were



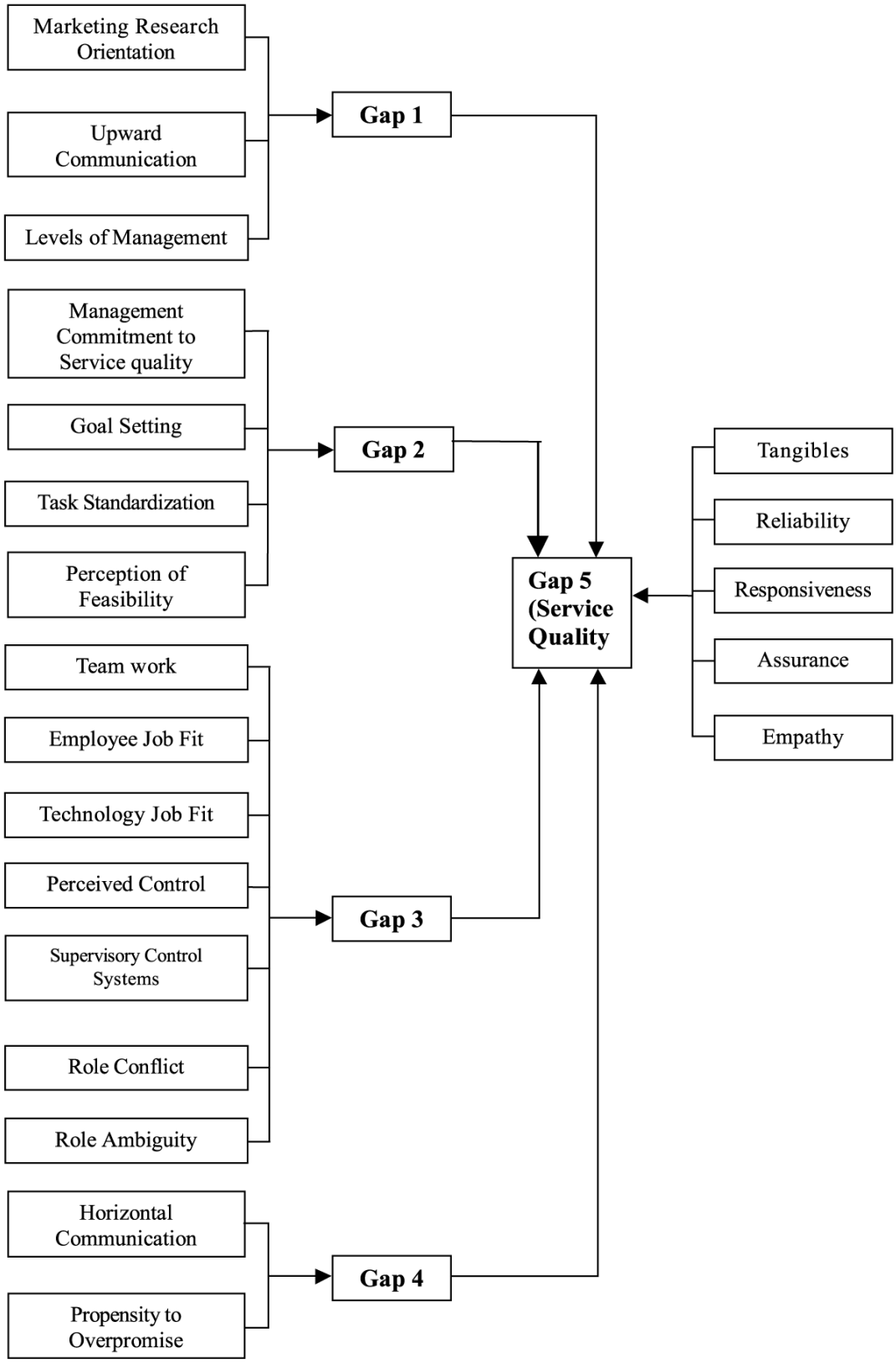
Source: Parasuraman *et al*. (1985)

FIG.4.2 -Gap analysis model

reduced into five dimensions: reliability, responsiveness, tangibles, assurance (communication, competence, credibility, courtesy and security) and empathy, which capture access and understanding/knowing of the customers.

The model has undergone several revisions. This led to the extended service quality model *(Fig. 4.3).*According to this extended model most factors involve the communication and control process implemented in organizations to manage employees.

Fig .4.3 Extended service quality model



Source: Zeithaml *et al*. (1988)

4.3 ATTRIBUTE SERVICE QUALITY MODEL, (HAYWOOD-FARMER,1988)

Haywood-Farmer(1988)argued that a service organization has “high quality” if it meets customer preferences and expectations consistently. The key element in the attainment of “high quality” is the identification of customers’ service requirements and expectations. He suggested that the separation of attributes into groups is the first step towards the development of a service quality model.

In general, services have three basic attributes: (a) physical facilities, processes and procedures; (b) people’s behaviour and conviviality; and (c) professional judgement. Each attribute consists of several factors. In this model, each set of attributes forms an apex of the triangle as shown in Figure 4.4. The management’s task is to identify where the organization is located in this nexus. This will enable them to provide a service whose elements are internally consistent and focused on meeting the needs of a specific segment of the target market. In deciding the appropriate position of the service, management needs to consider three “operational” factors.

These are:

(a) the degree of service customization;

(b)the degree of labour intensity; and

(c) the degree of contact and interaction.

The model put forward by Haywood-Farmer is helpful in terms of identifying the quality trade-offs and the links between “quality” and “operational” factors. The model has the potential to enhance understanding, but it does not offer a practical procedure capable of helping management to identify service quality problems or practical means of improving service quality. Figure 4.4 also shows the likely position of several different organizations on this three-dimensional nexus. In the case of utilities, the important determinant of quality is the physical process; for example, reliability of facilities, capacity balance, control of flow, and timeliness. People behaviour is also important. All three elements are equally important in the case of a medical or design service. By identifying their organizations’ position on the continuum, management will be able to implement more effective quality improvement processes.

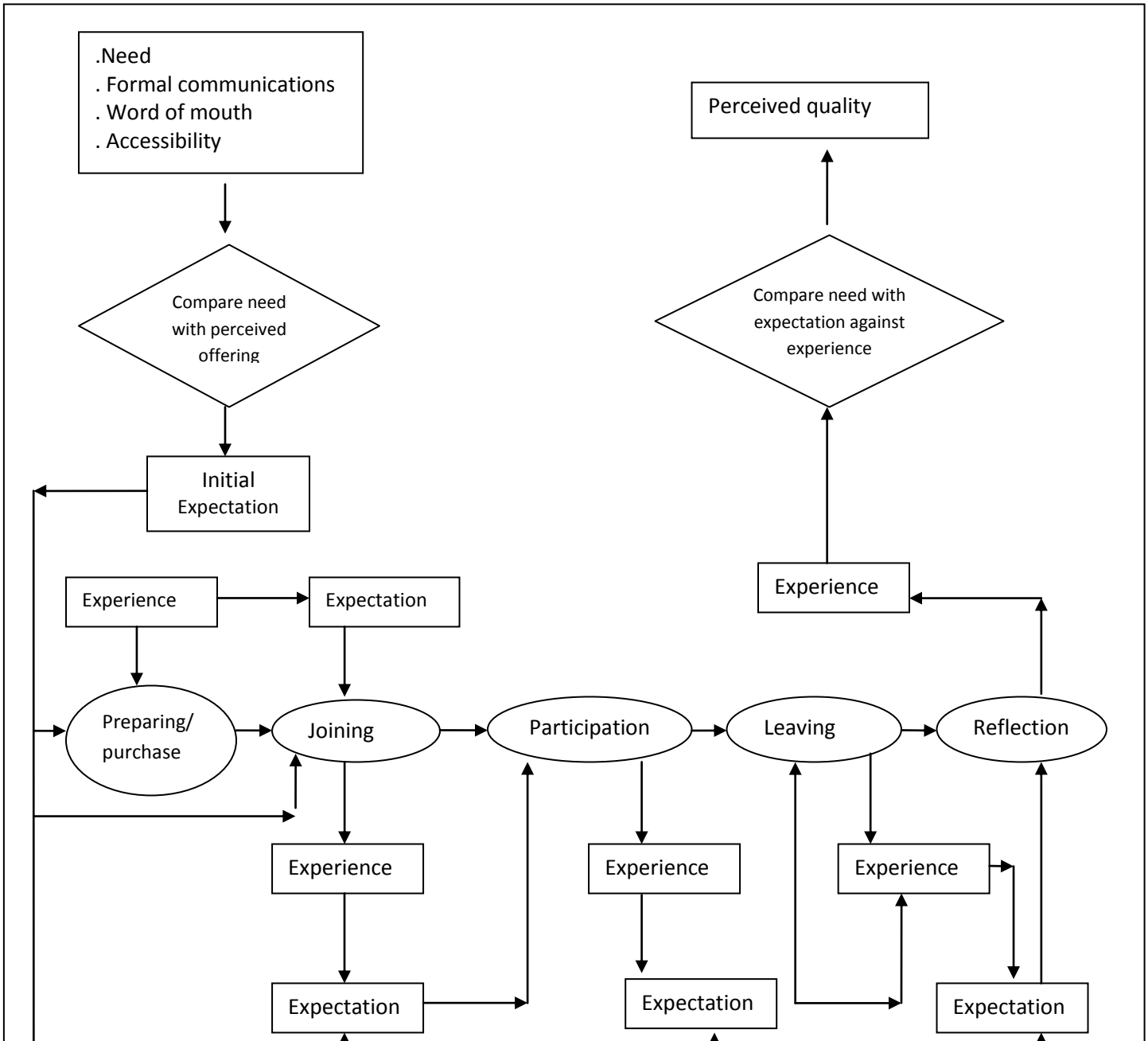
It is generally recognized that consumers evaluate the service they receive, and their expectations are critically important in determining whether or not they are satisfied [(Brown and Swartz,

1989) Consequently, the question of how expectations are formed is vital to the provision of quality service.

4.4 MODIFIED SERVICE JOURNEY MODEL NASH (1988)

Nash (1988) suggested a model based on the "service journey" idea. Figure 4 .5 depicts the typical stages of a "service journey". The experience at a given stage and the expectations formed prior to purchase help to shape the expectations for the next stage. "Service journey" is initiated by "need". Purchase will occur if there is a match between consumers' "need" and the perceived service "offering". Accurate communications and reputation are the key determinants for the consumers' selection of the provider.

Fig 4.5 MODIFIED SERVICE JOURNEY MODEL, Nash (1988)



Promotion and prior communication also influences perceptions at the “participating”, “leaving”, and “reflecting” phases of the “service journey

4.5 PERFORMANCE ONLY MODEL (CRONIN and TAYLOR, 1992)

The authors investigated the conceptualization and measurement of service quality and its relationship with customer satisfaction and purchase intentions. They compared computed different scores. To conclude that performance only are a better predictor of service quality rather than perception.

They disputed Parasuraman’s et al. (1985) model with respect to conceptualization and measurement of service quality. They further developed the performance only instrument/measurement of service quality which they called *SERVPERF* by illustrating that service quality is a form of consumer attitude and the performance only measure of service quality is a much enhanced means of measuring service quality than the *SERVQUAL*. The attitude formed will thus be dependent on the way the service provider dispenses the required service. Thus it cannot be determined on the basis of expectations and performance.

Cronin and Taylor (1992) argued that SERVQUAL confounds satisfaction and attitude. They stated that service quality can be conceptualized as "similar to an attitude" and can be operationalized by the adequacy – importance model. In particular they maintained that Performance instead of "Performance – Expectation" determines service quality is an enhanced means of measuring service quality. They argued that *SERVQUAL* confounds satisfaction and attitude. They stated that service quality can be conceptualized as *"similar to an attitude"* and can be operationalized by the adequacy – importance model. Thus according to Cronin and Taylor (1992) *Performance only* instead of "P*erformance – Expectation*" (P – E) determines service quality.

Service quality is therefore to be evaluated by perceptions only without expectations and without importance weights according to the formula:

$$SQ = \sum_{J=L}^{K} PIJ$$

Where

SQ = Overall service quality

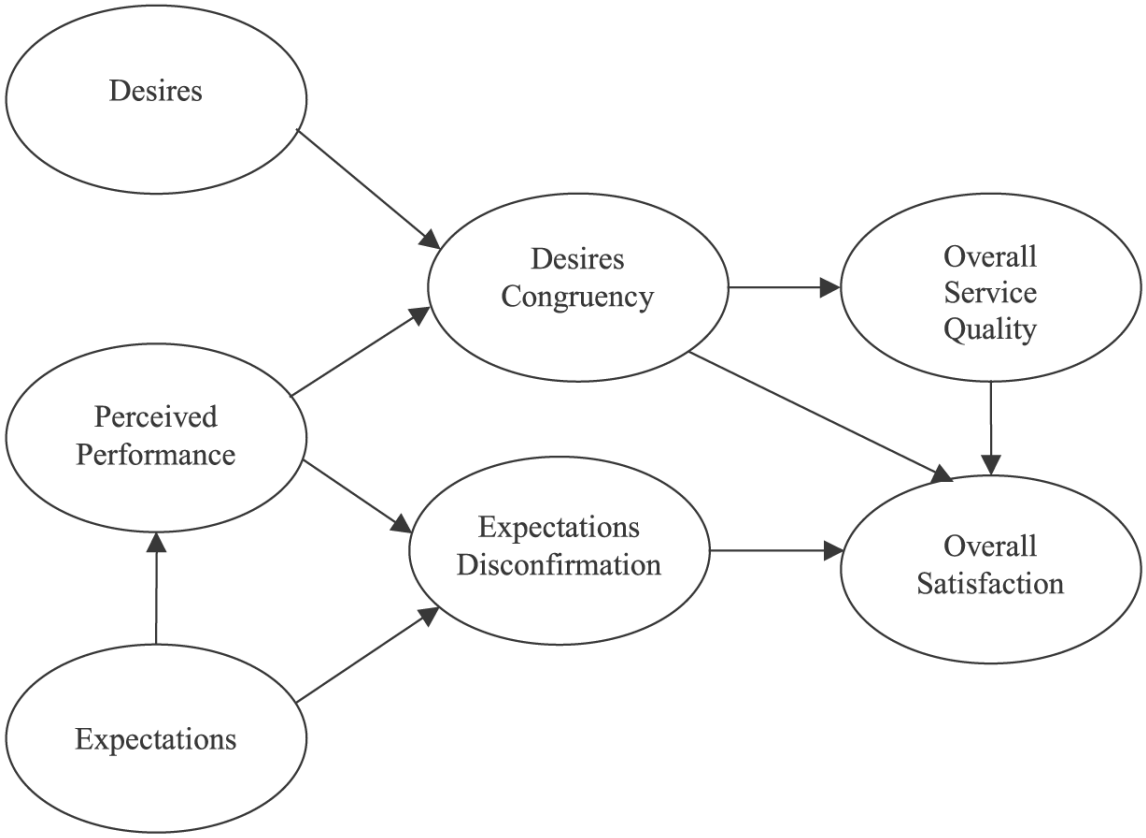
K = the number of attributes

*Pij=Performance perception of stimulus **I** with respect to attribute **j***

4.6 MODEL OF PERCEIVED SERVICE QUALITY AND SATISFACTION (SPRENG AND MACKOY, 1996)

This model *(Figure 4.6*) attempts to enhance the understanding of the constructs perceived service quality and consumer satisfaction. This model is modification to Oliver's (1993) model. The model highlights the effect of expectations, perceived performance desires, desired congruency and expectation disconfirmation on overall service quality and customer satisfaction. These are measured through set of ten attributes of advising (convenience in making an appointment, friendliness of the staff, advisor listened to my questions, the advisor provided

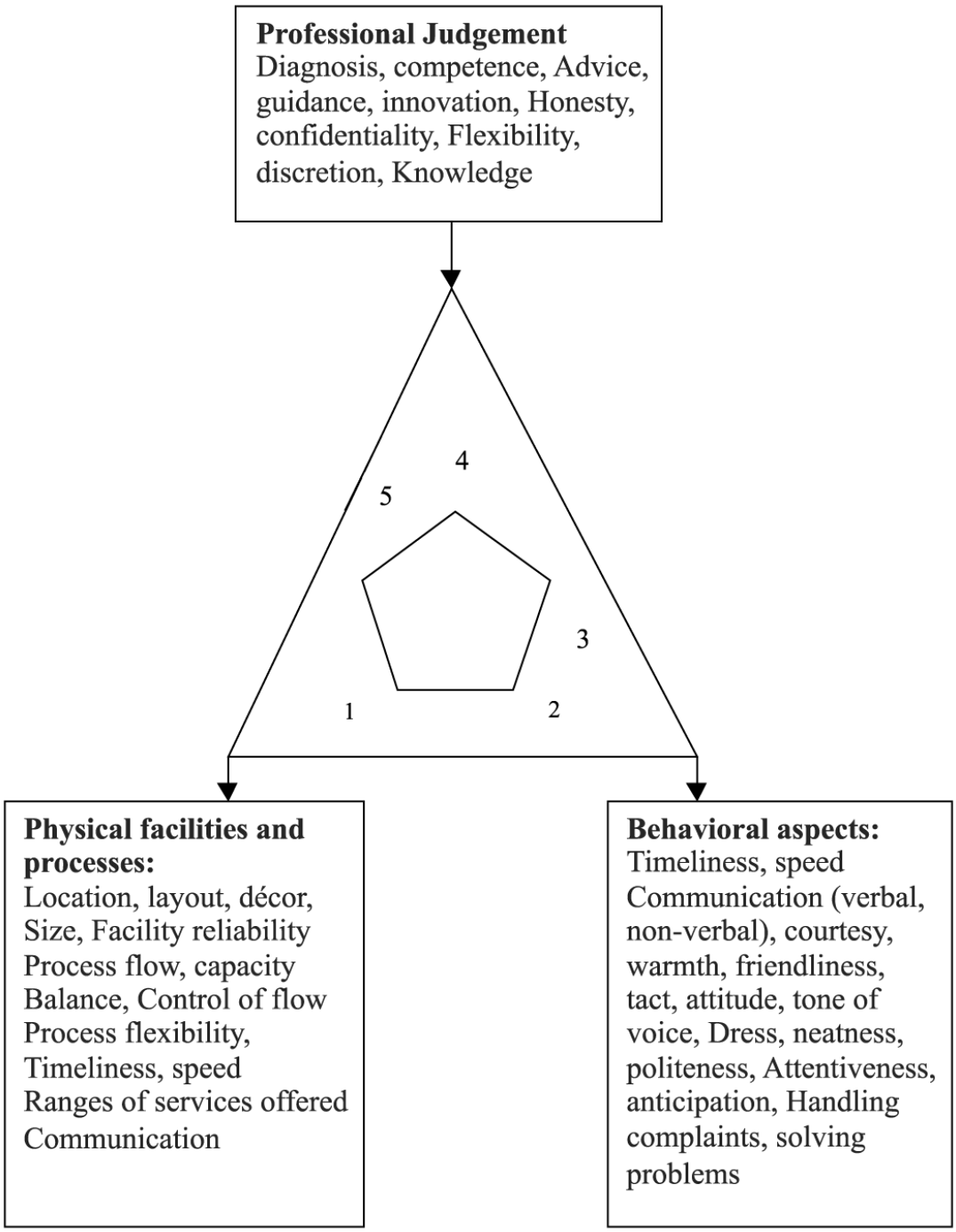
accurate information, the knowledge of the advisor, the advice was consistent, advisor helped in long-range planning, the advisor helped in choosing the right courses for career, advisor was interested in personal life, and the offices were professional).



Source: Spreng and Mackoy (1996)

Fig 4.7

Model Of Perceived Service Quality And Satisfaction (Spreng And Mackoy, 1996)



1. Short contact/interaction intensity-low customization, for e.g. Hardware/grocery shop
2. Medium contact/interaction intensity-low customization
3. High contact/interaction intensity-low customization, for e.g. Education
4. Low contact/interaction intensity-high customization, for e.g. Clubs
5. High contact/interaction intensity-high customization, for e.g. Health care services

Source: Haywood-Farmer (1988)

AttriF

Fig. 4.4 Attribute service quality model, Haywood-Farmer(1988)

4.7 ATTRIBUTE AND OVERALL AFFECT MODEL (Dabholkar, 1996)

Dabholkar (1996) proposed two alternative models of service quality for technology based self-service options. This is since self- service has become a popular service delivery option day by day owing to the high costs of labour in service deliveries.This is a popular option especially in banks and in some information service centers ,libraries included which have the self-service devices.

The attribute model (*see fig. 4.8a below*) is based on what on what consumers would expect from such an option. It is based on the cognitive approach to decision making, where consumers would use a compensatory process to evaluate attributes associated with the technology – based self – service option in order to form expectations of service quality.

The overall affect model (*see fig. 4.8b below*) is based on the consumer's feeling towards the use of technology. It is based on an affective approach to decision-making where consumers would use overall predispositions to form expectation self-service quality for a technology – based self-service option.

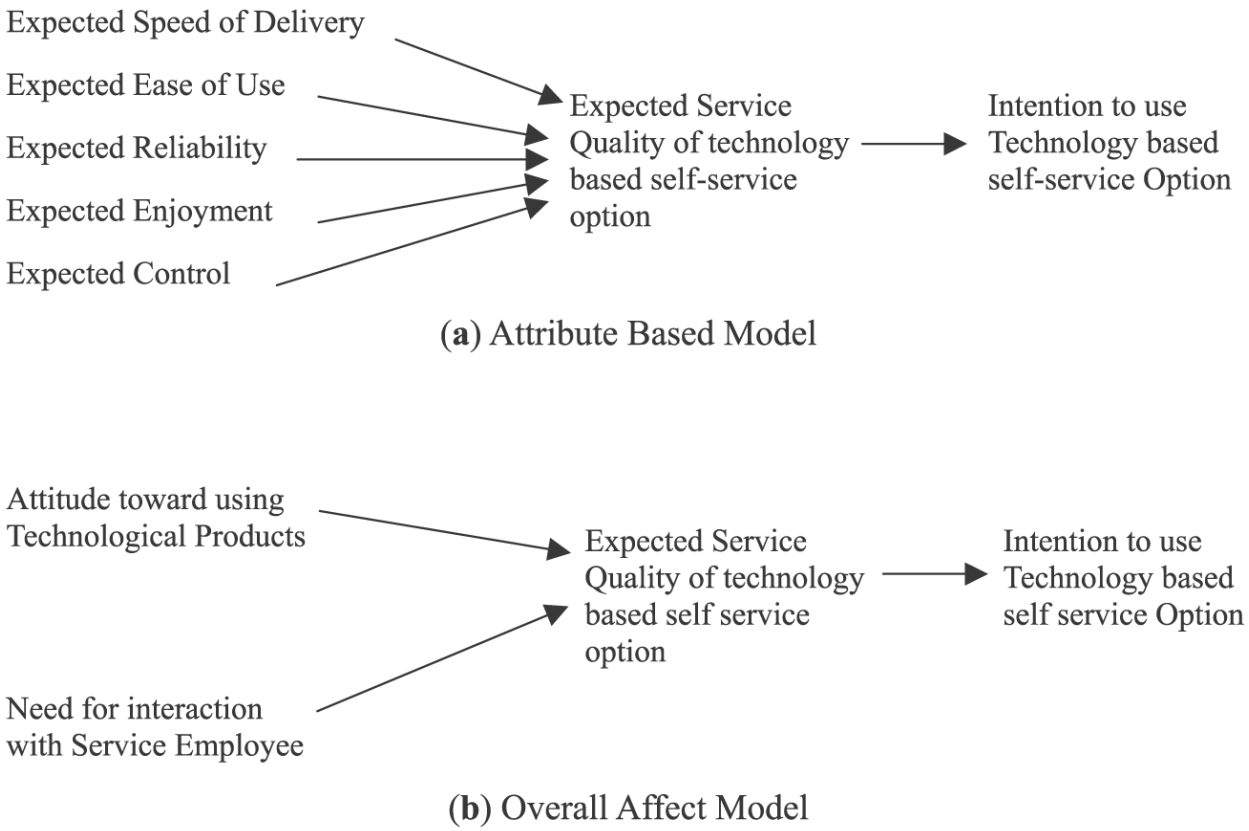
In both the two models expected service quality would influence intentions to use technology – based self- service option.

4.8 SERVICE QUALITY, CUSTOMER VALUE AND CUSTOMER SATISFACTION MODEL (Oh 1999)

In this model the author proposes an integrative model of service quality, customer value and customer satisfaction. The proposed model focuses mainly on post purchase decision process. The model incorporates key variables such as perceptions, service quality, customer satisfaction, customer value and intentions to re-purchase.

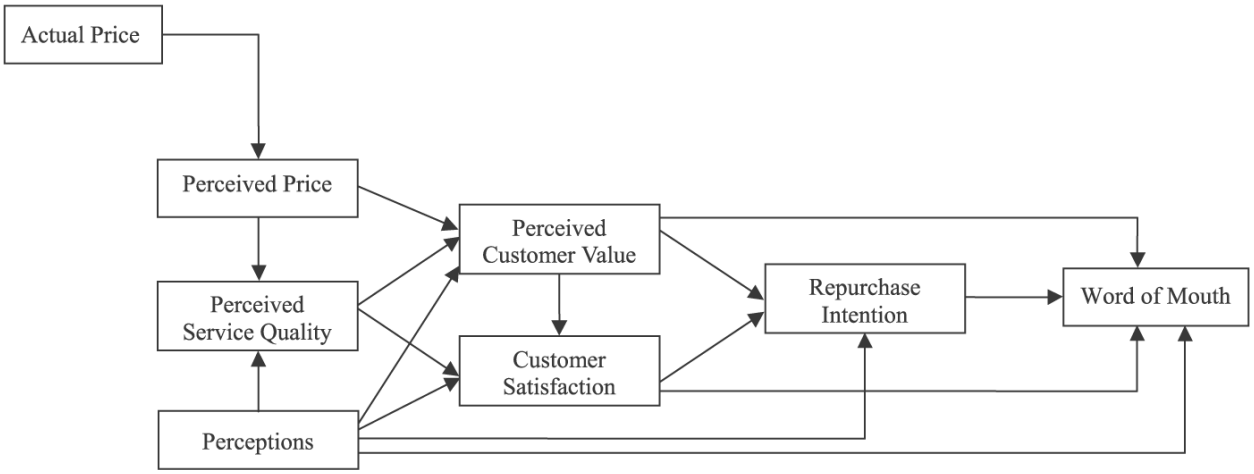
Finally word of mouth communication intentions is conceptualized as a direct, combined function of perceptions, value, satisfaction and re- purchase intentions (*Fig.4.9 below*).

The model provides evidence that customer value has a significant role in customer's post-purchase decision- making process. It is an immediate antecedent to customer satisfaction and re-purchase intentions. Results also indicate that perceived price has a negative influence on perceived customer value and have no relationship with perceived service quality.



Source: Dabholkar (1996)

Fig.-4.8a &b. Attribute based and Overall affect model



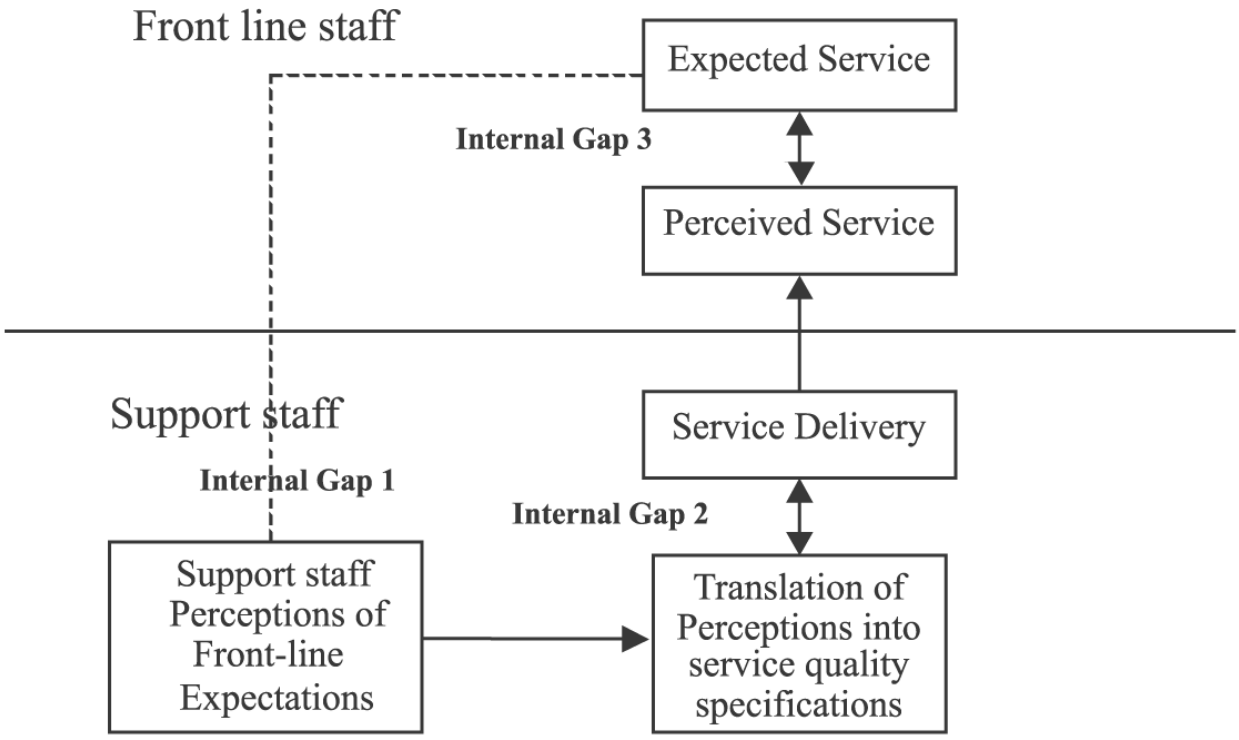
Source: Oh (1999)

Fig.4.9-Model of service quality, customer value and customer satisfaction

4.9 INTERNAL SERVICE QUALITY MODEL (Frost and Kumar 2000)

Frost and Kumar (2000) have developed an internal service model based on the concept of GAP model earlier on developed by Parasuraman et al. (1985). Unlike the earlier models it focuses on the internal customers who are often ignored. This model is, as depicted in *fig4.10 below*. It evaluates the dimensions and the relationships that determine service quality among the internal customers (i.e. front – line staff) and internal suppliers (i.e. support staff) within a large service organization. The main features of the model are as illustrated in the *fig. 4.10 below*.

The internal gap 1 shows the difference in reception of the support staff (internal supplier) to the front line staff's expectation (internal customers). While internal gap 2 is the significant difference between service quality specifications and the service actually delivered resulting in an internal service performance gap. Internal gap 3 is the gap, which focuses on the front line staff (internal customers). The gap is based on the difference between front line staff's expectations and perceptions of support staff's internal supplier service quality.



Source: Frost and Kumar (2000)

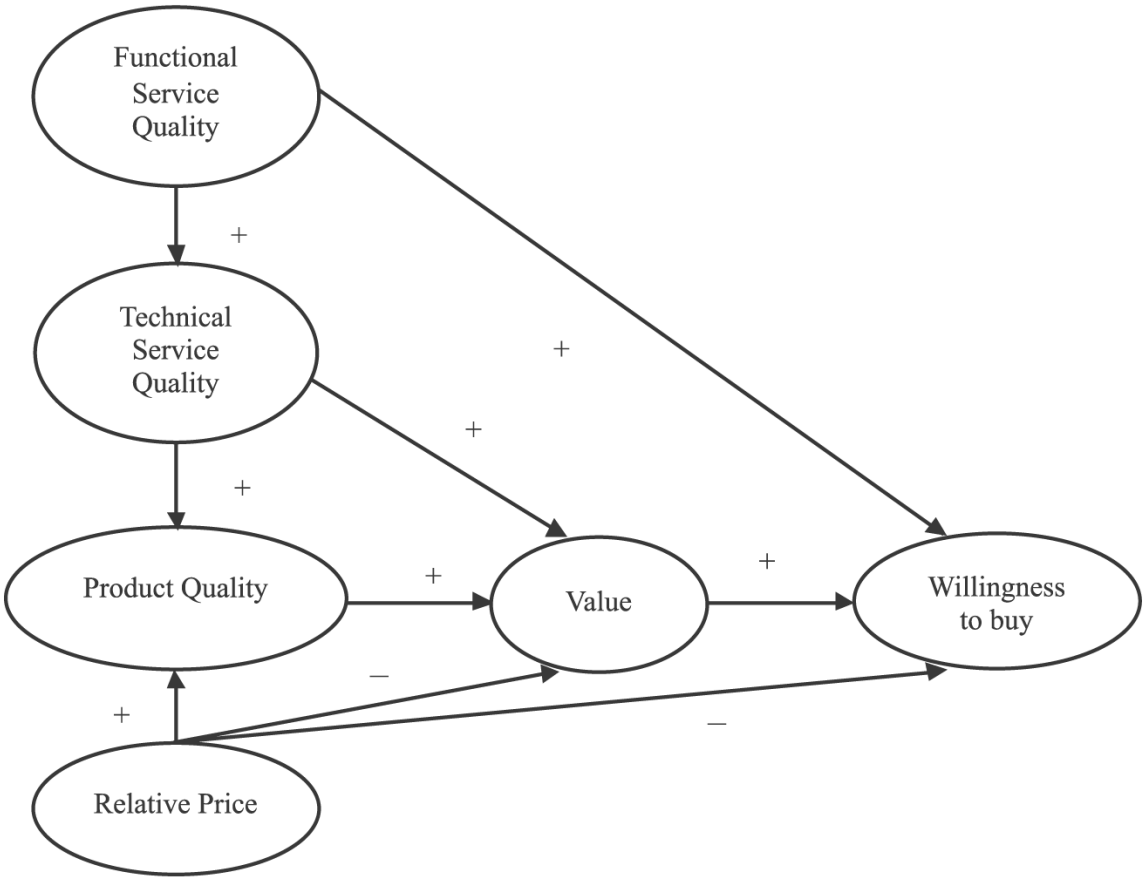
Fig.4.10-Internal service quality model

4.10 RETAIL SERVICE QUALITY AND PERCEIVED VALUE MODEL (Sweeney et al., 1997)

The influence of service quality on value and willingness to buy in a specific service encounters through two alternative models. Value can be defined as a comparison between what consumers get and what they give, suggesting that value is a comparison of benefits and sacrifices. (Zeithaml et al. 1988). Value construct used in this model is "value for money*"(see Fig.4.11 below).*

Model 1: this model highlights that in addition to product quality and price perceptions, functional service quality and technical service quality perceptions both directly influence value perceptions.

Model 2: this model highlights that in addition functional service quality perceptions directly influence consumers' willingness to buy. Functional service quality perceptions also influence technical service quality perceptions, which in turn influence product qualityperceptions and neither of the two directly influence value perceptions.



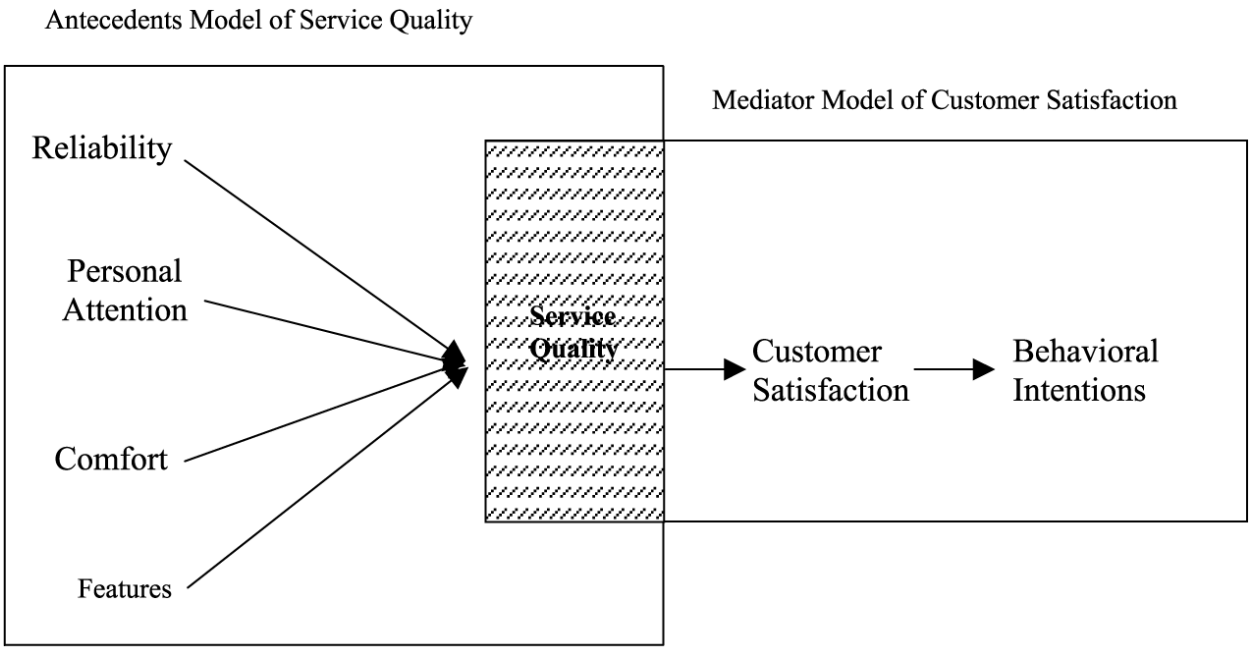
Source: Sweeney *et al*. (1997)

Fig.4.11 Retail service quality and perceived value model

On analysis, of modification indices for model 2 (being superior to model 1) it is possible to make significant improvement in this model (*Figure 4.11)* by allowing technical service quality to influence perceived value directly

4.11 ANTEDENTS AND MEDIATOR MODEL (Dabholkar et al.2000)

A comprehensive model of service quality is depicted in *Fig. 4.12* below, which includes an examination of its antecedents, consequences, and mediators to provide a deeper understanding of conceptual issues related to service quality. Dabholkar et al. (2000) in this model examines some conceptual issues related to service quality. These form the antecedents of service quality and include among others the reliability, personal attention, comfort, and the general features at the service area/process. The model thus examines the relationship of these factors (components/antecedents) and the relationship of customer satisfaction with behavioral intentions.



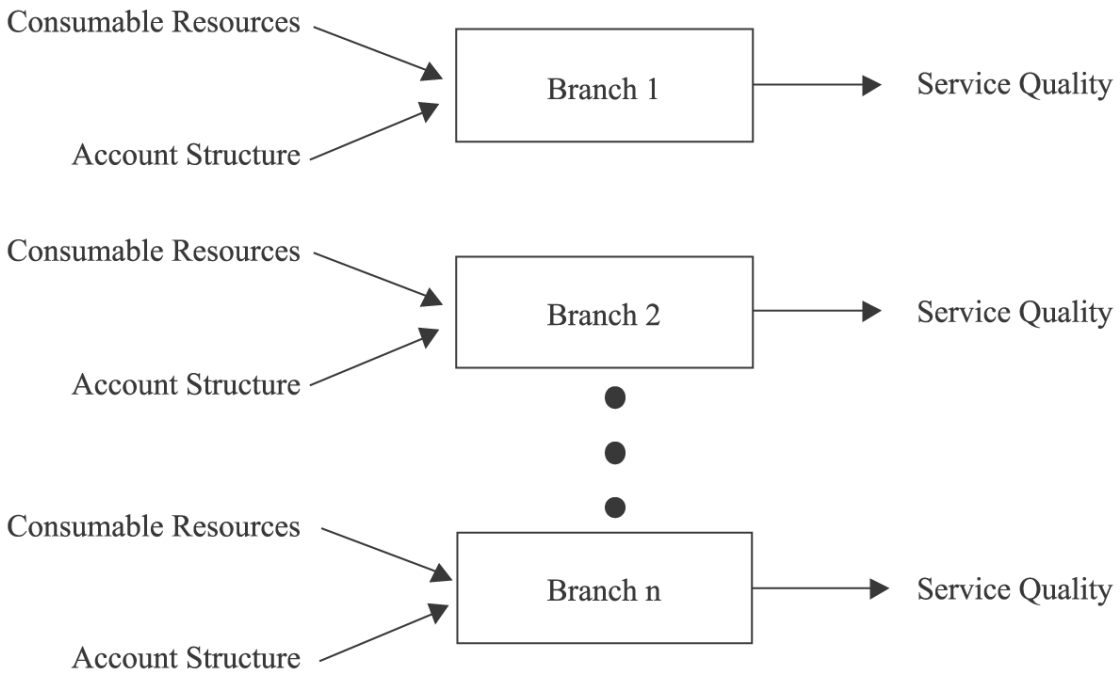
Source: Dabholkar *et al*. (2000)

Fig .4.12 -Antecedents and mediator model

4.12 INTERNAL SERVICE QUALITY DEA MODEL (Soteriou and Stavrinides, 2000)

Service quality is an important factor that must be considered when assessing a bank branch performance. The branch may report high volume of products and services offered as well as profits, but lose its long-term advantage owing to eroding service quality. The authors presented a service quality model that can be used to provide directions to a bank branch for optimal utilization of its resources. The model does not aim to develop the service quality measures, rather guides how such measures can be incorporated for service quality improvements. The model points out resources that are not properly utilized. The input to the model consists of two sets: consumable resources such as personnel, space, time etc. and the number of accounts in different categories. The output of the model is the level of service quality perceived by the personnel of the branch. The data envelope analysis (DEA) model (*Figure 4.13)* compares branches on how well they transform these resources (inputs) to achieve their level of service quality (output) given the client base. The DEA model will identify under-performers and suggest ways for their improvement. The input minimization DEA model will provide information on how much could the consumables resources be reduced while delivering the same level of service quality, while the output maximization DEA model will provide information on how much service quality can be improved using the same consumable resources.

Fig.4.13 Data Envelop Analysis model

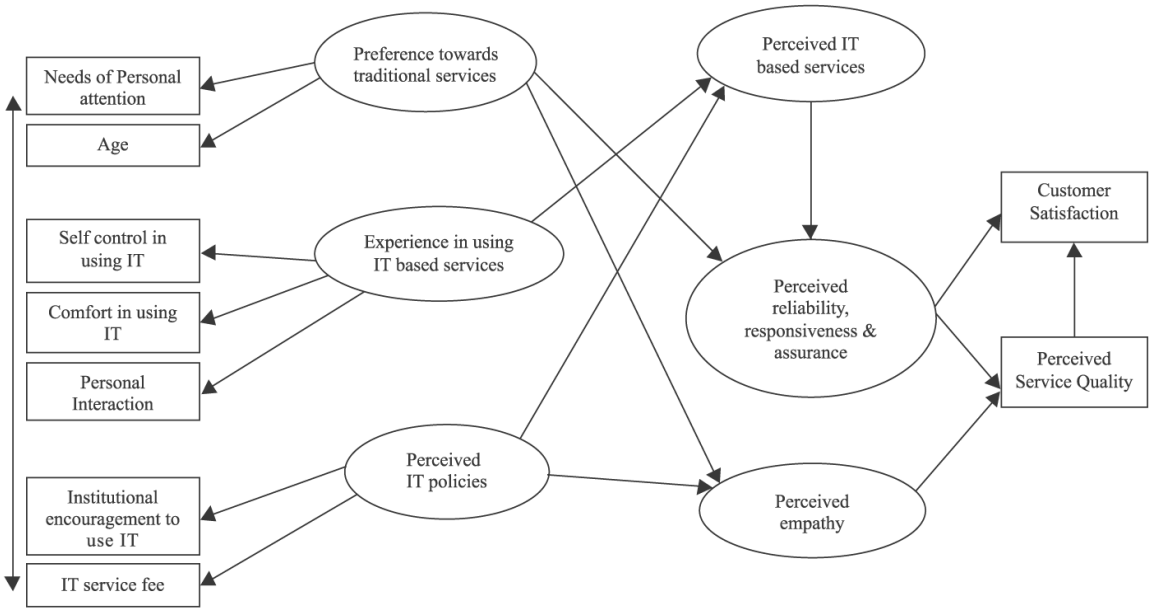


Source: Soteriou and Stavrinides (2000)

4.13 IT-BASED MODEL (Zhu et al., 2002)

This model highlights the importance of information technology (IT)-based service options. Service providers are using IT to reduce costs and create value-added services for their customers. It proposes a service quality model (*Figure 4.14)* that links customer perceived IT-based service options to traditional service dimensions. The model attempts to investigate the relationship between IT-based services and customers' perceptions of service quality. The IT-based service construct is linked to service quality as measured by SERVQUAL (Parasuraman et al. 1988, 1991).

Fig.4.14 IT-based model



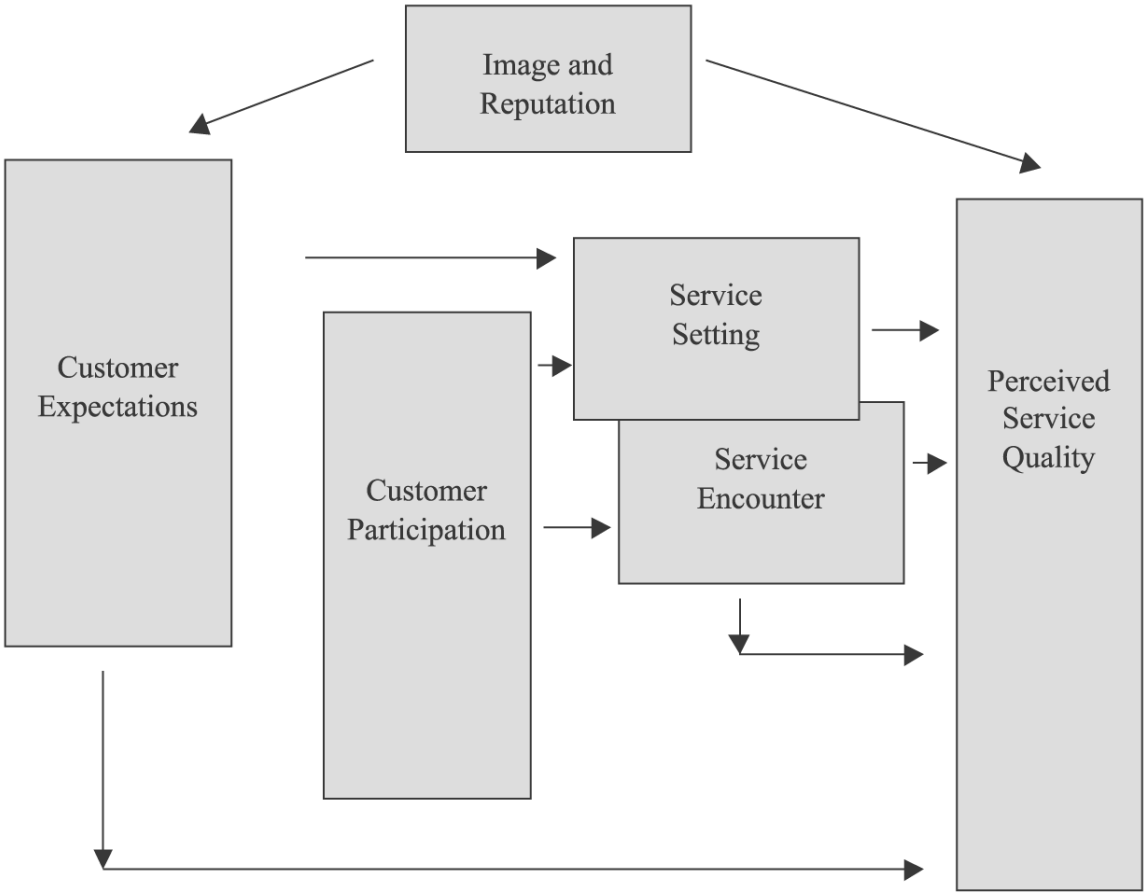
Source: Zhu *et al*. (2002)

Several key variables affecting customers' views of IT-based services are identified and depicted in The model focuses on the linkages among the service dimensions as measured by SERVQUAL, the constructs representing the IT-based service quality, preferences towards traditional services, experiences in using IT-based services, and perceived IT policies. The impacts of these constructs on perceived service quality and customer satisfaction are also specified.

4.14 INTERNET BANKING MODEL (Broderick and Vachirapornpuk, 2002)

One of the key challenges of the internet as a service delivery channel is how service firms can manage service quality as these remote formats bring significant change in the customer interaction and behavior. This model proposes and tests a service quality model of internet banking *(Figure 4.15).* The research uses participant observation and narrative analysis of UK internet web site community to explore how internet banking customers perceive and elements of this model. In the context of internet, five key elements are

treated as central influences on perceived service quality: They are: customer expectations of the service; the image and reputation of the service organization; aspects of the service setting; the actual service encounter; and customer participation.



Source: Broderick and Vachirapornpuk (2002)

Fig.4.15. Internet banking model

5.5 DISCUSSION

In conclusion the various service quality models briefly discussed in this paper focus on the diverse dimensions brought about by scholars that are pertinent to the development of service quality have been brought to forefront.

Owing to the importance of service quality, there has been a systematic development of a variety of concepts and models on the subject -*Fig 4.16* below summaries this growth and development in the field. The growth of literature in the field of service quality has developed sequentially, providing a continuous updating and learning from the finding/observations of predecessors(The findings /shortcomings of the various models have been highlighted in (*Table 1).*Gronroos (1984) observed that word-of mouth (WOM) has a more substantial impact on the potential customers than the traditional marketing activities, and also highlighted the need for service quality research based on consumers' views. Parasuraman et al. (1985) later modeled service quality on as a gap between consumer and marketer sides at different level;but using WOM as a key contributor to the expected service. Parasuraman et al. (1988, 1991) developed and revised the service quality measurement tool (named *SERVQUAL).* This gap model and a *SERVQUAL* as a base was later used as basis for the internal service quality model by Frost and Kumar (2000). Brogowitz et al. (1990) further developed the synthesized model of service quality by marrying the inputs from the Gronroos (1984) and Parasuraman (1985) models .These different models however are not without criticisms by other scholars and researchers.

The measurement of service quality through the Gap model and *SERVQUAL* ,for instance was criticized by:

- Cronin and Taylor (1992)-*Performance only model* and Teas (1993) –*Evaluated performance and normed quality model* ;they proposed the use of *SERVPERF* (a service quality tool for measuring perceptions only)and a Performance based model as opposed to the Parasuraman et al. (1985) approach. Parasuraman et al. (1994) however criticized these criticisms, but which were further counter-acted by Cronin and Taylor (1994) and Teas (1994).

- Haywood-Farmer (1988) SQ3-*Attribute service quality model*, Philip and Hazlett (1997) SQ11-*Pivotal, core and peripheral(PCP)*, developed the attribute service quality models.

Cronin and Taylor (1992) pointed out that service quality is an antecedent of consumer satisfaction, which has a significant input on purchase intentions. This again led to the development of *perceived service quality and satisfaction model* by Spreng and Mackoy, 1996-SQ10. Dabholkar et al. (2000)-SQ14- further examined the relationship between the constructs and proposed the *antecedents and mediator model.*

Cronin and Taylor (1992) pointed out that consumers don't always buy best quality service, as they might instead purchase on the basis of their assessment of the *value* of service. This highlighted the importance of "*value* "and acts as a motivating point for researchers to include /model value for improvement- SQ12) understanding of service quality. Matteson (1992)-through the *Ideal value model of service quality-SQ6*; Sweeny et al. (1997) - through the-*Retail service quality and perceceived value model-SQ 12*; and Oh (1999)-through the -*Service quality ,customer value and custifaction model-SQ13* developed different models but incorporating the value construct which they deemed as important.

It is worth to note that in todays' liberalized economy, in order to remain competitive, service providers are increasingly offering their customers information technology (IT)-based service options. Service providers are thus using IT to reduce costs and create value –added services for their customers. In the academic libraries there is dire need to employ more technology which would improve on service delivery speed for instance. Self service facilities like in the banking sector could help reduce the long queues at times found in libraries at certain times. Furey (1991) suggests that IT can help improve on service quality by increasing convenience, providing extra services, and collecting service information for management use. The increased importance of IT has thus motivated researchers to understand better how service customers evaluate IT-based services and how their evaluations affect their perceptions of the overall service quality of the service provider and their own satisfaction. This has resulted in the development of other I.T. models .These include Berkley and Gupta (1994)-SQ8-*IT alignment model*; Dabholkar (1996)-SQ9-*attribute and overall affect model*; Broderick and Vachirapornpuk (2002)-SQ17-*internet banking model* ; Zhu et al. (2002)-SQ18-*IT based model*; and Santos (2003)-SQ19-*e-service quality model*. These lay more emphasis on the use of technology to enhance on service delivery.

Fig.4.16 below gives a summary of these developments.

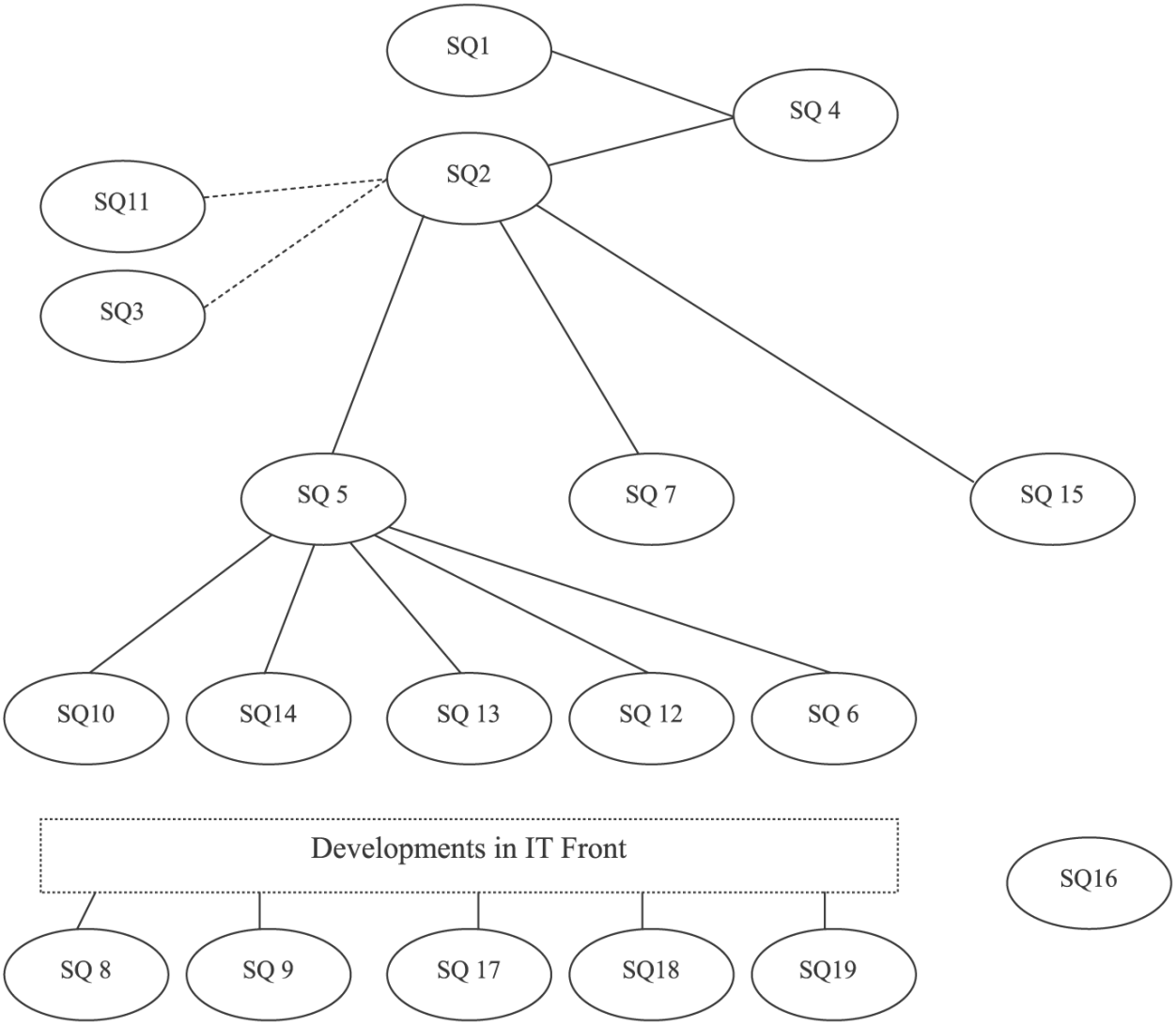


Fig.4.16 Lineage of service quality models (source: Seth, Deshmukh and Vrat,2004)

From the above dicussion, it is clear that there does not seem to be a well-accepted conceptual definition and model of service quality nor is there any generally accepted operational definition of how to measure service.

6.0 Implications to service quality and customer satisfaction

Just as quality is influenced by a multiplicity of factors; the attainment of "service quality" requires a broad approach. Some implications of the models soon service quality and customer satisfaction are hereby highlighted

1. Staff empowerment and improvement of communication skills

"Service quality" can be enhanced by giving frontline staff the latitude to make important decisions regarding the customer's needs. It is generally recognized that devolvement of those decisions which affect customer care to the frontline staff pays dividends[12]. American Express uses the latitude given to its frontline staff to differentiate its service from that of other credit card providers.

Service quality has implications on the training of the front line employees in the library and informational sector in communication. This was noted in a study by Garzaniti, Pearce and Stanton (2011)on the role of conversation in hairdressing encounters and agreeing with (Lovelock et al., 2007) that in the people processing service such encounters between client and service provider help to cement the relationship and which imacts on customer satisfaction.

Scholars have recognised service conversation contributes to service employee commitment (Jones et al., 2008); assists in offerings personalised service (Suprenant and Solomon, 1987); enhances the delivery of the core service (Lovelock et al., 2007);contributes to a more enjoyable service experience (Gremler and Gwinner, 2000) and understanding of customer needs(Parasuraman and Berry, 1991; Shamdasani and Balakrishnan, 2000). Following from Parasuraman's Extended model (1991) communication is essential: keeping customers need to be informed about the service in a language that they can understand and listening to the customers. For example, in the case of an airline giving regular updates, this could include detailed and accurate information whenever a delay in service occurs. This should be the case in

an academic libraries especially in cases where they are not able to speedly acquire current and strategic information useful to researchers.

2. Well-trained and motivated staff

Well-trained and motivated staff plays a crucial role in service delivery and more in a library where pertinent and strategic information is required. Thus frontline library staff staff who is not adequately trained for their job will find it difficult to perform their tasks effectively. This is particularly so when as it has been noted that the behaviour of the service staff moulds the perceptions of the customers. This will be noted by the consumer and it is likely to cause adverse quality perceptions. It is also important to ensure that frontline staff are effectively supported by way of providing the requisite tools and equipment; and well-motivated.

Motivated staff require the provision of: an appropriate and clear career ladder and opportunities; remuneration and recognition system; a measurement system; and appraisal procedures. This agrees with Frost and Kumar(200) internal service quality model which advocated for the satisfaction of the internal customers before a firm endevours to woo the external customers.

3. Staffing

Service quality also has implications on the staffing practices in organizations. Mathies and Burford(2011) in their exploratory study on customer service understanding in organizations found out that, the interpretation of good customer service also is influenced by the gender of the employee. The service models of women and men, though similar in their core elements, reveal obvious differences. For female service staff, the quality of the interaction and service processes dominate their understanding of good customer service; their male counterparts instead are more outcome focussed and consider good customer service mainly as a result of efficient problem solving. Further research has shown that, male and female customers offer different quality and satisfaction judgments. Men put more emphasis on the provision of the core service, whereas women value the relationship with the service staff more (Iacobucci and Ostrom, 1993). Men

generally rate service quality higher than women, and the relative importance attributed to different dimensions of service quality depends on the customer's gender (Charalambos et al., 2004). Mattila et al. (2003) investigated gender effects in service encounters and discovered that the effect of the server's emotional display on customer satisfaction varies with the customers' gender. In particular, men are more outcomes focussed, and negative affective displays do not influence their satisfaction with a successful service encounter. However, the satisfaction of female customers drops in response to negative emotional displays, even if the service encounter succeeds. Female customers thus seem more focussed on the service process, whereas men place more emphasis on the service outcome. The considerations are important depending with the section in the library that we focusing on.

Some service industries have been dominated by either male or female frontline service staff. For example, flight attendants remain predominantly female, a legacy from the 1930s when nurses replaced young boys in that position. Women were considered better able to care for customers and promote a female presence that increased the perceived safety of flying (AFA-CWA, 2010). Frontline service positions overall tend to be filled by women, often based on their stereotypical roles as emotionally expressive nurturers (Hochschild 1983; Mattila et al. 2003). Men instead typically gain recognition for their technical competence and practical task orientation (Deaux, 1984). While these gender stereotypes in the service roles still prevail the service staff may have different understandings of good customer service. First, gender differences mark customers'perceptions of various aspects of customer service and service quality (e.g. Iacobucci and Ostrom 1993; Mattila et al. 2003; Snipes et al. 2006). Hence these perceptions partly reflect gender stereotypes applied to both staff members and customers during service consumption (Fischer et al. 1997), as well as customers' reactions to service failure and recovery (McColl-Kennedy et al. 2003) and loyalty toward employees (Melnyk et al. 2009).Second, customers may expect, and respond better to, frontline service staff of the "appropriate" gender. Existing research thus has investigated the influence of the gender of the server and the gender dyad between customer and server on perceived service quality and customer satisfaction (Bove and Smith 2006; Snipes et al. 2006).Thus it is important for the library management to consider the staffing aspects in the various service points.

4. Training of library and information staff

Having looked at the various aspects of service quality,it is imperative that the curriculum is revised to incorporate aspects of marketting and customer relations so that the staff are able to win the customers. This is as Foster and Whittle(1989) service quality" problems are more likely to arise in organizations that are not focused on identifying and acting on the customer's needs and expectations. A quality organization should put itself in the "customer's shoes" and build its policies from the customer's vantage point.

5) Competence if core: staff should possess the necessary skill, knowledge and information to perform the service effectively. For example, an insurance broker should provide the best possible advice to the potential customer To achieve this, he or she needs to know the product portfolio well and have the skill to match the product with the customer's needs. This should be the case with the academic libraries with staff more or less playing the role of a *"personal financial*" consultant in an investment firm.

(6) Following from the Parasuraman's Extended model (1991 and Dabholkar(1996) attributes model it is important to consider the other factors such as :-*Access*: the ease of approachability and contact. For example, this could involve convenient opening hours, getting through on the telephone and convenient location of the library in relation to other facilities within the university. Staff attributes such as:- *Courtesy*: the politeness, respect, consideration and friendliness shown to the customers by the contact personnel. And at all times the library management should strive to assure the clients of their own security when using the library and its facilities. *Security*: the freedom from danger, risk and doubt. It involves physical safety, and confidentiality e.g. of their reading interests.

7.0 Summary and Conclusions

Customers are the lifeblood of any business. Service quality can win and keepcustomers. A service organization is likely to face difficult obstacles in its attempt to improve service quality. This is because of service intangibility; participation of the customer in the service delivery; heterogeneous nature of the process; lack of predictability and repeatability of the service

process; diverse customer base sharing the same processing facilities and processes; lack of visibility of quality shortfalls; difficulties in identifying sources of quality problems; and the time required to improve service quality. A committed management, however, can remove these obstacles.

The key ingredients of service quality improvements are: market and customer focus; motivated and well-trained frontline staff; well-designed processed evolvement of responsibility and authority to the frontline staff; clear definition of quality; effective internal and external communications; and measurement. Quality problems in service organizations are the result of the mismatch between prior expectations and perceived quality of service. A quality service organization will, on a regular basis, attempt to determine the requirements of its customers and translate these requirements into product and delivery process specifications. Although the gap between expectations and experience is widely considered to be the primary source of service quality problems, it is not clear how the evaluation of expectation and experience occur(Matteson 1992.p.18) This is an area that requires more empirical research and especially with the emerging challenges and developments in the service front and the technological advances.

TABLE1. SUMMARY OF THE SERVICE QUALITY MODELS

Model no./type	**Key findings/applications**	**Select weaknesses/limitations**
SQ1. Technical and functional quality model		The model does not offer an explanation on how to measure functional and technical quality
SQ2. Gap model	The model is an analytical tool. It enables the management to identify systematically service quality gaps between a numbers of variables affecting the quality of the offering This model is externally focused. It is capable of assisting the management to identify the relevant service quality factors from the viewpoint of the consumer	Explorator y study. The model does not explain the clear measurement procedure for the measurement of gaps at different levels.
SQ3. Attribute service quality model	This model provides a base of segregating service organization on three dimensions for better management of quality. The model has the potential to enhance understanding of the	It does not offer the measurement of service quality It does not offer a practical procedure capable of helping management to identify service quality problems or

	concepts of service quality and help to guide about targeting towards the right customer segment.This model is useful both in the design stage and periodically as the service and possibly customer taste evolve.	practical means of improving service quality
SQ4. Synthesized model of service quality	The use of this model and related managerial tasks can help managers to improve the success of their service offerings in any industry. This model identifies key variables that require systematic management attention in planning, implementation and controlling service-marketing strategies that prevent or minimize service quality gap.	Needs empirical validation Need to be reviewed for different type of service settings.

SQ5. Performance only model	Service quality should be conceptualized and measured as an Attitude. The performance-based SERVPERF is efficient in comparison with SERVQUAL, as it directly reduces the number of items by 50 per cent and the results are better Service quality is an antecedent of consumer satisfaction and may have a better effect on purchase intentions than service quality	Need to be generalized for all types of service settings Quantitative relationship between consumer satisfaction and service quality need to be established
SQ6. Ideal value model of service quality	This model incorporates and defines the importance of diverse components of the service encounter to be studied This model provides a new learning perspective on how an ideal standard can be formed and how it can be sustained mentally The model highlights	Fewer number of items used for value and customer satisfaction Needs to be defined for all types of service settings

	attention to the importance of negative disconfirmation experience as a determinant for satisfaction outcome.	
SQ7.EP and NQ model	The model raised a number of issues pertaining to conceptual and operational definitions of expectation and revised expectation The criterion and construct validity of the EP model was higher than both the SERVQUAL and NQ model..	This model was tested for limited sample size and for narrow service setting (discount store)
SQ8. IT alignment model	This model describes how IT can be used to improve customer service along key service quality dimensions including reliability, responsiveness, competence, access, communication, security and understanding the customer This model can help the	It only highlights the impact of IT on service quality. The model does not offer a way to measure and monitor service quality The model is silent about the level of IT use for particular service settings.

	organizations to realize the complete benefit of using information systems for delivering improved quality of service Allows managers to understand the commonly used technologies in their industry and determine appropriate technology suiting their requirements	
SQ9. Attribute and overall affect model	The attribute-based model is favored in forming the evaluations of service quality for technology-based self-service options The overall affect model is also supported but it does not add further explanatory power to the attribute-based model	Needs to be generalized for different self-service options Effect of demographic variables, price, physical environment etc. is not considered
SQ10. Model of perceived quality and satisfaction	This model shows that service quality and satisfaction are distinct and desires	The model does not highlight how the service quality is achieved and

	congruency does influence satisfaction A key determinant of service quality and customer satisfaction is meeting customer desires. Rising expectations have a positive effect on customer satisfaction perceptions of performance, but they also have a negative effect on satisfaction through disconfirmation	operationalized The model is weak in providing directions for improvements in service quality
SQ11. PCP attribute model	Provides a simple, effective and general framework of assessing service quality for any service sector Highlights the area of improvements for service quality depending on the frequency of encounter The dimensions to these three levels of attributes are individual sector-dependent and with reference to consumer	The model is lacking in providing general dimensions to three levels of attributes Lacks empirical validation
	The technical service	The model considers only

SQ12. Retail service quality and perceived value	quality is an important contributor to product quality and value perceptions and hence influences willingness to buy Functional service quality has indirect influence on willingness to buy through product quality and value perception; however. it has influence on willingness to buy that is independent of product assessment (poor staff manners)	one value construct, i.e value for money Fewer number of items per construct are taken in this study
SQ13. Service quality, customer value and customer satisfaction model	The model can be used as a framework for understanding consumer decision process as well as evaluating company performance This model provides directions and targets for customer-oriented company efforts	Model needs to be generalized for different types of service settings Model variables are measured through relatively fewer items
SQ14. Antecedents and	Consumers evaluate different factors related to	Antecedents of customer satisfaction have not been

mediator model	the service but also form a separate overall evaluation of the service quality (which is not a straightforward sum of the components) The antecedent's model can provide complete understanding of service quality and how these evaluations are formed Customer satisfaction is a better predictor of behavioral intentions A strong mediating role was found, confirming that it is important to measure customer satisfaction separately from service quality when trying to determine customer evaluations of service	explored The model measures behavioural intention rather than actual behaviour Needs to be generalized for different service settings
SQ15. Internal service quality model	The perceptions and expectations of internal customers and internal suppliers play a	Need to be generalized for all types of internal environments Effect of changes in

	major role in recognizing the level of internal service quality perceived	external environment on model is not considered
SQ16. Internal service quality DEA model	Indicates the resources, which can be better utilized to produce higher service quality levels	Does not provide the measurement of service quality Model ignores other bank performance measures
SQ17. Internet banking model	Implication for the management of quality in internet banking service arises in two areas a) within the service interface and b) with the management of increased customer role The level and nature of customer participation had the greatest impact on the quality of service experience and issues such as customers' "zone of tolerance" and the degree of role understanding by customers and perceived service quality	Not much empirical work carried out The model is based on the experience of one web site only, needs to be validated with other experiences

SQ18. IT-based model	IT-based services have a direct impact on the reliability, responsiveness and assurance dimensions and an indirect impact on customer satisfaction and perceived service quality IT can help service providers achieve higher level of customer satisfaction The customer evaluation of IT-based services is affected by preference towards traditional services, past experience in IT-based services and perceived IT policies	Fewer number of items chosen to measure the feeling of self-control and comfort in using IT-based services Does not provide a measure of service quality of IT-based transactions
SQ19. Model of e-service quality	It provides a better understanding of e-service quality and, therefore, to achieve high customer retention, customer satisfaction, and profitability	Exploratory study Model did not provide specific measurement scales No statistical analysis carried out

	This e-service quality model can be of assistance to all companies that engage e-commerce or plan to do so	

TABLE2. SALIENT FEATURES OF SELECTED SERVICE QUALITY MODELS

S/ no.	**Categ o -ry of model**	**Author(yea r)**	**Model**	**Respondent/te st audience**	**Method of data collection**	**Scale used**	**Method of analysis**	**Measurement of service quality addressed through**
SQ 2	A	Parasurama n et al. (1985	Gap model	Ranged from 298 to 487 across companies/tele phone co., securities brokerage, insurance co., banks and repair and maintenance)	Survey questionnai re approach	Seven-point Likert	Principal-axis factor followed by oblique rotation	* * Ten dimensions (reliability, security, Responsivenes, access,communi -cation, tangibles, courtesy, credibility, competence, understanding/kno wing)

SQ 4*	-do-	Brogowicz et al. (1990)	Synthesized model of service quality	- -	*	*	Analysis not reported	Through technical and functional quality defining planning, implementation and control tasks
SQ 5	-do-	Cronin and Taylor (1992)	Performance only model	660/banking, pest control, dry-cleaning and fast food	Survey questionnaire approach	Seven-point semantic different i-al	Principal-axis factor followed by oblique rotation and LISREL confirmatory	22 items same as SERVQUAL but with performance only statements
SQ 7	-do-	Teas (1993	Normed quality and evaluated performance model	120/randomly selected from discount stores	Personal interview	-	Qualitative assessment, correlation and t-test	Limited subset of SERVQUAL items (two items each of five dimensions)
SQ 12	-do-	Sweeney et al. (1997):	Retail service quality and perceived	1,016 respondents/electrical appliances	Survey questionnaire method	Seven-point semantic different	Confirmatory factor analysis	Functional quality through five SERVQUAL items and

			value model	stores		ial scale	using LISREL VIII	technical quality through one SERVQUAL item
SQ 14	-do-	Dabholkar et al. (2000)	Antecedent mediator model.	397 undergraduate and postgraduate students	Telephonic interviews (conducted twice)	-	Regression structural equation modeling using LISREL	Through measurement of reliability, personal attention, comforts and features
SQ 5	-do-	Frost and Kumar (2000)	Internal service quality model	724 at different levels/Singapore airline staff	Personal interview and questionnaire	Seven-point Likert	Principal component factoring, reliability coefficient and split half coefficient	SERVQUAL dimensions
SQ 16	-do-	Soteriou and Stavrinides (2000)	Internal service quality DEA model	194 responses/26 bank branches	Survey questionnaire approach	-	Data envelope analysis	Measurement of perceptions of customers using SERVQUAL-based instrument

SQ 18	-do-	Zhu et al. (2002)	IT-based model	185/bank customers (with past experience of using IT-based service options like ATM, 24 hr call line etc.	Survey questionnaire approach	Seven-point Likert	Factor analysis and structured equation modeling using LISREL VII	SERVQUAL items with perceptions only statements
SQ 1	B	Gronroos (1984)	Technical and functional quality model	219/bank, insurance, restaurants, shipping, airline companies, cleaning and maintenance, car rental companies, travel agencies and a range of institutes from public sector	Survey questionnaire approach	Five-point Likert	Basic statistical analysis (information compilation and presentation)	Functional and technical quality

SQ 3 *		Haywood-Farmer (1988)	Attribute service quality model	-	*	Analysis not reported	Analysis not reported	Physical facilities and processes, people's behaviour and conviviality, professional judgement
SQ 6		Mattsson (1992)	Ideal value model	40 guests while checking in and checking out/two large luxury hotels	Survey questionnaire approach	Seven-point Likert	Pearson moment correlation, pairwise intraand inter-sample median test and Chi square test	Through 18 items of value and nine items of customer satisfaction
SQ 8		Berkley and Gupta (1994)	IT alignment model	-	*	*	Analysis not reported	The model does not cover the measurement of service quality
SQ 9		Dabholkar (1996)	Attribute and overall	505 undergraduate students/fast	Scenario and questionnai	Seven-point Likert	Confirmatory factor	Through three items measuring expected

			affect model	food setting	re approach		analysis and structure d equation modeling using LISREL VII	service quality specifically of ordering situation
SQ 10		Spreng and Mackoy (1996)	Perceived quality and satisfaction model	273 undergraduate students	Survey questionnai re approach	Seven-point Likert	Confirma tory factor analysis and structure d equation modeling using LISREL	Through desires, perceived performance, expectations and desired congruency (each comprising ten attributes)
SQ 11 *		Philip and Hazlett (1997)	PCP attribute model	-	*	*	Analysis not reported	Pivotal attributes, core attributes and peripheral attributes
SQ 13		Oh (1999)	Service quality, customer	545/two luxury hotels	Survey questinnair e approach	Six-point	Path analysis using	Through single item for perceived price and

			value and customer satisfaction model				LISREL VIII	eight items for perceptions for hotel settings
SQ 17		Broderick and Vachirap--ornpuk (2002)	Internet banking model	160 incidents on 55 topic episodes posted/UK internet web site community	Participant observation and narrative analysis Qualitative approach	-	Qualitative approach	Through service setting, services encounter, customer expectation and image
SQ 19		Santos (2003)	E-service quality model	30 focus groups comprising six to ten members	Focus group interviews/ discussion		Qualitative analysis	Through incubative and active dimensions

Notes: *Mainly conceptual models, not tested /validated; Category A: Gap model/SERVQUAL-based; Category B: other models; * *later in 1988 and 199 1the authors proposed and revised 22-item, five-dimension service quality measurement tool SERVQUAL.

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Library and Information Science Education in Anglophone Africa: Past, Present and Future

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Abstract

The paper provides an overview on the evolvement of library and information science (LIS) schools on the African continent from the colonial period to the present and predicts their future. It was found that the earliest schools started in South Africa, moving all the way through West Africa to East Africa. The curricula used in the schools were based on programmes prevailing in LIS schools in the mother country. UNESCO played an important role in the development of library schools. It came up with the concept of regional library schools. Public and academic library libraries were instrumental in agitating for the establishment of the schools. With the onset of independence on the continent, the idea of regional library schools died leading to self-sufficiency. Presently, LIS schools mushroom on the continent. It is argued that if this trend is not checked, it could have a serious effect on the quality of the graduates. It is concluded that the future of LIS education will depend on how the library profession is marketed.

Keywords

Africa, East Africa School of Librarianship, Library and information science education, library schools, library education

INTRODUCTION

This paper provides an overview of the development of Library and Information Science (LIS) education on the African Continent. However since it is next to impossible to cover the entire continent, the discussion will be confined to the English-speaking part of Africa. The reason being that librarianship and in particular, LIS education on the continent has been influenced by the situation in the countries that colonised Africa. Each colonial power approached librarianship differently and this greatly affected the discipline in the colonies, Africa inclusive. In terms of library development, Africa can be divided into four language blocks, namely, Anglophone, Francophone, Arab, and Lusophone.

LIS EDUCATION IN THE PAST

Until after independence, LIS education in most African countries was more concerned with training in librarianship. LIS education aimed at producing competent librarians to manage all types of libraries in the country. Other information related disciplines such as documentation, archives and records management were relatively unknown and where they existed, they were not accorded prominence. Librarianship in Africa owes its origin to colonialism. Colonialism introduced reading and writing among the indigenous people. Until then, the two activities were alien. Colonial governments introduced western education which entailed among others, reading and writing. In an attempt to boost the two activities, a need was felt to provide the new literates, information materials basically books to further their reading and writing skills. The best institution to offer this service was nothing other than public libraries.

In addition to the above, institutions of higher learning, too, sprung up to provide education and training essential in the development of the new colonies. Most of these institutions had libraries which needed to be adequately staffed. The majority of the librarians manning these libraries were expatriates who were also required in the mother country. Their tenure could therefore not be guaranteed.

In an attempt to develop the colonies in an effort to ensure its sustainability, the governments endeavoured to set up departments and organizations to exploit the economic potential. As a result, research and other specialized organizations were established to realize these objectives. Most of these organizations set up libraries to provide the necessary back up. This development led to the proliferation of special libraries in the colonies that equally required trained library personnel.

In some colonies, the government established schools to provide primary and secondary education to the white residents. Most of the schools were modeled on the curricula prevailing in the mother country which emphasized, among others, well resourced libraries. In South Africa, Zimbabwe and Kenya, a number of these schools were established. These schools like other organizations and institutions mentioned earlier, had to scramble for the limited supply of librarians emanating from the mother country.

To promote reading culture, books had to be made available. Since books were fairly expensive to an ordinary person, libraries became necessary. As more libraries were established on the continent to provide information support, a need was expressed for trained librarians to run the services. Initially, the early libraries were manned by expatriate librarians educated in the west. However, with increased demand for librarians both in the colonies and mother countries, it became obvious that overseas training could not sustain this heavy demand. Something had to be done to train librarians locally.

The above situation was made worse with the departure of expatriate librarians immediately after independence. Many librarians left because the independent states could not continue supplementing their salaries. Others left because of the security situation in the host countries.

It was therefore felt that the only way to accelerate development of libraries in Africa was to establish local training facilities. In addition, it was argued that overseas programmes did not meet the needs of African states because of the kind of environment the trainees went through. A local facility would address the manpower needs of African states compared overseas programmes. It was argued that while some people will, and must continue to be sent abroad for leadership training for some time to come, and some foreign librarians will, and must, continue

to provide essential library leadership here, it is important that leadership-level training of professional librarians for Africa be provided in Africa.

In South Africa, LIS education programmes started as early as 1933. The South African Library Association (SALA) started a librarianship course on correspondence basis modeled on the English system. The graduates of this programme were awarded an Associateship of the Library Association (ALA). In 1952, the course was taken over by the University of South Africa (UNISA) and formed part of UNISA's distance learning programmes. In 1938, the Department of Librarianship was started at the University of Pretoria. It initially offered a diploma programme in librarianship. In 1951, bachelor's and master's degrees were started in librarianship. In 1939, the University of Cape Town followed (Hood 1962). The need for LIS education programmes in South Africa emanated from university, college and public libraries.

In addition to the above institutions, other universities sprang up to offer librarianship education. Among these were Potchefstroom, Stellenbosch, Witwatersrand and the University of Western Cape. Despite the big number of universities offering librarianship at this time, only a handful including University of South Africa allowed black South Africans access to their programmes.

In East and West Africa, it was public than any other type of libraries that pressurized governments to establish LIS education programmes in the 1960s. In East Africa, a number of public libraries existed that expressed demand for trained librarians. The East African Literature Bureau established in 1948 had established three libraries in the three capital cities in the region. The British Council, too, had libraries in the three cities. In addition, other institutions of higher learning existed in the region. These included, Makerere University College, Royal Technical College, Egerton College and a handful of research institutions run by the then East Africa High Commission, a predecessor to the former East African Community. The need for a local training facility was also supported by a British library consultant in 1960 (Hockey 1960).

In West Africa, the British Council had established libraries in most of the British colonies. Nigeria, for instance, had two branches each in Ibadan and Enugu. Higher institutions of learning also existed in the region.

In Ethiopia, library education started in 1956 but became fully developed in 1960 (Pankhurst 1989).The programme was based at the University of Addis Ababa. Like in Anglophone-

speaking countries, library education was started at diploma level. In 1988 a bachelor of arts degree was introduced to meet the growing needs for personnel with this qualification.

In 1990 a regional postgraduate programme was started at the University of Addis Ababa to complement the BA programme in library science. The programme, Master of Science in Information Science was run by a new school, the School of Information Science for Africa (SISA). SISA was initially funded by Canada's IDRC. It was hoped that the Ethiopian authorities would take over the running of the programme after IDRC exited. This did not however work out and when the initial funding ended, the programme, too, came to an end. During the few years it existed, the school provided training in information science for a number of people in the East African region.

The role of Unesco in the establishment of LIS education programmes.

Unesco played a leading role in the establishment of LIS education programmes in Africa and in particular, Anglophone Sub-Saharan Africa. The pressure emanated from public libraries. Unesco was convinced that illiteracy in sub-Saharan Africa could only be eradicated with support of libraries.

A number of regional seminars was held between 1953 and 1963 on the African continent to sensitize colonial governments on the need to establish public libraries in their colonies to speed up socio-economic development.

In an attempt to develop public libraries in Africa, a need was felt to establish library schools to provide adequate manpower to staff the libraries. As a result, library schools were established in Ghana, Nigeria, Uganda, Senegal, Algeria and Egypt. Since it was not cost effective for each state to establish its own library school, Unesco recommended setting up of regional schools to cater for the states in the region. In addition, it proposed that library schools be affiliated to universities. This was a departure from the practice in Britain where LIS education programmes were conducted outside university. It was felt the affiliation will improve the quality of the graduates. The result was the establishment of the following library schools to serve their respective regions:

a) Ghana Library School to serve the English speaking countries of Ghana, Nigeria, Sierra Leone and Gambia.

b) East African School of Librarianship to serve Uganda, Kenya, Tanganyika, Zanzibar and Mauritius

c) Library School in Dakar in 1960, Senegal to serve Francophone states of Senegal, Ivory Coast, Dahomey, Gabon, etc.

d) Library School in Algiers to serve the Arab North.

South Africa was not considered simply because it had ceased to be a member of Unesco in the 1950s and 1960s; and partly because it was self-sufficient in manpower training.

Establishment of Ghana Library School

Library training started at Achimota college in Ghana in 1945 with assistance from the British Council. The students studied for the Associateship of Library Association (ALA). This was considered an equivalent qualification to university diploma offered in some universities at that time. It was a two year programme. Being a regional programme, it catered for the needs of Ghana, Nigeria and Sierra Leone. Following the move by Nigeria to start its own school at the University College in Ibadan, Ghana opened its own school in Ghana in 1960 which was affiliated to the University College of Ghana.

Establishment of Library School at Ibadan, Nigeria.

The postgraduate Diploma programme was started in 1960 with the assistance of Carnegie Corporation of New York. The applicants were required to hold a undergraduate degree from a university. Most students came from Nigeria and a few from other English-speaking states of Africa. The postgraduate programme was geared to meet the high level manpower needs of university and public libraries in the region. This school has since advanced to incorporate both undergraduate and postgraduate programmes. A number of leading scholars in Nigeria have had their programmes at Ibadan. It is considered by many Nigerians as the mother of LIS education in the country.

Establishment of the East African School of Librarianship (EASL)

Until 1963, practically all LIS education programmes were conducted overseas, mainly in Britain. The people who were privileged to pursue these programmes studied for the ALA qualification. Towards independence in the early 1960s, there were very few trained librarians in the region. However with more libraries coming up in the region, a need was felt for the establishment of a regional library school. In 1963 the East African School of Librarianship was established at then Makerere University College, a constituent college of the University of East Africa (Saith 1973). The school was set up with financial assistance of Unesco (Abidi 1980). It was charged with training of library personnel for the entire East African region. The school started with two programmes: a certificate in librarianship course started in 1963 and lasted six months; and a diploma in librarianship course started in 1965 and lasted two years. During its early beginning, the diploma course was equated to the British ALA qualification. The graduates were considered information professionals and in some countries such as Kenya, the diploma holders were put at par with university degree graduates. In 1977, the school instituted a postgraduate course lasting one year to cater for managerial positions in large libraries such as university and public libraries.

As the school had the mandate to train from the three East African states, each state was allocated equal slots on the course. In 1971, when Idd Amin took over the reign in Uganda, his rule had a serious effect on the academic programmes in Uganda. A number of academic staff and students left the country. The school was no exception. In 1976 Kenya withdrew all her students from Makerere. From that time on, EASL ceased to serve as a regional training ground for librarians.

Programmes offered in regional schools

The majority of the courses were pegged on the programmes prevailing in the mother country. In Anglophone Africa, the programmes offered were at non-degree level, essentially, the ALA qualification for people with either first degree or non-degree holders. Fellowship of the Library Association (FLA) was an advanced qualification. It was equated to a masters degree. Later, diploma programmes were introduced in universities.

In the US, LIS education was offered at degree level in universities. Those who trained in the United States, did the programme at postgraduate level and obtained a masters degree in library science (MLS). The majority were employed in university libraries.

Most staff manning libraries in Anglophone Africa was trained in Britain.

Concept of regional library schools

Reasons for regional schools:

a) **Scarcity of students.** There were few people working in libraries in need of these papers. Furthermore, the number of people taking up places in universities was too small. The few who went to universities opted for high profile courses such as law, medicine, agriculture and engineeri*ng*. No person wanted to be associated with shelving and stamping books, a perception associated with librarianship*!* Equaly, there were fewer libraries to warrant self-sufficiency in this area.

b) Inadequate lecturers to serve the schools. There was serious shortage of staff to serve as lecturers in universities. The few that existed were expatriates who could not be relied upon. Even the mother could not guarantee a steady supply of qualified staff.

c) **Need to maximize donor funding from organizations such as Unesco, Rockfeller, Ford, etc**. Most of the library schools were established through funding coming from more than one source. Since donors were fewer, it was more appropriate to establish regional programmes to maximise on donor funding. Donors, too, supported this approach.

d) Scarcity of funds. Few states had the financial ability to start their schools. It was more appropriate to pool the resources together to make the programme more cost effective. Even with the concept of regional schools, few states contributed to the programme. At the East African School of Librarianship, for instance, the partner states did not contribute a penny to the programme leaving Makerere University to foot the cost of hosting the programme.

Failure of the concept

a) The need for self-sufficiency in manpower development. Some states did not like the idea of sharing resources. Nigeria, for instance, pulled out from the regional programme to start her own school at the University College in Ibadan. We believe she had the resources to go it alone.

b) Distance. Geographical or distance from the nearest regional institution as the case between Nigeria and Ghana making it hard to access LIS education programmes. In West Africa, there was the case of distance. To access Ghana from Nigeria, one had to pass through two French speaking countries.

c) Political instability and ideological differences characteristic of the 1970s. This period was characterized by many events. Among these is the Idd Amin rule in Uganda which greatly affected security in the country. Hundreds of lives were lost. Hundreds of people became refugees. In addition, the ideological differences make it hard for regional states to agree on joint projects. This was made worse by the cold war characteristic of the 1970s.

d)Failure to accept changes. Failure to adapt to changes in the information profession, eg. sticking to diploma programmes even when the situation has changed. For instance, it was not until 1989 that EASLIS started a degree programme long after a similar programme had started at Moi University in Kenya. It is argued that had EASLIS started an undergraduate degree earlier, possibly in the late 1970s, the programme at Moi University would have taken a bit longer to start.

e) The high demand for library professionals in regional states making it harder for regional schools to address them.

PRESENT SITUATION

Presently, library schools mushroom in many states. Nigeria has by far the largest number of library schools on the African continent followed by South Africa, Kenya, Uganda and Ghana. The rest of the states have at least a school each. Although Nigeria can boast of the largest number, the quality of the programmes offered varies markedly from one school to another. Much of the curricula in these schools is not based on any serious market survey. South Africa has perhaps the best schools, a majority that have undergone serious quality checks where quality and not quantity is used to benchmark them.

In East Africa, Tanzania has the least number of LIS schools.

Establishment of LIS Schools in East Africa

a) LIS schools in Uganda

Uganda has established a number of LIS schools. Among these are:

East African School of Library and Information Science (EASLIS)

EASLIS formerly EASL, was established in 1963 with a certificate programme in librarianship lasting six months. Students were solicited from the entire East African region. Diploma programme lasting two academic years for holders of Advanced level school certificate or holders of a certificate course in librarianship was started in 1965. Unesco was instrumental in its establishment. During its early beginning, the school was run by the Council for Library Training in East Africa (CLTEA) in collaboration with Makerere University (Kigongo-Bukenya and Musoke 2011). CLTEA comprised heads of national public library networks and university libraries in East Africa. It acted as a policy formulation body for the school.

The problems at EASLIS

The school faced a number of problems during its early beginning. Among these were:

a) financial provision for the school. The school relied heavily on external assistance. Regional states were too reluctant to assist until Makerere took over the school in 1970.

b) space was a major problem at the beginning until a new building was put up for them in 1971 with funding from the Swedish Government.

c) the security problem in Uganda from 1971 discouraged regional states from sending their students to the school.

d) shortage of staff arising from the exodus of expatriate staff from 1972 seriously affected teaching at the school.

The weakness of the Makerere diploma programme:

a) It lacked continuity. Although the diploma programme admitted people with minimum university entry qualifications, it was a terminal qualification. Graduates of the programme were unable to continue with higher education in LIS education unless they enrolled for another undergraduate degree. In Tanzania, Kaungamno (1979) cited a case where a staff from TLS on scholarship in Australia had to re-do the programme to qualify for a BLS degree. To make the matter worse, instead of upgrading the diploma programme after a public outcry in East Africa, Makerere worsened the situation by introducing a postgraduate diploma programme to address the needs of university libraries.

b) It was considered a para-professional programme. Until mid 1980s, the Makerere diploma was considered a professional qualification. Later, it was downgraded to a para-professional qualification. This development seriously affected its marketability in the region (Otike, 1989). With the exception of Makerere University which employed its graduates as senior library assistants, other universities in the region did not employ them. Instead they opted to employ fresh graduates, send them overseas for postgraduate training and engage them as assistant librarians on completion. University librarians considered the Makerere diplomates as para-professionals suitable to work in public and special libraries.

c) The conservative attitude of the school management. Despite the concern expressed by professionals in East Africa, the school did not introduce an undergraduate degree programme until 1989 long after other LIS schools in the region had been established. By the time an undergraduate bachelor of library and information studies (BLIS) was started, a number universities in the East African region had started LIS education programmes both at bachelors and postgraduate level with far more superior programmes. Among these were the School of Information Sciences at Moi University, Department of Library Studies at the University of Zambia, Department of Library and Information Studies at the University of Botswana and Department of Library Science at the University of Addis Ababa. Since then, EASLIS has not been able to reclaim the regional market it commanded in the 1960s.

The school has since recovered from some of the problems mentioned and presently has programmes ranging from undergraduate to doctorate programmes.

Since then, a number of LIS schools have been established in Uganda. Among these are:

a) Kyambogo University,

b) Uganda Christian University

c) Kampala International University.

d) Kabale University

e) Ndejje University

b) LIS Education in Kenya.

Kenya has perhaps the highest number of LIS schools in the region. Among these are:

i) Moi University

ii) Egerton University

iii) Kisii University College

iv) Laikipia University College

vi) Kenyatta University

vii) Kenya Polytechnic University College

Among private universities, Kenya hosts the following schools:

i) Inoorero University

ii) Kenya Methodist University

iii) Mount Kenya University

Among LIS schools in Kenya, the School of Information Sciences, Moi University at Eldoret has by far the most superior and established information related programmes in East Africa. It has an academic establishment of over 40. Out of this number, 15 are PhD holders. Its programmes range from BSc to PhD degree in information Sciences. These programmes are offered in the following specialised disciplines:

i) Department of Library and Information Studies

ii) Department of Records and Archives Management

iii) Department of Publishing and Media Studies

iv) Department of Information Technology

In addition to local students, the school receives a great number of students annually from many African countries, namely, Tanzania, Rwanda, Zimbabwe, Botswana, Namibia and South Sudan.

LIS education in Tanzania.

Tanzania has the least number of LIS schools. Tanzania has tended to rely to some extent, on LIS schools in her immediate neighbourhood to complement what she has. Among the schools are:

a) University of Dar-es- Salaam. Dept. of Information Studies. The department carries out both masters and doctorate programmes in LIS

b) Tumaini University, Dar-es-Salaam. This is a private university sponsored by the Lutheran Church. It is the only institution providing undergraduate programmes in the country.

c) Library School at Bagamoyo. This school is run by the Tanzania Library Service.It offers both certificate and diploma programmes in LIS. The programme is not accredited by any university in the country.

Effects of mushrooming of LIS education institutions

The proliferation of LIS schools has both positive and negative effects. It enables as many people as possible to access LIS education. People in distant areas are likely to be reached. The negative side is that if this trend is not checked, it can affect the quality of the graduates. This practice is prevalent in private institutions where lecturers are advised to minimise on the number of failures as this is likely to discourage potential students.

Another effect is the branding of institutions by employers. With diminishing employment opportunities in the future, potential employers are likely to prefer products from institutions

they feel meet their need. This development can lead to blacklisting of some institutions. If a graduate does not come from an institution of the employer's choice, then he cannot be employed (Otike 2007).

The quality of library services is likely to diminish and this could affect the ability of libraries to market themselves.

Change from Library to LIS schools:

As stated elsewhere, library schools have had to review their programmes to include other related programmes such as archives and records management, information technology, publishing, knowledge management, etc. Among schools that have pioneered in this direction include Moi University School of Information Sciences, EASLIS, University of Pretoria, KwaZulu-Natal and University of Zululand. Some schools in South Africa have moved away from library science to the area of knowledge management (Ocholla and Bothma,(nd).

Reasons:

a) To keep abreast of changes taking place in the information field. Most schools offering LIS education used to be known as schools of librarianship, or simply, library schools. This name used to be very restrictive. The revision of the name to incorporate library and information studies or library and information science allows other disciplines to be brought on board such as archives and records management as the case of Botswana. EASLIS at Makerere has brought on board the third discipline, publishing. Previously, it was known as the East African School of Librarianship.

b) To remain competitive. This has been brought about by the increasing number of schools. A number of LIS schools are coming up with more modern descriptions such as schools of information management, information science, department of knowledge management, etc. These descriptions appear to appeal to the youth. In Kenya, for instance, two new schools have come up with these names and are attracting a number of students: Schools of Information and Knowledge Management at Kisii University College; and Kabianga University College.

c) Dislike for librarian. Many young librarians do not like the term, "librarian." To them librarian is a term closely associated with shelving, stamping and issuing out of books. They

argue that the kind of work they do does not justify this description. They are more comfortable with new terms such as information manager, information specialist, documentalist, knowledge manager, etc.

Current trends in LIS education

LIS programmes have become more sophisticated in line with market demand. Latest concepts have been incorporated in the LIS curricula. These include:

i) Information and Communication Technology. Libraries are seeking graduates who are IT compliant in line with the concept of libraries without walls. The paperless society is knocking at our door!

ii) Emphasis on multi-media. The print media is no longer the centre of attraction. Modern libraries require graduates who can handle all forms of media. In many schools, the curricula have been reviewed to address this challenge.

iii) Concept of knowledge management. LIS education now includes knowledge management. However, there is need to investigate this issue to ascertain the present and future demand for graduates of knowledge management.

iv) Need for distance education in LIS. We must complement the effort of UNISA by incorporating the programme in our curricula. Kenyatta University in Kenya has ventured into distance learning. This development should be followed by other schools in an effort to take LIS education to remote areas of the continent.

THE FUTURE

The future of LIS education will greatly depend on many factors:

a) Changes taking place in the information field. These will be influenced by new concepts and innovations.

b) Changes in technology. New technologies are occurring every. LIS education curricula will need to adapt to these changes.

c) Support for the information profession. This will greatly depend on the perception of policy makers towards information and for that matter, the information or library profession. Policy makers have a great influence on the information profession. This will greatly depend on how they perceive information.

d) The attitude of the youth towards the library profession. How the youth will perceive the library profession. Do they love the library profession?

d) The future will also depend on how the library or information profession is marketed.

- Do we market our profession?

- Are we happy to be librarians?

- Did we receive a call into the library profession the way nurses or nuns receive?

- Did we take up the profession simply because we missed out on the preferred choices?

If most responses to the above questions are positive, then we can happily say, the future for LIS profession and for that matter, LIS education is bright.

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An Overview of the Diffusion of Information and Communication Technologies (ICTs) in the Informal Sector in Kenya

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Abstract

The informal sector plays a key role in the economic contribution of developing countries, through creation of jobs, production and supply of affordable goods and services as well as in the reduction of poverty. However, the sector faces many challenges which include limited access to markets, finance, and lack of familiarity and access to new and changing technology. The overall purpose of this paper is to report on the diffusion of ICTs in the informal sector in Kenya by showing the access, use and impact and their potential to the sector. The study largely used a combination of quantitative and qualitative approaches.The survey research method was used to collect primary data through the use of structured and unstructured questionnaires. The questionnaires were used to collect data from a sample of 390 MSE workers comprising of owner managers and selected employees. Data was obtained from different clusters of MSEs comprising retail clothing stalls, footwear, electronics, curios and crafts and hardware shops in Nairobi and Central provinces. The study found that poor business performance of the MSEs does not endear them to access and use of computer-based ICTs, rather they have mainly ended up using the relatively inexpensive mobile phone technology. Furthermore, with the exception of the mobile phone, there is low use of ICTs by the MSEs due to their poor performance and small size. The paper provides useful information, observations and recommendation for the development of the sector in Kenya.

Keywords: Informal sector, information and communication technologies, ICTs diffusion, Kenya

1.1 INTRODUCTION

Although Information and Communication Technology is the catalyst for large and modern businesses in the world it is poised to take a leading role in the informal sector as well. The purpose of this paper is to report on a recent study that investigated the diffusion of ICTs in the informal sector in Kenya. Many research studies have been carried out in Kenya on the informal sector by, e.g. Lundval et al. (2001), Bigsten and Duverall (2004), Kimuyu (1997), and Ongile and McCormick (1996), to name a few, but little has been covered on the diffusion and potential of ICTs in the informal sector. Opiyo and K'Akumu (2006) have researched ICT application in one market centre in Nairobi where the focus was on the spatial design of buildings which would enable businesses to share ICT infrastructure. Migiro (2006) carried out research on the diffusion of ICTs and e-commerce adoption, specifically in the manufacturing sector. The two research studies have focused on specific and specialised areas of ICT and the informal sector in Kenya, and are not applicable to a wide range of informal sector enterprises that exist in Kenya.

1.1 Informal sector

The informal sector, otherwise referred to as Micro and Small Enterprises (MSEs) or Small and Medium Enterprises (SMEs) (Ikoja Odongo 2002:10), is a prevailing reality in many parts of the world that cannot be dismissed. MSEs or SMEs do not have a universal definition. Existing definitions are based on size, personnel, capital, nature and status of employment, activities, skills requirements, in accordance with organizational and operational regulations, and locational terminologies (Mutula and van Brakel 2006:402; Barasa and Kaabwe 2001:332; Ikiara 1991:310). In Kenya, for example, the term 'micro enterprises' is commonly used to refer to either enterprises with one to five employees, or to those with one to nine employees (Migiro 2006:35; Opiyo and K'Akumu 2006:243). The Kenyan government has defined the informal sector as "enterprises comprising between 1–50 employees and up to Kenya Shillings 5 million in turn over" (GOK 1989:164).

There are more micro and small enterprises than there are medium enterprises in the Kenyan industrial sector (GOK 1992:4). Figures for the United Kingdom, as indicated by Ramsey et al. (2003:262), are 1-9 employees for micro enterprises, 10-99 employees for small enterprises, and 100-250 employees for medium sized enterprises. The European Union has referred to SMEs as those with fewer than 250 employees, which is also adapted for use in the United Kingdom (Ritchie and Bridley 2005:206). We use one to nine employees in our definition of MSEs, because 1-5 employees would have limited the study to only very small enterprises and denied the inclusion of others that are also part of the sector.

According to Bangasser (2000:8), the concept of the 'informal sector' was first formally recognized and popularized in a study that was carried out by the International Labor Office (ILO) in Kenya in 1972. More holistically - in a report of the ILO's Director General (1991:3-4)- the definition of the informal sector is penned as:

> …very small scale units producing and distributing goods and services, and consisting largely of independent, self-employed producers in urban areas of developing countries, some of whom also employ family labor and/or a few hired workers or apprentices; which operate with very little capital, or none at all; which operate a low level of technology and skills; which therefore operate at a low level of productivity; and which generally provide very low and irregular incomes and highly unstable employment to those who work in it. They are informal in that they are, for the most part, unregistered and unrecorded in official statistics; they tend to have little or no access to organized markets, to credit institutions, to formal education and training institutions, or to many public services and amenities; they are not recognized, supported or regulated by the government; they are often compelled by circumstances to operate outside the framework of the law, and even where they are registered and respect certain aspects of the law, they are almost invariably beyond the pale of social protection, labor legislation and protective measures at the workplace.

It is estimated that 8,332,000 persons were engaged in informal sector economic activities in 2009 in Kenya, an increase of 4.9% from 2008 (GOK, 2010:78). The informal sector created 390,400 jobs, which constituted 87.6% of all the jobs created in the year 2009, while the formal sector contributed only 55,500 jobs (GOK, 2010:69). Despite this, enterprises in the informal sector continue to operate in a difficult and mainly under serviced environment with limited capital and the use of simple technologies.

1.2 Information and communication technology

Rao (2004:261) has defined ICTs as the set of artifacts that facilitate the capture, storage, processing, transmission and display of information by electronic means. Positively, ICTs are viewed to offer remarkable opportunities for the alleviation of poverty and the creation of employment and have the potential to expand a country's economy by making economic enterprises more accessible to local and global markets, improving access to market information, providing information for better and competitive prices, as well as lowering transaction costs (Rao, 2004:261; Shiel et al., 2003:312). They can also be exploited by small enterprises to create a list of contacts and to make use of available information to start and sustain new business ventures. For example, Moyi (2003:222) and Shiel et al. (2003:312) note that they have the potential to link small sellers and buyers to the daily market prices of commodities in different places, giving them the potential to change their negotiating power for the better. Cohen and Kallirroi (2006:45) agree that information and communication technologies can radically change the competitiveness of organizations, and note how electronic commerce has reduced the cost of trading among companies and also helped to tighten their relationships and collaboration.

ICTs can contribute to economic development by improving transport efficiency, facilitating the distribution of economic development. ICTs have become an important feature in the global transformation of social, economic and political life (Migiro 2006:40; Donner, 2004:4; Hafkin 2001:1). They have already reduced the cost of conducting business in many parts of the world. The internet especially is liberating because it enables businesses to access global markets (Opiyo and K'Akumu 2006:243). ICTs have thus played a vital role in changing approaches to business by making it possible for business enterprises worldwide to establish direct links with

customers, suppliers, and distributors, and thus facilitate faster and more efficient service delivery and transactions (Castells 1999:3; Amoako 2000; Hafkin, 2001:1). But as Shiel et al. (2003:312) have observed, although MSEs and SMEs form a substantial constituency of the global economy, there is limited knowledge available surrounding their adoption of ICTs.

The lack of familiarity with new and changing technology, awareness, skills and understanding of ICTs are some of the challenges faced by the informal sector enterprises (Mutula and van Brakel, 2006:404) Opiyo and K'Akumu, 2006:244). In Kenya for example, Opiyo and K'Akumu (2006) and Orwa (2007) have observed that informal sector businesses largely operate with hardly any ICTs like fax machines, email or the internet, and the same has been observed in Uganda (Ikoja-Odongo and Ocholla, 2004:54). These challenges are responsible for the lack of sustained growth in the sector in Kenya (Migiro, 2006:25; Opiyo and K'Okumu 2006). The global technological change in ICTs offers the informal sector an opportunity to tap into international markets, but the workers in the informal sector have to first embrace change and new ways of doing things if they are to benefit from the kind of opportunities offered by ICT use (Hafkin 2001:1).

The question therefore is whether the micro and small enterprises in Kenya and other developing countries, which operate under very difficult conditions and which function more as survival outfits than profit-making organizations, will experience the paradigm-shifting technological change that has been experienced in the developed countries.

2. Purpose of the Study

The overall aim of the study was to investigate the diffusion of ICTs in the informal sector in Kenya. In this paper we attempt to answer the following research questions: What is the level of ICT use in the informal sector in Kenya and what is their impact? What types of ICTs are being used in the informal sector in Kenya? Which subsectors are using ICTs in the informal sector in Kenya and what is their impact? What are the problems or challenges that block the awareness and use of ICTs in the informal sector in Kenya? What is the role of

government in creating the necessary infrastructure for the use of ICTs in the informal sector in Kenya? What strategies, suggestions and recommendations can be made towards the use of ICTs in the informal sector in Kenya?

3. Methodology

The study specifically focused on micro and small enterprises (MSEs) in two provinces in Kenya, namely Nairobi Province and Central Province.

Information for the study was gathered through literature review, a field survey, and personal observation. Structured and unstructured questionnaires were used to solicit information from micro and small enterprise workers drawn from the two provinces. A combination of purposive and probability random sampling was used to generate the sample frames of MSE clusters and respondents respectively. The sample of respondents for Nairobi province was drawn from the central business district in the city of Nairobi, two markets (Gikomba market and Kenyatta market) and a horticultural products' depot next to Jomo Kenyatta International Airport in Nairobi Province. Two urban centers and two market centers were selected from Central Province, namely Kiambu and Thika towns and Kabati and Makutano market centers in Muranga District.

Questionnaires were administered to a sample of 390 MSE workers comprising of owner/managers and selected employees. For each enterprise in the sample, the questionnaire was administered to the owner/manager or a representative employee. The sample was selected using a combination of non-probability cluster sampling and probability random sampling. The areas selected were dominated by clusters of MSEs that included retail shops dealing with garments and footwear, electronic and repair shops, automobile and hardware stalls, grocery shops, and horticultural exporters.

Completed questionnaires were reviewed to determine their usability. Ninety seven percent (97%) (377) of the questionnaires were answered, 1% (4) of the questionnaires were incomplete, and 2% (9) of the questionnaires were not returned.

4. Results

The results are discussed in sections 4.1 to 4.7 below.

4.1. Demographic profile of the respondents

The demographic profiles focused on age, gender and education.

Gender related information as obtained from the 377 respondents indicates that most respondents were between 25 and 35 years of age (47.7%; 180). This was followed by those below 25 years (26.5%; 100 respondents), and the 36-45 age category at (24.7%; 93). The majority of the MSE traders in the study were therefore between the ages of 25 and 45 (over 72%: 273), followed by those below twenty five years (26.5%; 100 respondents). Less than 1% of the respondents were over 45 years old.

The gender composition of the respondents was fairly even with 184 male (48.8%) and 193 female respondents (51.2%).This is consistent with common observations in MSE studies, which show that there are more women in the informal sector than men. For example, Singh and Belwal's (2008:124) study in Ethiopia found that 65% of the informal sector enterprises were owned and run by women. In the same country, Amha and Ageba (2006:306) found even higher figures, with 94% of the females being active owners of MSEs. In five of the nine countries studied by Liedholm and Mead (1999) in Ndemo and Maina (2007:.119), namely Botswana (75% women owners), Lesotho (73%), Swaziland (84%), Zimbabwe (66%) and South Africa (62%), women outnumbered men as owners and operators of micro and small enterprises. The difference between men and women in the current study, however, is minimal, with a 3 percent difference between female and male participants. This suggests relatively more involvement of men in the informal sector in Kenya compared to other related studies.

When it comes to education level, only 7.8% (34) of the respondents were primary school leavers. 48% (182) had attained secondary education and 27.6% (104) were degree or diploma holders. 15.9% (60) of the respondents had acquired post-secondary school training in various disciplines or courses in computer studies, secretarial courses, tailoring, etc. However, most of these respondents were not working in their areas of expertise. The results therefore indicate that a large number of the MSE traders had acquired education up to and above secondary school level and only a small proportion were primary school leavers.

4.2. Level of ownership and use of ICTs by MSE traders

This section is covered in sections 4.2.1 to 4.2.3 below

4.2.1. Ownership and use of ICTs by MSE traders

The ownership and use of ICTs is generally limited. We found that the level of use of ICTs in the informal sector in Kenya was different by categories of MSEs. The use of computers and other related equipment like scanners, printers, the internet and email, was found to be quite low (23%; 87 respondents) and limited to those MSEs which are fairly established and operate from permanent premises. This could be attributed to lack of proper working spaces by the others MSEs, and the fact that they operate from temporary premises which also lacked infrastructural facilities to support ICTs. Their earnings did not enable ownership and use of ICTs like the computer and related technologies like the internet and email. Furthermore, the majority of the MSE traders, with the exception of a few (which were relatively stable and permanent), behaved as if computer-based technological developments had nothing to do with them and/or their businesses, and the questions about the ownership and use computers and the internet seemed irrelevant to them. However, over 98% (372) of the surveyed MSEs reported ownership and use of ICTs, mainly the mobile phone. The adoption and use of the mobile phone was almost one hundred percent in the MSEs studied. The use of ICTs by the MSEs is summarized on Table 1.

Table 1: Types of ICTs being used by the MSE traders

[n=377]

Type of ICT and use n=377	Frequency	Percent
Mobile phone (communication)	342	90.7
Computer and internet (email)	87	23.1
Computer (typing)	59	15.6
Scanner	53	14.1
Fax	43	11.4
Computer (printing)	1	0.3
Computer (record keeping)	1	0.3

Twenty six percent (26% or 96) of the respondents owned a computer, 15.1% (57) owned or used a land line, 4.8% (18) owned a printer, 4.2% (16) owned a scanner, and 2.7% (10) owned a fax machine. Sixteen percent (16%) (59 respondents) reported using the computer for typing, while 23% used it for email. Less than one percent reported using the computer for printing and record-keeping purposes.

4.2.2. Computer Skills

A total of 39.8% (150 respondents) reported that they had employees in their businesses with computer skills and 23.9% (90) reported that all their employees had computer skills. These were the MSEs that were selling or repairing electronics, printing and typesetting, or working in the M-pesa business. 12.2% (46) had only one employee with computer skills, 2.7% (10 respondents) had two employees with computer skills, 1.1% (4 respondents) said several

employees had computer skills, and the majority (60.2%; 227 respondents) reported that they had no employee with computer skills(see Table 2).

Table 2: Number of employees with computer skills in the MSEs

[n=377]

	Frequency	Percent
One only	46	12.2
All employees	90	23.9
Two only	10	2.7
Several	4	1.1
None	227	60.2
Total	377	100

4.2.3. Use of ICTs

The use of mobile money transfer services, especially the pioneering M-pesa mobile money service, has been quickly and widely adopted by MSE workers. Ninety four percent (94%) (357) of the MSEs reported being registered mobile money transfer users. Table 3 shows that they used the service frequently. Mobile money transfer services have simplified financial transactions by saving the time and money that would have been spent on travelling to make orders and payments. The respondents reported that this had made business more efficient, faster and more convenient. The money transfer services also made business operations easier by substituting virtual accounts for cash, which is safer and more convenient as the money remains safe even if the phone gets stolen. Those with bank accounts supplemented them with the money transfer services whose outlets are available for more hours and which can also be used to save small

amounts of money without having to queue at the bank. The money transfer services also created business and employment opportunities through their agencies and outlets across the country.

Table 3: Frequency of use of mobile money transfer services by MSE traders

[n=377]

	Frequency	Percent
Everyday	108	28
Twice a week	20	5
Once a week	91	24
Once a month	17	5
Other	36	10
When the need arises	80	21
No answer	25	7
Total	377	100

4.3. Types of ICTs in use in the informal sector in Kenya

As shown in Table 1, the main ICT being used by the surveyed MSEs was the mobile phone. Computers, scanners and fax machines were used by only a few enterprises. The mobile phone was mainly used (reported by over 90% of the respondents) by the MSE traders for both business and social communication.

The Communication Commission of Kenya Quarterly Sector Statistics Report (April –June 2010/2011) put the total number of mobile phone subscriptions, as of June 2011, at 25.3 million, while mobile phone penetration is 64.2% per 100 inhabitants, with the concentration being in

urban areas. The mobile phone is also heavily used for money transfer services, with 17.3 million registered mobile money transfer subscriptions in the country (for the same period).

4.4. Sub-sectors that are using ICTs in the informal sector in Kenya and their impact

As shown in Table 4, the majority of the informal sector enterprises studied used the mobile phone in the running of their businesses. For instance, over 72.9%(275 respondents) used the mobile phone to order raw materials and goods and services, while 299 respondents (79.3%) used mobile phones to contact customers and communicate with employees when they were away on errands. The respondents also indicated that they used the mobile phone to tell time, as a camera, to surf the internet, as a radio, for mobile money transfer services, and to keep in touch with friends and other family members. From the responses, it is clear that the mobile phone has made a difference to the operations of MSEs. MSEs are able to get their supplies and raw materials faster and more conveniently. The mobile phone has also made it easier for the MSEs to contact their customers and employees while on the move, and at the same time brought about savings by reducing the need to travel.

Some respondents said that the mobile phone had really helped them improve their business operations by allowing them to accomplish many things without having to leave their business premises. This was especially the case for those who did not have any other employee(s), which meant closing the business if they had to be away on errands. The mobile phone has reduced such concerns and the effort and labour of MSE traders by enabling the payment and ordering of goods and services without them leaving their places of work. The responses are shown in Table 5. The survey took into account that the respondents reported more than one use of the mobile phone.

Table 5: Uses of the mobile phone by MSE traders

[n=377]	Frequency	Percent
Use it for money transfer services	345	91.5
For contacting customers	299	79.3
For telling time	276	73.2
For ordering goods and services	275	72.9
For social communication/networking	271	71.9
Use it as a radio	185	49.1
For improving my business	190	50.4
Use it as a camera	178	47.2
For accessing the internet	173	45.9
For sourcing raw materials	23	6.1

Those MSEs which were more established also made use of other ICTs like fixed-line telephones, computers and the internet in addition to mobile phones. The owners and some of their employees had computer skills and reported the use of computers. These MSEs were, however, few compared to those that operated with minimum resources. Those that used computer-based technologies (for email and the internet, and for data storage) were the horticultural exporters, automobile spare shops and electronic shops.

4.4.1. Impact of ICTs on the MSEs in Kenya

The mobile phone is the main ICT that was used by the majority of the MSE participants in the survey. Given their generally low income, the mobile phone is affordable and easy to use. The MSE respondents' level of education was also low and most of them lacked the skills and

awareness required to use computers and the internet. A small percentage of the respondents used computers, scanners and the internet, as indicated in table 1. The respondents described the effects of mobile phone use and mobile money transfer services as very positive because they facilitated faster transactions and communication with customers and suppliers, and thus increased business efficiency. They indicated further that they were highly impressed with the genuineness, i.e. the ability of the mobile phone to handle money securely without them fearing that they might lose it and its money and time-saving convenience**.** The respondents reported that mobile phones brought more customers, increased the volume of business, and consequently improved income. They mentioned that it has become easier to pass information not only to those who are close, but also to those in far off places. This expanded their horizons and business opportunities. The mobile money transfer services had also created business opportunities for the agents as well as jobs for their employees.

Although few in number among the surveyed MSEs, those who used computers reported that they could access more information from the internet for their businesses. They also reported that computers were good for keeping business records and for stock control purposes and therefore improved efficiency. Some of these respondents viewed the internet as a good avenue for the advertising and marketing of goods and therefore saw the potential for more business and bigger markets. The respondents felt that ICTs are generally good and useful to the MSEs because they simplify work and make it easier to carry out business activities because of their convenience and ability to save time. The responses are shown in Table 12.

The survey took into account that the respondents gave more than one reason as to the effects of ICT use as reflected in table 6.

Table 6: Effects of ICT use

Responses n=377	Frequency	Percent
Faster transactions & communication with customers and suppliers	128	34
Helps get supplies faster	60	15.9
Helps bring more customers leading to more business income	44	11.7
They simplify work and make it much easier to carry out business activities	39	10.3
They bring business opportunities	37	9.8
They are convenient/genuine, save time and money by reducing distances travelled	16	4.2
They are good for business records and stock control	15	4
They facilitate access to more information through telephone contacts and the internet	7	1.9
They are educational, help to increase technical knowledge and advertising space	4	1.1

Some respondents (6%) said it is the best thing that had happened to their businesses. The respondents also said that the mobile phone is good for emergencies, especially medical ones when money is needed urgently by relatives or dependants, especially those who live in the rural areas.

The responses for benefits resulting from the use of money transfer services by the MSE traders are shown in Table 7. The survey took into account that the respondents reported several benefits resulting from the use of money transfer services.

Table 7: Benefits of mobile money transfer services to the MSE workers

Benefits [=377]	Frequency	Percent
Has simplified business and social and financial transactions	131	34.7
It is reliable & genuine, provides stable business opportunities as money transfer outlets	15	4
Saves time & money in travelling/ makes business more efficient, faster and convenient	101	26.8
Can be used to save small amounts of money unlike banks, also available for more hours, no queues	72	19.1
Best thing that has happened to the business, makes it easier, faster, convenient and more profitable	25	6.6
Improved security for business transactions, one need not carry money around	14	3.7
Comes in handy for emergencies, including medical emergencies	10	2.7
Comes in handy when one does not have money for business transactions and can send it later	6	1.6

4.5. Challenges facing ICTs use in the informal sector in Kenya

Survey results reveal that the main obstacle to the use of ICTs in the MSE sector is the small size/scale of the businesses, which does not allow them to focus on much more beyond survival.

The respondents basically stated that with the exception of the mobile phone, they were unable to afford ICTs. MSE traders cannot economically support the ownership of a computer and would need to pool resources together to create shared computer facilities if they were to use them. The businesses were also undercapitalized. The respondents mentioned that they lacked the capacity in human skills to use more complicated ICTs like the computer and the internet, only 39.8% reported having any computer skills. Some of the MSEs lacked infrastructural facilities like electricity and internet connectivity, especially the MSEs that were operating from temporary stalls or out in the open.

Secondly, the majority of those who were operating very small micro enterprises in shared premises were also observed to have too little space to house ICTs like computers, scanners and printers. Even worse, the crafts and curio traders who were operating from temporary premises said that they carried their products home with them at the close of business. Such temporary premises do not have any infrastructural facilities to support ICTs, even for those earning enough money to afford them. Thirdly, the lack of institutional capacity, where the MSEs could rely on the government to develop basic institutional facilities for telecommunications which individual traders could tap into. This situation was also observed by Moyi (2003:221), who point out that resource constraints preclude small enterprises from seizing the opportunities offered by ICTs on their own and that small enterprises need institutional support mechanisms to mobilize them.

The lack of formal business information facilities indicates that there was a lack of institutional support for the MSEs. Ignorance or unawareness of the benefits of using ICTs is also a challenge that was exhibited by the majority of the respondents. This also applies to those who might afford to invest in them, but who had not been exposed to them or lacked awareness. The experience of operating in survivalist conditions seemed to leave no time for the MSE traders to familiarise themselves with ICTs like computers, and they simply behaved as if they were completely out of reach. Such ignorance inhibited even those who might afford to invest their resources in ICTs.

When asked if they were aware about the government's efforts to provide internet services to more people, they showed no awareness or much expectation from the government as far as any improvements to their businesses were concerned. Although the mobile phone was the main ICT used by the respondents in this study for business and social communication, they are not without problems and shortcomings. Problems associated with the use and availability of mobile phones, as reported by the MSE traders, mainly have to do with congestion experienced in mobile phone networks, which extends to mobile transfer services, especially with the main telephone service provider Safaricom and its M-pesa money transfer service. Buying airtime was also reportedly a challenge. Surprisingly, charging the phone was not cited as a major problem by the respondents, despite the fact that many Kenyans do not have access to electricity at home.

The respondents also pointed out that the mobile phone had become a target for thieves, for those who had the misfortune of falling into their hands the mobile phone was the first to go, especially those who did not carry other items of value. It is to the same people that the loss was more felt as they might not be able to replace it fast enough, yet they had come to rely so much on the phone to carry out their business. The challenges of using the mobile phone are summarized in Table 7. The survey took into account that the respondents reported more than one problem or challenge of using the mobile phone.

Table 7: Challenges of using the mobile phone

Problems and challenges [n=377]	Frequency	Percent
Network congestion	207	54.9
Common target for thieves and pickpockets	175	46.4
Buying airtime	140	37.1
Charging the phone	2	0.5

4.6. Perceptions on government involvement in improving access to ICTs

The majority (76.4%; 288) of the respondents did not think access to ICTs was a priority issue for the government. Their principle request was for the government to help them improve their business operations by establishing more stable and permanent premises for informal sector traders, where they could grow unhindered and build a good customer base. The respondents did not think that having more access to ICTs was a priority in their current status, which was for the most part, temporary. Instead they said that the government should first help them with premises for their business activities. However, they did not seem to expect much from the government, arguing that the government, especially as represented by the city council authorities, was more of a hindrance than help due to the harassment that was occasionally meted out to them by the city council representatives. Sometimes this occurred for no reason at all, even when they had paid their licenses and other necessary dues.

The respondents also expressed the view that the government representatives seemed to be more concerned with the collection of revenue than with providing them with services and opportunities for growth. They felt that there was a great deal that the government could do for them, but it would all start with settling them in more stable premises. 27% (101 respondents) said that the government could also help by reducing monopolies in the service sector, instituting price controls (like that of petrol) and thus lowering the cost of doing business, and subsidizing internet costs to make it affordable to all.

There were more enthusiastic responses when asked whether the phone companies should be involved in improving access to ICTs compared to the question on whether there should be more government involvement (23%). Thirty eight percent (38%) said that phone companies should be more involved in improving access to mobile phone services.

5. Discussions, Conclusions and Recommendations

This study has shown that informal sector enterprises play a big part in the lives of many Kenyans by providing a source of livelihood and affordable goods and services and making a considerable contribution towards the Gross National Product (GNP). However, most MSEs are mainly started for survival purposes, with little room for growth or expansion. It was also noted that the MSEs operate in difficult circumstances; they lack adequate capital, enough preparation, adequate and relevant information for informed decision making, adequate institutional support, and essential infrastructure. They are unable to afford and access relatively expensive technology, especially computer technologies which have been widely predicted to have high potential for business growth. Furthermore, they also lack awareness about ICTs and their benefits and potential for business.

The MSEs have however been able to access and experience the benefits of mobile phone technology. The rapid adoption of the mobile phone is as a result of immediate benefits, such as saving time and money, and the welcome and relatively cheap and quick way that it allows people to communicate and perform business transactions. The mobile phone has come to be heavily relied on in the business operations of MSEs. This is not only due to its relative affordability, but also its ease of use and the fact that the technology does not require a high level of education and skills. Its oral orientation has also made its awareness, adoption and benefits spread quickly and widely. Seen in light of Roger's Diffusion of Innovations theory, the perceived advantage of the technology has led to its faster adoption and diffusion. Mobile phone technology alone, however, has its limits and cannot replace investment in infrastructural facilities such as power, roads and water, without which it would also be ineffective.

Aker and Mbiti (2010:24) provide an appropriate example of a trader who might be able to obtain better price information from the market for goods through the mobile phone, but fail to transport them to the market because of bad roads, or a trader who may receive many orders for his goods, but fail to satisfy his/her customers due to the lack of electricity and water. The government therefore needs to develop the necessary infrastructure, like electricity, roads and

water, as a matter of priority. Internet connections should also be affordable and a general public awareness campaign and training should be put in place.

The study also notes that access to timely, reliable and relevant information on market opportunities, production, technology and government regulations, is inadequately provided by informal sources of information, which are currently the main information sources of MSEs. Without formal sources of information, adequate and crucial information on sources of credit and finance options for business growth and expansion will continue to elude the MSE entrepreneurs.

The government's efforts to make ICTs (e.g. the internet) accessible to its citizens without addressing other aspects like infrastructure and the ability to afford these tools, might explain why the efforts have not made much impact on the informal sector. Attempts to advance ICT use need to be accompanied by coordinated changes in other aspects that make it possible to adopt ICTs.

In light of the Actor Network Theory, which belongs to the school of social constructivism, all actors need to work together in a network (coordinated efforts) to render them effective. All actors concerned in the adoption of ICTs therefore need to be considered and coordinated in order to make successful ICT adoption a reality for all. Based on the outcome of this study, the study recognizes that on their own, the superior nature of ICTs and their potential benefits are not enough to bring about the rapid diffusion of technology. The survey data and the literature review, combined with the interpretation of theoretical perspectives in the study, show that the superiority of a particular technology, like the computer and the internet, does not automatically bring about the successful diffusion of technology, neither does technology diffusion take place in a vacuum. It is the societal conditions, such as the socioeconomic and political factors that exist in the society to which a particular technology or innovation is introduced, that influence its adoption and diffusion.

There is the question of affordability, which can be brought about by improving the distribution of economic resources. The adoption and use of ICTs by the MSEs in Kenya can only take place when other aspects in the business environment are addressed in a coordinated way. We recommend focus on six areas: Improved business premises and infrastructure;

provision of enabling policies; improved distribution of economic resources; improved skills and training to enable the use of ICTs and facilitate awareness; provision and dissemination of information; change of mental attitudes that will give users the confidence and ability to appreciate the benefits of ICTs.

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Challenges and Opportunities in Providing Information Services to Students and Staff By University Libraries: A Kenya-Uganda Survey.

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1.1. Introduction

It is commonly accepted that libraries in the learning are meant to primarily provide information services to the customers targeted by their parent institutions (Unesco Switzerland initiative 2003). According to Rocio, Libia, and Ivan (1987), it is not uncommon that information resources may be frequently utilized by some of the targeted users while the same resources may still be sporadically, or not even be utilized at all by others who are part and parcel of the targeted user group. The libraries therefore labor to ensure that the resources they have put in place are maximally utilized by the targeted audience which unfortunately, is not the case always (Kaur & Rani 2008).

The study draws readers' attention to the fact that the system of education is dynamic and from time to time demanding from the learning institutions to come up with new methods of imparting knowledge to the students. Societies as well keep on exerting new demands on people year after year influencing them to pursue further education in various institutions. The scenario is responsible for having heterogeneous student population in some universities. Some of the students are rarely on campus because they are employed elsewhere, and others are expected to be regularly on campus since they were registered as regular students (Adeogun 2008). The heterogeneity of student population in some universities is compounded by the fact that some faculty staff is regularly on campus because they are full time employees and others are rarely on campus since they were employed on part time basis.

It is worth noting that the information services provided to the students and staff by university libraries may not necessarily be numerically the same in each library. Even the mode of delivery of the services varies from library to library. However, there is a conventional categorization of

information services expected to be provided directly or indirectly to the users by each university library namely: circulation, reference, and technical services which are a combination of acquisitions, and cataloguing services (Reitz 2011; Ifidon 2000).The comprehensive realization of these categories calls for the ingenuity of each university library. It should however, be noted that besides providing manual information services to the users, some university libraries are providing online information services to their users due to the available information communication technologies.

The university libraries are faced with challenges and opportunities as they provide information services to attract the students and staff to maximize the use of the information resources. First and foremost, the libraries have to constantly assess the efficiency of their information services to ensure that they articulate students' anxieties that usually accompanies them as they search for information (Kuhlthau 1991). What is stated about students' anxieties can as well be applied to the staff. The new features that keep on coming up in the information communication technology arena, the proliferation of web-based information resources, the unfolding developments in academic programs, curriculum innovations, among other things, accentuate the challenges facing the university libraries as they provide information services to the students and staff (Musoke 2007).

The university libraries have at their disposal a number opportunities which they can utilize to improve the information services they are providing to the students and staff. The computers available in the universities, libraries can tap them to disseminate information services to the students and staff. The proliferation of web-based information, new features in information communication technologies, new developments in academic programs, curriculum innovations and many other trends coming up in the universities, have made students and staff psychologically well positioned to utilize the information services that articulate their information needs. The libraries can capitalize on all these realities as opportunities to market their services to the students and staff.

1.2. Conceptual setting of the study

A number of concepts pertinent to the study were identified namely university libraries; library users; information services; information resources; electronic information resources; print information resources; customer service; customer satisfaction; satisfaction; service quality; and marketing. A university library falls under a generic term known as library. A library is "a collection of information resources in print or in other forms that is organized and made accessible for reading or study" (Free online encyclopedia, n.d.; para.14). However, libraries are generally clustered as academic and non-academic libraries. Either category can still be stratified into sub categories. The university libraries belong to the academic library category. Chisita (2009) quoted Beenham and Harrison as "saying that academic libraries are those libraries ranging from the university, college and school library".

Since any academic library draws its existence from its parent academic institution whose ideals it is supposed to advocate for (Wen 2005), it logically follows that a university library being an academic library, can be referred to as a public or private university library depending on the nature of the university in question. However, a university library is defined as"a library attached to a university. It exists to cater to the needs and requirements of students and teachers and to support the teaching and research programs of the university" (Sher-e-kashmir university, n.d: para.2).

Library users include all categories of people that can be authorized to access a given library. The same scenario applies to the university environments. According to Rocio, Libia, and Ivan (1987), students, faculty staff and researchers are the key users of the university libraries. The scope of the university library users according to Unagh (2009) is broader and it includes all students with no exception, all academic staff, and non-academic staff, and any other outsider as the situation may dictate.

Information services are being transformed with regard to the way they are provided to the targeted users. The transformation has been precipitated by the developments in information communication technologies ICTs). The manual based information services are gradually giving way to information communication based information services (McClure 2004). The business dictionary (n.d.; para.1) defined information services as the "agency or department responsible for providing processed or published information on specific topics to an organization's internal

users, its customers, or the general public". The commission for higher education (2007: n.p) defined these services as "storing, accessing, processing, or delivering information to meet the needs of specific users". Other computer based information services that are emerging are the online information services which present challenges to both the information providers and to the targeted user group as well.

Information resources are put in place by institutions, organizations, or individual(s) purposely to be accessed and optimally used by targeted audience. Today the world talks of hybrid information resources referring to the resources in print formats and those in non-print formats. The commission for higher education (2007: n.p) defined information resources as "formal, informal, human, printed or electronic resources that contains information that can be accessed to meet a need". With regard to the electronic resources, Swain (2009: 581) quotes Saye as saying that "electronic resources are the resources that are generated through some electronic medium and made available to a wide range of viewers both on-site and off-site via some electronic transferring machine or internet".

Customer service influences an institution or an organization or anybody to be customer-driven in all their dealings that involve provision of information services. Miao and Bassham (2006:54) elucidated customer service as "an organization's ability to consistently meet the needs and expectations of its customers". According to Richard and Adams (2006), the concept is widely gaining acceptance among the university libraries which conditions them to have their users' needs as a point of departure in designing information services. However, the service provider is challenged to constantly devise ways of providing quality service otherwise, the services may be off the mark according to the customers. Gupta and Jambhekar (2002: para.21) quoted Kheraas stating that customer service can be miserable customer service; careless and unconcerned customer service; anticipated customer service; competent customer service; or exception customer service.

Customer satisfaction and user satisfaction can interchangeably be applied to the libraries in matters related to the provision of information to the targeted audience. While the former concept has been borrowed from the business related scenarios, the latter concept has traditionally been the accepted term depicting the library users. According to Akhtar (n.d.,: 25),

user satisfaction is “the result achieved when the service features respond to the user needs and when the library meets or exceeds users’ expectation over the lifetime of a service”.

Service quality correlates with the customer satisfaction/or user satisfaction concepts. As the library provides information services to the user group, the users/customers get satisfied or dissatisfied depending on the quality of services on offer. Jayasundara, Ngulubo and Minishi-Majanja (2010) quoted Calvert defining service quality as “the assessment of the difference “between a customer’s expectations and the customer’s perceived sense of actual performance”

According to Gupta (2003), some libraries were initially reluctant to apply marketing as a technique to popularize their information services and information resources to the user. Nevertheless, it was observed as well that some libraries were already applying marketing techniques to popularize their services and information resources (Gupta 2003b; Madhusudha, 2008). However, Bean and Hussey (1997:6) adopted the definition of the institute of marketing which stating that marketing is the “management process responsible for identifying, anticipating and satisfying customer requirements profitably” as they were deliberating on the issue of marketing. Looking at the way business-oriented institutions used their products as one of their tools to win customers, they were for the idea that non business-oriented institutions could use their services as a marketing tool to attract customers as well (Bean & Hussey, 1997).

1.3. Contextual setting of the study

The study was conducted within two east African countries namely Kenya and Uganda. Geographically, Kenya borders the Indian ocean to the east, Somalia to the northeast, Ethiopia to the north, Sudan to the northwest, Uganda to the west, and Tanzania to the south(Kenya, n.d., para.1). The country has seven public universities and fourteen private universities (Commission for Higher Education 2008). Each university has established a university library serving the targeted audience. A number of university libraries can access internet in the country as attested to by Odero-Musakali and Mutula (2007). A number of initiatives have also been made to enhance the provision of information in the country, Kenya education network trust being the most dominant one. It targets institutions of higher learning in the country, among other things,

trying to work out measures to boost their internet connectivity (Sakura 2010). Below is a list of the universities in Kenya (Commission for Higher Education 2008):

NAME OF UNIVERSITY (PUBLIC)	DATE	NAME OF UNIVERSITY (PUBLIC)	DATE
University of Nairobi	1970	Jomo Kenyatta university of Agriculture and Technology	1994
Moi university	1984	Maseno university	2001
Kenyatta university	1985	Masinde muliro university of science and technology	2007
Egerton university	1987		

NAME OF UNIVERSITY (PRIVATE)		NAME OF UNIVERSITY (PRIVATE)	
University of eastern Africa, Baraton	1991	Catholic university of eastern Africa	1992
Scott theological college	1992	Daystar university	1994
United States international university	1999	Africa Nazarene university	2002
Kenya Methodist university	2006	St. Paul's university	2007
Pan Africa Christian university	2008	Strathmore university	2008
Kabaraka university	2008	Mount Kenya university	2001

The students admitted in public universities on a government sponsorship, have their tuition fees payment greatly reduced due to the subsidy which they receive from the government. The subsidy offered to the students by the government, is one of the major factors enabling public universities to have higher student population as compared to the number of students in the private universities (Comparison of Kenya's 2010).Furthermore, the public universities have a mechanism of regulating new intake of students by determining the entry points from time to time as dimmed fit by the overall admissions board (Anami & Oriendo 2011).In the private universities, students are generally sponsored by some other sources but not by the government. They lack as well a unified strategy in determining the entry points for the new intake of students (Okango 2011).

Uganda is completely surrounded by its neighboring countries unlike Kenya which has access to the ocean (Uganda 2010). There are five public universities and twenty eight private universities in Uganda (National Council for Higher Education 2010). Like in Kenya, each university has established a university library to serve a targeted audience. According to the survey findings conducted under the auspices of the consortium of Uganda university libraries, Bukenya (2006) indicated that some university libraries were already accessing internet although some of them with more advanced internet connectivity than others. Below is a list of universities in Uganda (National Council for Higher Education 2011):

NAME OF UNIVERSITY (PUBLIC)	DATE	NAME OF UNIVERSITY (PUBLIC)	DATE
Makerere university	1922	Mbarara university of science and technology	1989
Gulu university	2002	Kyambogo university	2002
Busitema university	2007		
NAME OF UNIVERSITY (PRIVATE)		NAME OF UNIVERSITY (PRIVATE)	
Mountains of the moonuniversity	2005	African Bible college	2005
Uganda Pentecostal university	2005	Fairland university	2005
Bishop Stuart university	2006	St. Lawrence university	2007
Lugazi university	2007	Muteesa I Royal university	2007
All saints university, Lango	2008	International health sciences university	2008
African rural university	2011	Islamic call university	2011
Livingstone international university	2011		

Like in Kenya, public universities are financially supported by the government (Magara 2009). The overall admissions board, from time to time, works out entry points which the universities have to apply to identify the students whose studies will be paid for by the government (Marcucci, Johnstone, & Ngolovoi 2008).There is, however, a provision allowing other students with private sources of sponsorship to apply for admission if they meet the requirements

(Marcucci 2008). The public universities have a higher student population than the private universities (Kasozi, n.d.). The private universities have sources of funding but not from the government (Mande, n.d). Private universities have as well entry points regulating the intake of new students. The method applied, is however, worked out differently at the discretion of each university (Epetiru 2011).

1.4. **Statement of the problem**

In general, a library of any category usually endeavors to market its information resources to ensure that they are satisfactorily utilized by the targeted customers (Kaur & Rani 2007). In order to achieve this objective, libraries design and provide their information services to their customers to attract them among other things, to maximize the use of the information resources they have put in place for accessing purposes. It had been observed that in some university libraries in Kenya and Uganda, information resources were underutilized by the students and staff and yet these resources were being provided to them so that they may optimally utilize them.

A survey on the usage of electronic resources among some university libraries in Kenya that had been conducted under the auspices of the Kenya libraries and information services consortium, indicated that the electronic resources were not maximally accessed according to the information received from some respondents (Gathon, et.al. 2011). In addition, from the statistical data which had been compiled on the usage of electronic journals among the Kenya consortium libraries, it was clear that more marketing was still required to ensure optimal usage of e-journals by the users (Harrison 2011)[6]. The study which was conducted by Kakai, Ikoja-Odongo, and Kigongo-Bukenya (2004), assisted Makerere university to know that its undergraduate students were not heavily accessing the periodicals and other electronic information resources available in the library although they were nevertheless interested in accessing other information resources that were available in the library.

The study therefore wanted to investigate what some university libraries in Kenya and Uganda

[6] Harrison, P. (2010). KLISC consortium and deal usage, 2005-2021, Emerald group publishing limited (data internally generated for internal use only).

were not articulating about the information services which they were providing that might be responsible for the under-usage of the information resources by the students and staff.

1.5. Motivation of the study.

It is common knowledge that libraries are financially constrained as they attempt to provide their users with information resources whose costs keep on skyrocketing from time to time. Besides the financial implications, libraries endeavor to acquire information resources that address the needs of their targeted users. Realizing that in some university libraries in Kenya and Uganda, information resources were underused by students and staff, the researcher got concerned about the unfortunate scenario. There are a number of undesirable implications when the students and staff underutilise the information resources the library has put in place for them. University funds are being wasted; students neglect the information resources which could be a catalyst for them to improve their academic performance; and the staff shy away from maximising the use of the available information resources which could add value to their lecture preparations and academic profession. All these implications motivated the researcher to undertake the study in order to come up with recommendations that would address the undesirable situation.

1.6. Aims of the study.

The study intended to investigate why information services in some university library in Kenya and Uganda, were not attracting students and staff to maximize the use of available information resources.

1.7. Objectives of the study

Based on the aims of the study, the following objectives were developed:

- To determine what information services were being offered in the university libraries.
- To determine existing challenges in the delivery of information services to students and staff.
- To study the existing opportunities that would enhance the utilization of the information resources and services.

- To establish what methods are being used to assess the existing information services
- To determine the challenges and issues involved in the promotion of information services to students and staff.

1.8. Research questions.

In order to achieve the objectives of the study, the following researched questions were posed:

- What information services are being offered in the university libraries?
- What challenges are facing university libraries when delivering information services to students and staff?

  How are the university libraries capitalising on the existing opportunities to enhance utilisation of information resources and services that were available?

- What methods do university libraries apply in assessing the relevance of the
- What challenges and issues are university libraries experiencing in providing existing information services students and staff?

1.9. **Significance of the study**.

It is hoped that the findings of the study will help the libraries to realize that they have to devise mechanisms of ascertaining the relevance of their information services to students and staff to ensure that their information resources are put into optimal use.

It is hoped that the findings of the study will challenge the libraries to constantly monitor the evolving features in information communication technologies and use them in providing information technology based information services to students and staff. It is expected that the findings of the study will influence the libraries to devise a way of rationalizing and handling the acquisition of print and electronic information resources but always in the interest of their targeted students and staff.

The researcher is optimistic that the study findings will be a catalyst for him to regularly organize and conduct user studies among the students and staff to ensure that the information services which he will be providing to the students and staff, will be articulating their research needs.

1.10. Scope and limitation of the study.

The researcher could not include all the 54 university libraries in total that are in Kenya and Uganda in his survey population, and also, all the students and staff that are in these universities, could not be include in the population for a number of reasons. The universities libraries are at different locations in Kenya and Uganda respectively. Considering the time that the researcher had allocated for the field work, it could not be possible for him to visit all the universities and reach out to all the students and staff in these universities. The distances across the two countries in question, were also prohibitive considering the work schedule which the researcher had designated. The students and staff were also sampled out because all of them together, would be too many for the researcher to handle, and also the services which the study was concerned about were a guiding factor in the sampling. The finances available for the researcher were inadequate. So the aforementioned factors contributed to the scope and limitation of the study.

1.11. Ethical issues of the study.

An ethical issue can be defined as "a problem or situation that requires a person or organization to choose between alternatives that must be evaluated as right (ethical) or wrong (unethical)" (Ethical issue 2011: para.1). Considering what historically happened to the people on whom dehumanizing experiments were conducted by the German researchers, the current researcher was influenced to abide by the ethical code of conduct which, people engaging in any research or study are supposed to observe (Trochim 2008).

The researcher made sure that research ethical issues were scrupulously adhered to as he conducted the study. Since the study was restricted to a selection of public and private university libraries involving students and staff, the researcher had to seek permission from the competent authorities in these institutions before he could conduct the research. The permission was granted. He explained the purpose of the study to the respondents to enable them know what the study was all about before they could accept the researcher's request. He also assured the respondents to the questionnaires and the interviews that confidential information was not to be

divulged at all. Furthermore, the researcher made an effort to create a friendly environment free of coercive tendencies that would be construed by respondents as being pressurized to respond to the questionnaires or to participate in the interviews. In addition, the researcher strictly observed the referencing principles to ensure that other people's works, ideas or contributions were not plagiarized in this study.

1.12. Summary.

The chapter has highlighted a number of issues namely the introduction; conceptual setting of the study where concepts pertinent to the study have been identified; contextual setting of the study where some background information on Kenya and Uganda has been provided; the statement of the problem of the study; motivation of the study; aims and objectives of the study; research questions; significance of the study; scope and limitation of the study; and ethical issues of the study, have all been pointed out and elaborated upon. The summary at the same time prepares the reader for chapter two which reviews the literature available on the current study.

LITERATURE REVIEW OF THE STUDY

2.1. Introduction

It would be wastage of time and resources for any researcher to conduct a study which does not add anything new to what has already been known about a problem(s) which he/she had identified as a subject matter of his/her study (Research, n.d). Research can therefore be defined as "studious inquiring or examination, especially: investigation or experimentation aimed at the discovery and interpretation of facts, revision of accepted theories in the light of new facts, or practical application of such new or revised theories or law" (Research 201, n.d; para.1). Conducting a research is therefore not just a repeat of the previous researches but rather an advancement of knowledge.

Conceptually, a research involves but not limited to the following key activities: identification of the problem to be investigated; determining the objectives/ goals of the study and setting up the questions guiding the study; and planning for literature review. On the basis of the findings, the researcher strategizes on how to address the issues in question to ameliorate the situation.

Literature review can as well be defined as “a critical and in depth evaluation of previous research” (Shuttleworth 2009: para.4). It is imperative for the researcher to critically assess the literature on the studies that cover the problem statement of his/her current study that throw some light on what he/she identifies as objectives of his/her study. Looking at the available literature from such a perspective, it becomes evident that the findings of the literature review condition the designing of the field research instruments namely the questionnaire and interviews.

2.2. Literature review findings.

The review of literature concentrated on the findings of the previous studies discussing issues of underutilization of information resources; information services currently being offered in university libraries; the concerns expressed in the aims and objectives of the current study; and the call for strategies on providing information services that can promote utilization of all the information resources available in the library by all students and staff. In addition, related studies that discussed challenges and opportunities associated with the provision of information services were also included in the literature review.

Quite a number of scholars have conducted studies delving for factors responsible for the underutilization of information resources by students and staff in some university libraries. University libraries in the twenty first century are increasingly transforming themselves into hybrid libraries availing to the students and staff, print information resources as well as electronic information resources (Fadehan & Ali 2010). With regard to the problem of underutilization of resources, the researcher was particularly keen on the findings of the previous studies that focused on the level of utilization of the resources in print and electronic formats by students and staff.

According to their findings, Nwezeh and Shabi (2011) pointed out that some students never utilized some print information resources available in the university library which they singled out for their study due to lacking knowledge about their availability. These findings tally with the position held by Umar and Mohammed (2009); Wakhungu (1999); Arif and Meadows (1994); and Agaba; Kigongo-Bukenya; and Nyumba (n.d), alluding to the importance of making the library users aware of the available resources.

In their study conducted at the Aristotle University of Thessaloniki with particular emphasis on the electronic information resources, Togia and Tsigilis (2009) found out that most of the respondents were not aware of the available electronic resources at the university. By implication the said resources were underutilized. Another study by Rehman and Ramzy (2004) conducted at the health science center of Kuwait university also indicated that some of the faculty members were not aware of the available electronic information resources at the university. This situation also contributed to the underutilization of the resources at the university.

It is desirable that the library users should be aware of all the information resources in all formats that have been put in place for them to access. However, the practicability of enforcing the realization of this strategy is really questionable. In his research conducted in various institutions in Tanzania, Manda (2005) was at a loss wondering whether students would from time to time refer to the information about the available electronic resources disseminated to them by the use of for instance notice-boards. It is evident that students like anybody else are not expected to memorize each and every electronic database/ or information resource available for them for study purposes.

A research by Wakhungu (1999b), found out that quite a number of the students at the university of Nairobi, had a lackluster utilization of the law library resources including print resources due to having books disorganized on the shelves, low seating capacity, old versions of reading materials and dilapidating reading materials in the library. It is obvious that where print resources are disorganized on the shelves due to improper shelving, some books may remain unutilized by students/ or staff simply because they cannot be located due disorder on the shelves. Consequently, the number of students/ or staff that would be accessing the resources available in the library would gradually reduce since identifying any required material from a disorganized collection on the shelves would be time consuming. In addition, the lack of adequate seating capacity in the library would deter some users to personally come to the library to consult the available resources.

The application of the information communication technologies (ICTs) in the provision of information resources by the university libraries has been discussed in the literature review as one of the factors influencing students' and staff's attitudes towards the utilization of library resources (Korobili; tilikidou & Delistavrou 2006). In their study on the way the college students

searched for information, Peggy; Szymborski and Norelli (n.d) found out that some students preferred utilizing electronic information resources to print information resources some of the reasons being that the former were considered to be more convenient, efficient up-to-date and dynamic than the latter. Other researchers like Malone; Videon; Lombardo and Condic (in Lombardo & Miree 2003) had related findings.

In their study carried out among the staff at the Hebrew university of Jerusalem, Lazinger, Bar-Llan and Peritz (1997) found out that the intensity of utilizing internet based resources by academic staff varied in some subject areas. According to their study findings science and agriculture disciplines challenge the staff to access internet based resources. By implication, some subject areas do not provoke academic staff to browse or access electronic resources which may lead to underutilization of such resources.

Furthermore, a survey of universities in Israel was conducted by Bar-Llan, Peritz and Wolman (2003) focusing on the way the staff utilized the online electronic resources. They noted that the extent to which the staff accessed the electronic resources followed more-or-less the pattern of the staff's age brackets. The survey findings call for the attention of the university libraries that as the staff members they are providing information resources to in all formats, continue to advance in years, their preference to access electronic information resources will be on a descending order (Bar-Llan, Peritz & Wolman 2003b).

A number of scholars have discussed the advantages of equipping users with information literacy skills. Lacking such skills on the part of the information seekers is construed as one of the factors responsible for underutilization of information resources by the users according to Adam and Wood (in Mutula 2004); Adam; Wood; Dulle and Lwehabura (in Grace & Sife 2008); and Rehman and Ramzy (2004b).Their position was corroborated by the findings of the department of library and information studies at the university of Botswana. The department conducted a fact finding survey to ascertain how information literate the university students were. The survey found out that none of the students could comfortably utilize the available information resources as cited by Mutula and others (in Mutula 2004b). Kinengyere (n.d: 6) provided a descriptive definition of information literacy as "ability to know when there is an information need; ability to identify the potential sources of information; ability to evaluate the information and correctly applying it in research, learning, teaching and/or clinical practice".

Literature review also identifies the issue of allocating inadequate bandwidth to computer networks in some university libraries as one of the factors contributing to underutilization of information resources particularly internet based resources by university community primarily students and staff (Grace & Sife 2008). From a computer perspective, bandwidth "refers to the data supported by a network connection or interface (Bandwidth definition, n.d; para 1). Subjected to using computers with inadequate bandwidth, therefore, library users get discouraged from accessing online information resources since the retrieval process would take a lot of time to yield any result. Consequently, the situation would also lead to underutilization of print resources by the users since they would be disinterested in using library database which could guide them to the required resources on the shelves.

The way university libraries worldwide are providing information services and resources, is increasingly becoming revolutionized by the information and communication technologies (ICTs) as they strive to address the users' ever-changing information needs (Okiy 2010). Libraries can benefit from the technologies if at all they operate within an environment with dependable electricity infrastructure. Considering the electricity interruptions which Sokoine university library in Tanzania was experiencing, Grace and Sife (2008b) mentioned that the lack of stable electricity to support the use ICT initiatives in libraries as one of the factors contributing to the underutilization of online services by the users. As long as there are electricity blackouts in the library, the targeted users cannot access online services, among others, since the library's ICT initiatives would be rendered moribund (Afolabi 2011).

In order to facilitate the use of the computers in a network or a standalone setting, the provider of the facilities issues passwords to the designated users to ensure that unauthorized users are denied access (passwords n.d). The university libraries worldwide keep on acquiring print and electronic information resources to primarily meet the academic needs of the students and staff. The electronic resources consist of an open ended list of different electronic journals and electronic book databases to mention a few which the libraries acquire for research purposes (Anunobi & Okoye 2008). In some cases, different databases require different passwords for the purposes of accessing. However, subjecting users to applying varieties of passwords in order for them to access electronic resources discourages them from utilizing them since the retrieval process becomes laborious (Han & Goulding 2003).

It is pointed out in literature review that library users may underutilize the resources due to lacking adequate time at their disposal Ray & Day 1998). In their study conducted at Kuwait university, Rehman and Ramzy (2004b) found out that some faculty members were not active library users due to lacking adequate time at their disposal. Kinengyere and Olande (n.d) also noted that the problem of lacking adequate time among the users at the universities covered in their study namely Makerere university; Mbarara university of science and technology; and Uganda martyrs university as one of the factors affecting their utilization of the electronic information resources.

Several studies indicate that the would be users of the electronic information resources available in the library may not be motivated to access them if there are few computers put at their disposal. Sinha; Singha and Sinha (2011) carried out a study trying to find out how the students and staff among others were utilizing the electronic information resources at Assam university library. The study disclosed that the inadequate number of computers was one of the factors that adversely affected the utilization of the resources. Okello-Obura and Magara (2008) had similar findings gathered about the students during their study at Makerere university. Ultimately the situation would not only adversely affect the use of electronic resources but also print resources like books/ or journals. The online indexes like catalogs that would guide the users to the resources on the shelves would not be accessed to avoid time wasting. The time wasting would be a resultant problem of users crowding around a few computers available for them.

On information services

It is observed that university libraries are established to advance the academic needs of their parent institutions through their provision of information resources. The libraries are expected by their parent institutions to market their information resources to the users so that they may not be underutilized (Mirza & Mahmood 2009). Academic libraries all over the world are moving away from their traditional status associated with exclusive provision of printed information resources to their targeted users. Most of the libraries are transforming themselves into hybrid libraries providing printed information resources as well as electronic information resources. According to Aguolu and Aguolu (in Nkanu & Okon 2010), the unfolding status of the libraries has witnessed the paradigm shift in the provision of information services in the university libraries.

Anunobi and Okoye (2008b) pointed out library services manually offered in the traditional academic libraries. Such services include but not limited to the following. There is selective dissemination of information where information is passed on to the designated recipient(s) using manual mechanisms such as physical copies of notices. Bibliographic services provided to the users for instance hard copies of compiled bibliographies can be accessed for research purposes. Current awareness services where the library would draw its users' attention to some issues by using for instance notice-boards/ or hard copies of handouts. Circulation services being offered to the users like lending out information resources to the users without the facilitation of computers. Reference services manually offered to the users, like requiring physical presence of the users in the library for consultation purposes. Cataloguing and classifying information resources where the maintenance of card catalogues is a default requirement to help users identify materials in the library. Acquiring information resources, a service where libraries adopt manual procedures to purchase or subscribe to reading materials for use by users.

According to Campbell (in Anunobi & Okoye, 2009), academic libraries that are information technology enabled have diversified their services. They provide users with metadata service directing them to particular electronic information sources/ resources. Reference services are being offered which are online enabling the users to have remote access. There is a provision of information literacy induction with a broader scope covering the use of information resources in all formats. Information resources selection where there is a fair consideration of the formats in which the resources may be available. Information resources are being digitized not only for preservation purposes but also for providing seamless access to the users. There is as well a provision of digitized information resources repositories.

On the provision of information services

Since the commencement of the twenty first century, libraries have increasingly been losing their monopoly over providing information resources to the information seekers. Due to the information technology applications that keep on coming up time and again, there are lots of web based information resources which the users can access without involving the libraries. In addition, internet based resources are perceived by some users as a panacea for all the required information (Tam & Robertson, 2002).Lombardo and Miree (2003b) confirm that some students

consider internet based resources as more resourceful compared to the print information resources rendering them underutilized.

Libraries all over the world have a financial challenge which they ought to address as they try to meet their users' information needs. Most of the times libraries are allocated inadequate budgets which cannot sustain the required growth of print and electronic resources and services (Tam & Robertson, 2002b). Musoke (2008b) advances similar concerns highlighting inadequate library budgets as one of the challenges that African university libraries are grappling with.

The twenty first century has ushered in paradigm shift in the education system as witnessed in the world. The paradigm shift is responsible for the heterogeneous student and staff population in various university campuses, namely full time and part time students; regular (during the day) and evening students; full time and part time staff members. A number of universities have established distant campuses besides main campuses. Seen from this perspective, education paradigm shift is a challenge for university libraries as they strategize to provide information resources and services to the multifaceted university community with divergent information needs (Tam & Robertson 2002b; Adeogun 2008b).

Musoke (2008c) singles out additional challenges facing university libraries in their provision of information resources and services. Challenges such as student population being not commensurate with the available facilities and information resources; physically disadvantaged students that might be among the user community whose needs might be of a unique character; and copyright related issues which the students and staff may be inclined to disregard as they access library information resources and services.

According to Bao (1998), what has been identified as a challenge on the other hand provokes an opportunity for improvement. In the same vein, the issues highlighted as challenges for the university libraries can generate opportunities which they can capitalize on to improve to improve the provision of information resources and services.

The seemingly uncontrolled growth of student and staff population becomes an opportunity for the libraries to justify their request for an increased budget allocation in order to more electronic information resources; more copies of print resources where electronic version may not be

applicable; more facilities such as computers to avoid user congestion, and engage in digitization of information materials.

The heterogeneity of student and staff population in universities worldwide, is an opportunity for the university libraries to aggressively provide online information services, and engaging in digitization of information materials to enable varied categories of their users to have remote access. The opportunity could also be a basis for the libraries to justify for an increase of the budget allocation.

The issue of being a challenge for the university libraries, on the other hand the libraries can use it as an opportunity to interact with faculty members and students to strategize on how the copyright demands should be observed by every library user. In the course of the interaction, libraries would still market their resources and services to the students and staff.

It is clear for the university libraries that in order for them to sell out their information resources and services to the students and staff who are their main targeted users, their provision of information services ought to be of good quality. If the contrary is the case, the libraries run a risk of having their resources rendered redundant. In addition they may even lose their targeted users to other information providers (Cullen, 2011).

Some university libraries have adopted a mechanism of gauging whether their services meet their targeted users' expectations. A number of user survey studies have been conducted by some university libraries using any of the following survey instruments: Rodski; SERVQUAL; and LibQUAL instruments. They enable the libraries to identify areas where they need to improve on the services even where there is a need of having a comprehensive overhauling of services (Nitecki 1997; Ahmed & Shoeb 2009; Manjunatha & Shivalingaiah 2004; Banbury 2009; Clark & Saw 2004).

Gaps in the previous studies

Knowledge gap in the previous studies is illustrated in the lack of clarity as at what point should the university library consider its information resources as being underutilized by students and staff. Low usage of information resources, or maximizing the use of the information resources, or putting the information resources into optimal use, or the information resources being heavily

utilized by users are all different ways of demonstrating information resources which are being underutilized by the targeted users. Putting it into proper perspective, information resources should be considered utilized only when none of the resources remains unused and when all the targeted users are actual users of the resources. The proper understanding of what it means to full utilization of information resources, is grounded in Ranganathan's first three laws of his five laws of library science "books are for use; every reader his/her book; every book its reader"(Bhatt 2011).

The question as to why the problem of underutilization of information resources is still prevalent in some university libraries notwithstanding the various researches and recommendations already made on the problem, has not been addressed according to available literature. A solution to that effect is required.

In summary, the chapter has consolidated the findings of the literature review where a number of issues pertinent to the current study which were touched on by the previous studies. In addition, the missing knowledge gaps have also been highlighted. In conclusion, it should be noted that the dissertation is still in progress.

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An investigation of e-Learning within developing economies: The impact of ICT Barriers in the transfer of nonverbal communication.

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ABSTRACT

Education and traditional education systems are being changed and modernized by ICT`s. Concepts like e-Learning, virtual learning and mobile learning is used to define this modernized leaning (Punie, Zinnbauer & Cabrera 2006), and although there are a large number of benefits of utilizing ICT`s in education, there are also a few shortcomings. Within developing economies, e-Learning systems are hampered with barriers and challenges that include, but are not limited to adequate ICT infrastructure, low bandwidth, low internet penetration rates, and high internet costs (McNamara, 2003; ITU, 2010). Some other challenges faced by e-Learning systems lies in the area of communication, more specifically nonverbal communication. According to Hollingshead, McGrath & O'Connor (in Shachaf 2007), communication via ICT amplifies certain aspects of communication, while other are distorted, which leads to the loss of traditional communication mechanisms like vocal and nonverbal communication clues. This problem is furthered by the difference in communication within High context cultures compared to communication within low context cultures. High context cultures rely heavily on implicit means of communication (nonverbal communication); while low context cultures rely more on the content of the message (Communicaid Group Ltd. 2010). Nonverbal communication is extremely important during communication, as it contributes 65% of successful communication (Steinberg, 2007), and therefore it is important for communication by means of e-Learning systems. Due to

the above mentioned challenges, it is difficult to successfully implement and utilize e-Leaning systems within developing economies. The researchers suggest that ICT`s need to be adapted so that the nonverbal component of communication is addressed in e-Learning systems, so that e-Learning systems in developing economies can be utilized to its full potential.

Keywords: e-Learning, Nonverbal Communication, Developing Economies, ICT Barriers

INTRODUCTION

ICT`s impact on numerous areas in people's lives. Amongst these is the impact that ICT has on successful education and learning. According to Punie, Zinnbauer & Cabrera (2006), there is a widespread belief that education and educational systems will be changed and modernized by ICT`s. This result in various new means of learning such as virtual learning, online training, distance education, mobile learning, e-Learning, computer assisted learning etc. (Punie, Zinnbauer & Cabrera 2006; Van Brakel & Chisenga 2003). Several opportunities exist for the use of ICT`s and education, but developing economies in Africa face a number of challenges (such as the cost, availability and distribution of ICTs) in fully utilizing the potential of ICT`s in education (Van Brakel & Chisenga 2003).

Non-verbal communication forms an integral part of successful communication (Steinberg, 2007). However, the value that cultures place on this form of communication differs from high context cultures to low context cultures. Within Africa as a developing economy non-verbal communication is highly valued, as cultures in Africa are classified as high context cultures. Unfortunately due to the above mentioned barriers and challenges, e-learning systems can often not transfer information successfully as non-verbal communication is often neglected within these e-Learning systems.

Even though ICT`s have a number of advantages that can be utilized in the area of education, Hollingshead, McGrath & O'Connor (in Shachaf 2007), are of the opinion that: "traditional communication mechanisms are lost or distorted, and vocal and nonverbal communication cues are often missed". It is also suggested that communication via ICT`s amplifies some aspects

while others are distorted or eliminated, which makes it difficult to communicate effectively (Hollingshead, McGrath & O'Connor in Shachaf 2007).

From within this setting, the contribution of this paper [7] is to address the research questions that follow:

- To investigate the ICT challenges faced by developing economies in implementing e-Learning
- To determine the value of non-verbal communication within an educational setting

In future research, the researchers aim to:

- Investigate whether the value of non-verbal communication is the same during the transfer of information when comparing developed economies to developing economies.
- Investigate how ICT`s can be improved to better address the needs of e-Learning in terms of nonverbal communication within a developing economy.

eLearning: An Overview

e-Learning comprises all forms of electronically supported learning and teaching. The IT systems, whether networked learning or not, serve as specific media to implement the learning process. The term will still most likely be utilized to reference out-of-classroom and in-classroom educational experiences via technology, even as advances continue with regard to devices and curriculum. e-Learning can be defined as: "the highly efficient technique of delivering training or education using Information Technology most importantly computers integrated with Internet Technology and their infrastructures…" (Sribhadung, 2006). Although regarded as a radical idea a decade ago, e-learning has evolved into something that is widely regarded as mainstream (Downes, 2005).

[7] This paper is based on a pre-conference workshop paper presented at ECIS 2012 Barcelona, Spain, June 2012.

According to Kearsley (2002) there are a number of focus areas that need to be taken note of for successful online teaching:

- The instructor needs to make sure that interactivity and participation takes place.
- There needs to be feedback from the teacher as well as the group.
- Instructors need to manage their increased workload.
- Instructors need to moderate and facilitate the session by providing information and leading students to a conclusion.
- Students need to be evaluated by means of online tests and assessments

However, there are also numerous challenges and barriers that can encumber successful online teaching, especially as it relates to developing economies, which will be discussed in the following section.

Challenges and Barriers for e-Learning in Developing Economies

In developing economies in Africa, effective education and training systems are vital to ensure human development and economic competitiveness. There are however numerous challenges in these economies that limit opportunities to enhance education, with the help of ICT. These challenges include but are not limited to, low levels of literacy, insufficient computer literacy of students, inadequate ICT infrastructure and low bandwidth (McNamara, 2003).

A barrier and challenge that pose a particular problem for Africa is the literacy rate within the continent (see Figure 1 below).

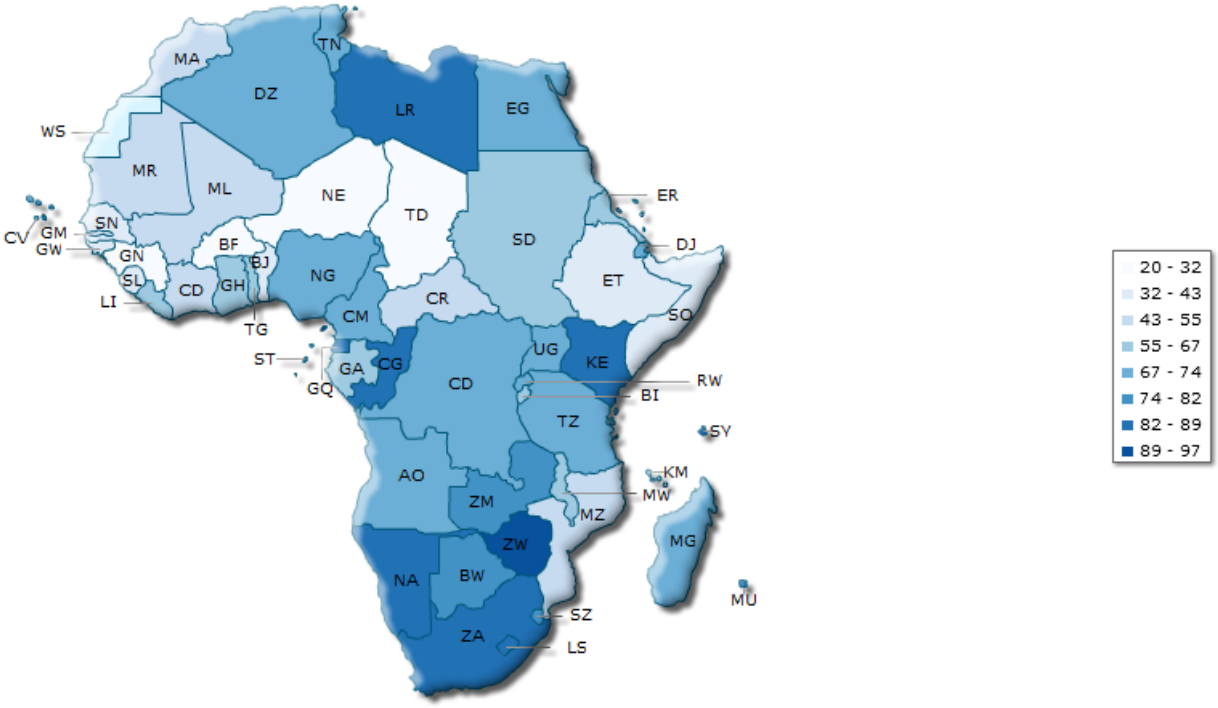

Figure 1: Africa's Literacy Level (IndexMundi 2011)

Inadequate backbone networks in Africa have a major impact on the delivery of ICT services and are one of the underlying reasons to the limited growth of broadband in these regions (Williams, 2010). Many developing economies have initiated a number of projects to address this lack of backbone connectivity (Holmner & Britz 2011). These initiatives will be mentioned on the following page:

- The International Telecommunication Unions' Connect Africa initiative (Schwartz, 2008).
- The New Partnership for Africa's Development *(NEPAD)* has established the NEPAD Broadband ICT Network (NBIN) initiative, which intends to provide developing economies on the African continent access to at least two independent international fibre cable links (NEPAD, 2009).
- MTN South Africa is collaborating with the Intel Corporation to bring about the accelerated roll-out of broadband access in Africa and the Middle East (MTN 2010).

- The Broadband Commission for Digital Development (BCDD) - An initiative that is based on the belief that high-capacity, high-speed, broadband connections to the Internet are an indispensable element in the information and knowledge society (ITU 2010).

Notwithstanding all these initiatives broadband penetration within developing economies are still exceedingly low, for example: in 2010 developing regions only accounted for 4.4 fixed broadband subscribers per 100 inhabitants and mobile broadband slightly higher at 5.4 subscribers per 100 inhabitants. This can be seen in the following figures (ITU 2010):

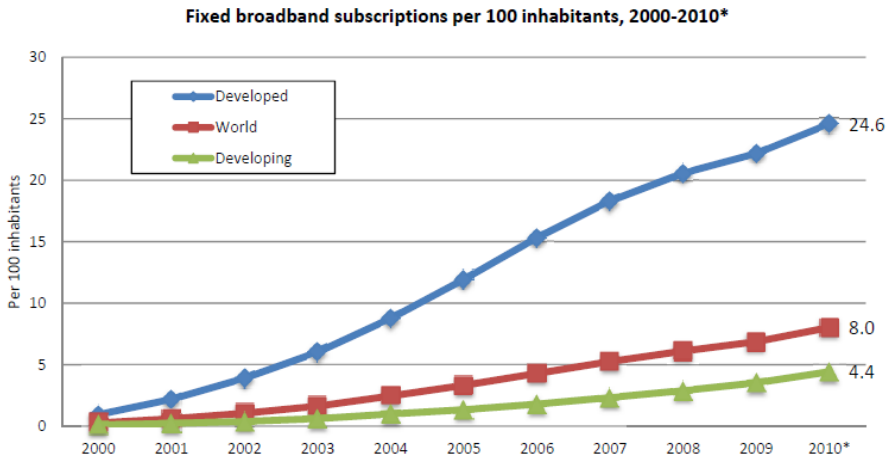

Figure 2: Fixed broadband subscriptions per 100 inhabitants (2000 – 2010) (ITU 2010)

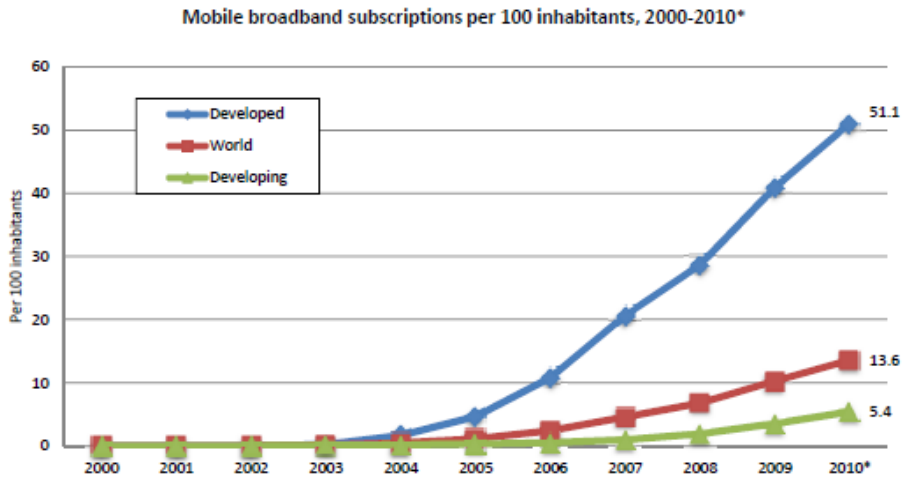

Figure 3: Mobile broadband subscriptions per 100 inhabitants (2000 – 2010) (ITU 2010)

Among the many problems facing those involved in delivering e-Learning, the cost of broadband is often mentioned as being of particular importance, especially in developing economies. On average, a broadband connection represents 500 per cent of monthly GNI per capita in Africa, making fixed broadband effectively inaccessible for most people in the region.

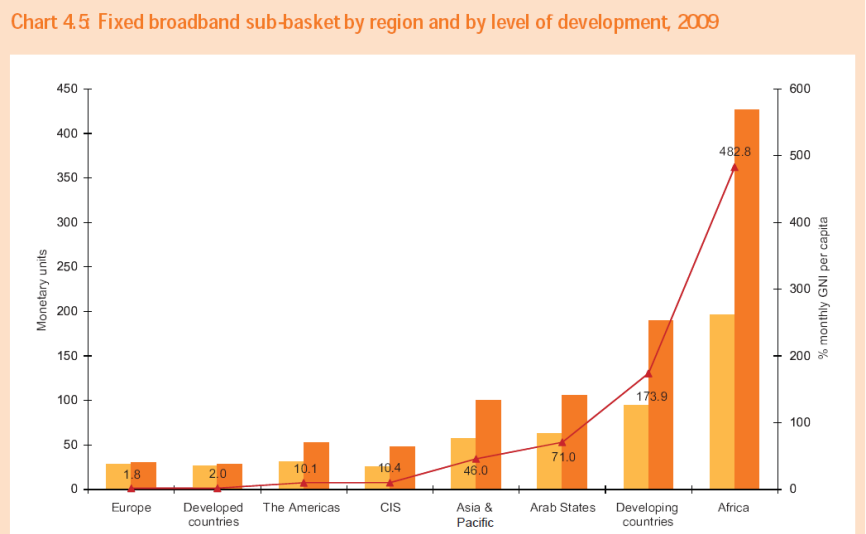

Figure 4: Fixed broadband by region and by level of development

Another problem for e-Learning is the speed of the broadband connection, and as can be seen in Figure 4 above, the speed of broadband in Africa varies a lot. A country like Ghana has download speed of close to 10Mbps while a country like Egypt only has a download speed of 1.22Mbps (OAfrica.com 2011).

Country	Down Rank	Down (Mbps)	Up (Mbps)
Ghana	33	9.80	6.54
Libya	64	4.79	1.50
Kenya	87	3.21	0.94
Rwanda	88	3.18	3.12
South Africa	93	2.92	1.18
Mali	94	2.89	1.49
Tunisia	112	2.13	0.86
Reunion	114	2.09	0.18
Zimbabwe	115	2.08	1.76
Mozambique	122	1.95	0.98
Morocco	123	1.93	0.40
Uganda	126	1.85	1.02
Namibia	138	1.58	0.57
Nigeria	143	1.37	0.96
Egypt	150	1.22	0.41

Figure 5: Household network speeds in Africa

However despite all the above mentioned barriers and challenges to implement e-Learning within developing economies, the benefits and opportunities presented by these modern educational trends cannot be denied. Unwin (2008), lists the following advantages of using internet based technologies for education:

- Information can be accessed easily;
- Students can be mentored remotely;
- It's a safe environment for students to work in;
- Students and instructors can interact;
- Synchronous and Asynchronous learning is combined;
- More students can get access to high quality education;
- Course content can be used again;
- Students` records can be managed.

With reference to the above mentioned ICT barriers and challenges, the successful implementation of e-Learning within developing economies is very problematic. Due to the cost of bandwidth (see figure 4 above) and the speed of bandwidth (see figure 5 above) existing e-Learning systems cannot be utilized to their maximum potential. Although many of these systems have live video capabilities (Educause 2003), these functionalities cannot be made use of, and only the voice capabilities are utilised. This limits the amount of nonverbal communication that can be transferred via these e-Learning systems. Nonverbal communication and the various categories thereof will be discussed in the following section.

Nonverbal Communication: An Overview

Nonverbal communication can be defined as: "Behavior and elements of speech aside from the words themselves that transmit meaning. Non-verbal communication includes pitch, speed, tone and volume of voice, gestures and facial expressions, body posture, stance, and proximity to the listener, eye movements and contact, and dress and appearance" (BusinessDictionary.com, 2012). Nonverbal communication can be divided into different categories, and sub-categories. These categories include:

- Body movements,
- Proxemics,
- Haptics,
- Chronemics,
- Personal appearance,
- The environment, and
- Paralanguage.

The categories, sub-categories of nonverbal communication and its descriptions are provided in table 1:

Table 1

Category	Sub-Category	Description
Body Movements	**Emblems**	A set of movements with its specific set of connected meanings, which can be understood by the members of a group or culture (Ekman 2004: 39; Steinberg 2007: 94).
	Illustrators	Nonverbal images or signs that are used to emphasize or explain verbal communication. (Ekman 2004: 41; Steinberg 2007: 95).
	Affect Displays/ Facial Expression	Emotions that are displayed on our faces, which communicates our inner feelings or thoughts to the world (Segal, Smith & Jaffe 2010).
	Regulators	Signs that are used to regulate and control the flow of communication between two parties (Steinberg 2007: 95).
	Adaptors/ Manipulators	The way that we adapt to different situations during communication (Ekman 2004: 43).
	Posture	The image that we have of ourselves, which can be used to measure the level of comfort we have with our own bodies (Bisha & Sharma 2010: 58).
	Gestures	Physical movements that we can make by using our head, hands, arms and legs (Bisha & Sharma 2010: 58; Steinberg 2007: 96).
	Eye Contact	Observing how something is said or the way that it is said. We can interpret different meanings from different conversations as well as from different parts of the same conversation (Steinberg 2007: 96).
Proxemics		Proxemics refers to the different perceptions that people have of space, and how that space is used to convey information (Steinberg, 2007: 97; Hall cited in Bisha & Sharma 2010: 58).
Haptics		Haptics refers to how information is transferred between people by the means of touch, or the lack thereof (Steinberg 2007: 100).
Chronemics		Chronemics refers to the use of time to carry over information. In this category the importance of time, the meaning that we attach to time, as well as the different perceptions on the value that time has, is emphasised (Steinberg 2007: 101; Bisha & Sharma 2010: 58).
Personal appearance		Focuses on how other people see you. In this category physical attractiveness is emphasised, and how we can either increase or decrease attractiveness by means of artefacts such as clothing, jewellery or even the attitude or posture that we have (Steinberg 2007: 103).

The environment		The impact of *the environment* on communication is considered and according to Bisha and Sharma (2010: 58), we interpret meaning against the background and context in which communication takes place.
Paralanguage		Paralanguage refers to the vocal signs that go with verbal communication. The real meaning of messages can be interpreted by using these vocal signs as hints or clues to these messages, as it focuses on the way in which things are said, and not so much on what is actually said (Bisha & Sharma 2010: 58).

In a study conducted in a traditional classroom environment the importance of the above mentioned nonverbal communication categories was measured and the findings of this study is presented later in the paper (See figure 5 to figure 14).

Various cultures value non-verbal communication differently depending on the context of their specific culture. These contexts namely high context cultures and low context cultures will be discussed in more detail in the following section.

High context cultures vs. Low context cultures

There are differences in the way that people communicate in their different cultures, especially in the way meaning is transferred. In high context cultures meaning will be transferred more implicitly or via unspoken channels compared to low context cultures where meaning is transferred in the message itself (Communicaid Group Ltd. 2010).

The following tabled depicts a classification of cultures categorized as high or low context cultures, as well as some of the general communication preferences of these two types of cultures. See table 2 and table 3 respectively:

Table 2

Lower Context Cultures	**Higher context Cultures**
American (Northern states)	African
Australian	Arab
English Canadian	Brazilian
English	Chinese
German	Filipinos
Irish	Finnish
New Zealand	French Canadian
Scandinavia	French
	Greek
	Hungarian
	Italian
	Japanese
	Korean
	Latin Americans
	Midwestern United States
	Persian
	Portuguese
	Russian
	Spanish
	Thai
	Turkish
	Vietnamese

Copeland & Griggs (in Wikipedia 2012).

Table 3

Low Context	**High context**
Direct, simple and clear messages	Indirect and implicit messages
Low use of non-verbal communication	High use of non-verbal communication
High reliance on written communication	Low reliance on written communication

(Communicaid Group Ltd 2010).

The communication preferences of these high context and low context cultures are also reflected in their preferred use of non-verbal communication within an educational setting. The importance of the use of non-verbal communication within such a setting will be discussed in the following section.

The importance of nonverbal communication within an educational environment

According to Mehrabian and Stewart (in Steinberg 2007), nonverbal communication, makes up nearly 65% of communication. Nonverbal communication can also be referred to as Meta communication, which according to Wiktionary (2011) can be defined as: "Communication that indicates how verbal information should be interpreted; stimuli surrounding the verbal communication that also have meaning, which may or may not be congruent with that of or support the verbal talk. It may support or contradict verbal communication…Communication which is implicit and not expressed in words".

The following functions of nonverbal communication can be interpreted as important in an education setting:

- Reinforce verbal communication,
- Complement verbal communication,

- Replace or Substitute verbal communication, and
- Regulate verbal communication

(Dunn 1999; Ekman 2004; Steinberg 2007).

When utilising communication software and technologies without video capabilities only 35% of the message can thus be transferred verbally and it is very difficult for developing economies to transfer information successfully within an educational setting, using these technologies. It is thus important that positive nonverbal communication takes place within the educational setting so that the information is successfully transferred to the students. The data that was collected to support the argument on the value of nonverbal communication in the educational environment will be provided later in the paper.

Methodology and Data Collection

A combined qualitative and quantitative approach is followed. Qualitative research may be described as: "a form of systematic inquiry aimed at understanding human beings and the nature of their interactions with one another and with their environment" (Anguera & Izquierdo 2006). Quantitative study or research is defined as: "an inquiry into a social or human problem, based on testing a theory composed of variables, measured with numbers and analyzed with statistical procedures, in order to determine whether the predictive generalisations of the theory hold true" (Creswell cited in Leedy 1997).

The data collection method that was used was in the form of a literature study as well as questionnaire. From the literature it was gathered that there are a number of categories of nonverbal communication that can be used to measure the amount or extent to which nonverbal communication takes place (Steinberg 2007). These categories were used to set up the questions in the questionnaire. The categories that were used are: *Emblems, Illustrators, Affect Displays, Regulators, Adaptors, Posture, Gestures and Eye Contact.*

Using questionnaires as a data collection method has the advantages of:

- *Objectivity,*

- The *size* of the group from which data can be collected, and
- *Anonymity, which* may encourage sharing more

(Milne 2010; Morgan 2008).

To aid in the capture of data, a Google form was created from which data was exported to an Excel Spreadsheet. Due to the small number of participants in this study, the data was interpreted and displayed in the form of graphs by using the functionality available in Microsoft Excel. In future research where the research population will be larger, data will be interpreted by utilizing SPSS (Statistical Package for the Social Sciences).

The types of closed ended questions that were used in the questionnaire were *Multiple choice questions, Scale questions, and Check list questions (Gay, Mills, & Airasia, 2009; Creative research systems 2011).* The questionnaire was delivered to the students online, by sending an email to all of the students in the INL 220 group, as well as to delivering the questionnaire to the students by means of a link placed on ClickUP, which is the online education system used by the University of Pretoria.

Research Population

The research population was the undergraduate students, attending the course Information Representation and Organisation (module code INL 220) in the Department of Information Science at the University of Pretoria. The total size of the group is 86 students, and this group was selected using Convenience *sampling* which is a Non-probability sampling method where subjects are selected because they are easily accessible to the researcher (Berg 2009).

Data analysis and Findings

From the sample group of 86 students, 41 students completed the questionnaire thus a response rate of 47%. The results of the questionnaire was divided into three main areas namely actions, appearance and speech focussing on both the instructor and the students. To ensure that

communication takes place successfully two-way communication needs to take place, therefore the questionnaire was used to measure the nonverbal communication of the instructor as well as the nonverbal communication of the students.

Instructor

Actions

25 out of 41 students reported that the instructor made adequate use of gestures, and 40 out of 41 reported that the instructor made use of regulators to aid in the explanation process (see figure 6 and figure 7 respectively). The instructor made eye contact with the students adequately, as is was reported by 28 students. It can be deduced that the use of Gestures, Regulators and Eye contact by the instructor had a positive influence on the lecture.

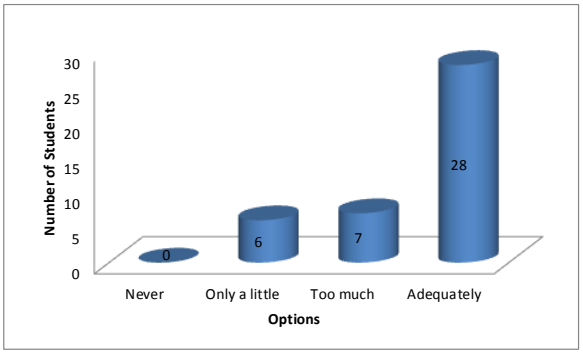

Figure 6: Eye contact

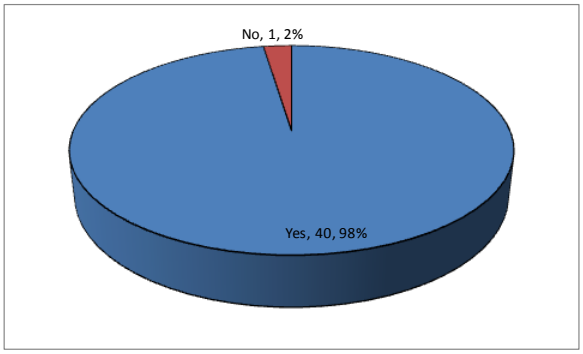

Figure 7: Use of Regulators

Appearance

The majority of the students, 78%, agreed that the instructor had a positive posture. A further 86% of the students agreed that the positive posture of the instructor encouraged them to listen to what he or she was saying (see figure 8), which leads to the deduction that the posture displayed by the instructor had a positive influence on the lecture. The response also revealed that 71% of students replied that the personal appearance of the instructor does not distract them, which leads to the assumption that students actually evaluate the appearance of the instructor, physically as

well as emotionally. 25 out of 41 students replied that the instructor displayed emotion all the time during the lecture, while the other 16 students replied that the instructor showed emotion sometimes during the lecture (see figure 9). It can thus be deduced that the use of affect displays by the instructor have a positive influence on the lecture.

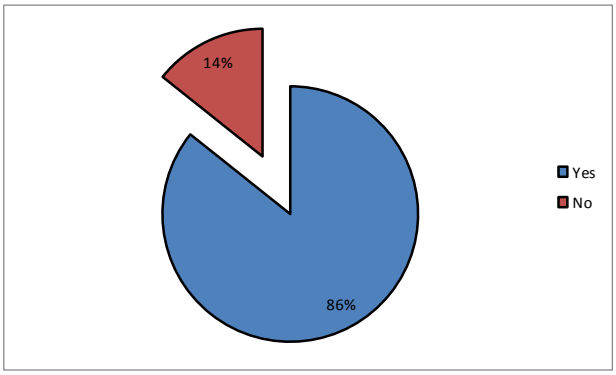

Figure 8: Effect of Posture is Positive

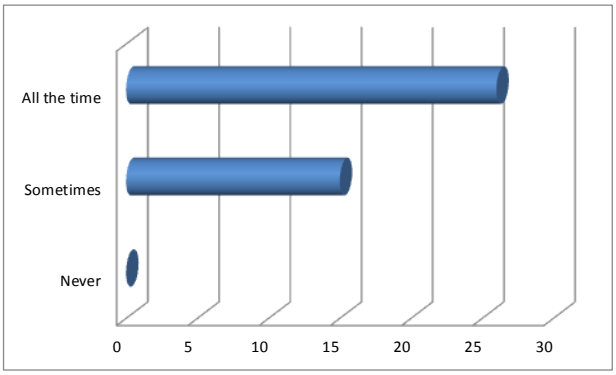

Figure 9: Show Emotion

Speech

When asked about the vocal characteristics of the instructor, students could choose more than one option, and responses were provided to all of the options that were available. The majority, 48% of the students, however felt that the instructor spoke in a way that he or she could understand. It can be deduced that the use of good vocal characteristics by the instructor had a positive influence on the lecture (see figure 10).

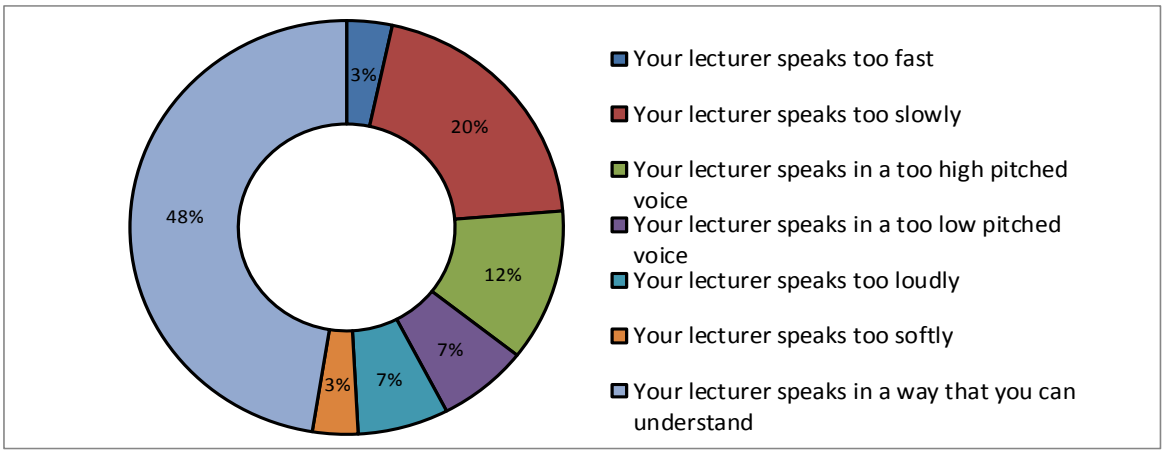

Figure 10: Vocal Characteristics

Students

Actions

27 out of 41 students reported that they made use of regulators as well as gestures to communicate with the instructor (see figure 11 and figure 12 respectively).

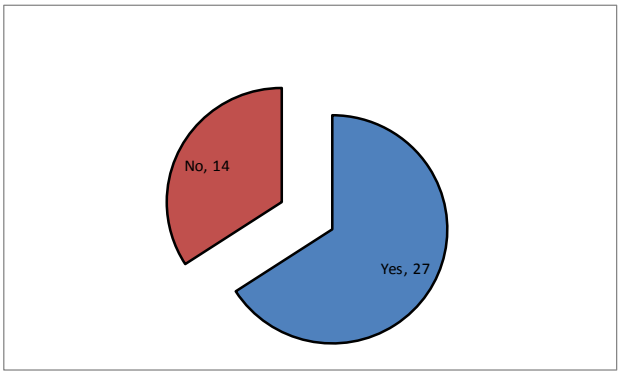

Figure 11: Use of Regulators

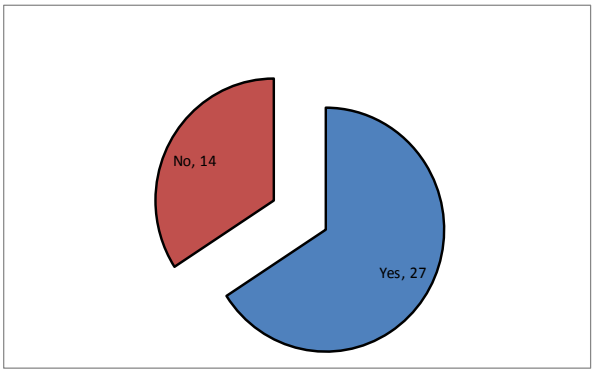

Figure 12: Use of Gestures

Appearance

37 out of 41 students replied that they show some form of emotion during a lecture and 68% of students replied that they sit up straight in class to focus on what the instructor is saying (see figure 13 and figure 14 respectively). It can be deduced that the positive posture of the students had a positive influence on the lecture. Because the assumption was made that any positive option has a positive influence on the lecture, it can be deduced that the use of Affect displays by students also have a positive influence on the lecture.

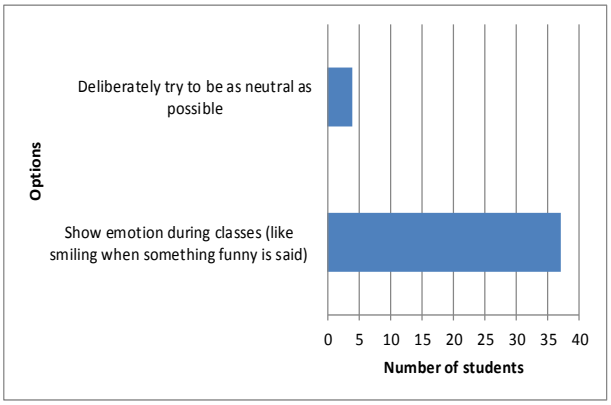

Figure 13: Show Emotion

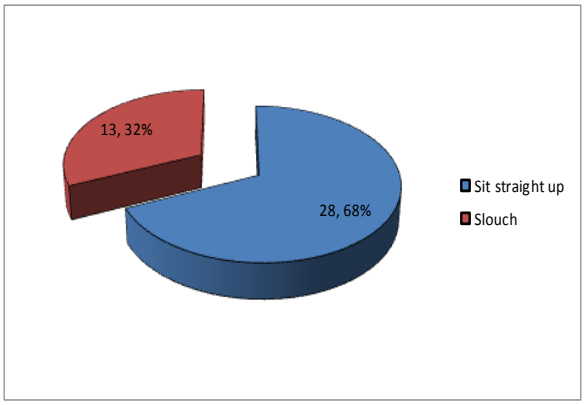

Figure 14: Posture

Speech

Responses on the vocal characteristics that students express when communicating with the instructor were dominated by two opposing options. 39% of students responded that they stumble for words when communicating with the instructor. 43% however responded that they speak loud and clear (see figure 15). It can be deduced that the good vocal characteristics will have a positive influence on the lecture, and that bad vocal characteristics will have a negative influence on the lecture.

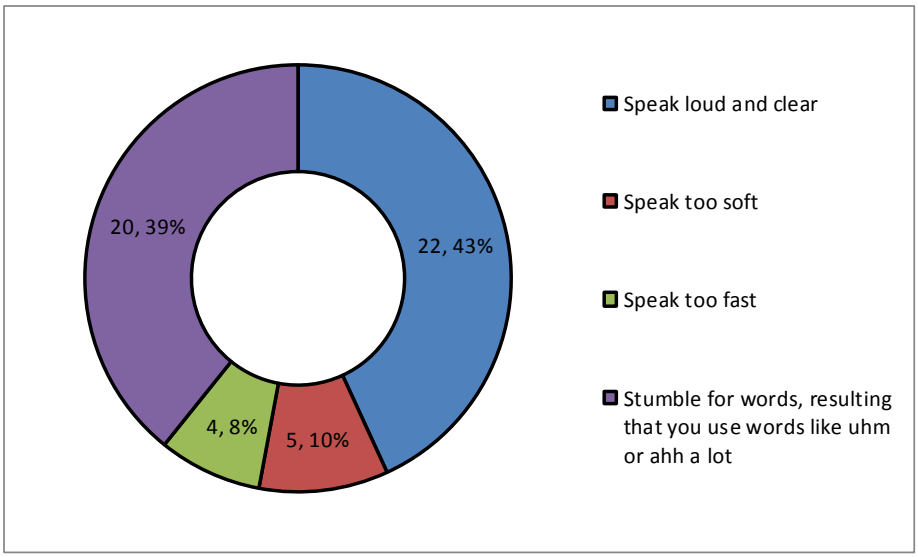

Figure 15: Vocal Characteristics

After analysing and interpreting the results of the questionnaire based on the instructor, it was established that the use of Gestures, Regulators, Eye contact, a Positive posture, Affect displays and Good Vocal Characteristics had a positive influence on the transfer of information during lectures. Thus, the nonverbal communication of the instructor had a positive influence overall on the lectures. Similar results were obtained from the questionnaire based on the students, and it was established that the use of Gestures, Regulators, Mannerisms, Affect displays and a positive posture had a positive influence on the lectures. Thus, the nonverbal communication of the students had a positive influence overall on the transfer of information during lectures. This resulted in the positive outcome of these lectures. Thus it can be said that the positive nonverbal communication of the instructor and the positive nonverbal communication of students during a lecture have a combined positive influence on the lecture.

From the above results, it can be said that the value of nonverbal communication within an educational setting cannot be denied. This makes it even more important to make sure that ICT`s are improved to incorporate a component that will support the transfer of more nonverbal communication, so that e-Learning can take place more successfully.

Conclusion

In this paper the barriers faced by developing economies in the implementation of e-Learning has been discussed. It was argued that challenges such as inadequate ICT infrastructure, the cost of bandwidth and the speed of bandwidth has a negative influence on the effectiveness of ICT to enhance education as nonverbal communication is often neglected by ICTs. Furthermore it was argued that nonverbal communication plays an important part in the educational setting as it accounts for 65% of communication (Mehrabian and Stewart in Steinberg 2007: 90). The argument was made that ICT`s need to be improved to better support the nonverbal component of communication, so that e-Learning can be more successful.

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