

**Factors influencing Information Technology Utilization in
Public Universities: A Case of Egerton University**

By

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A Research Project Submitted in partial fulfillment for the
Requirement of Master of Business Administration degree

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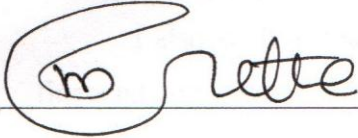


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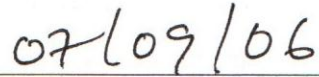
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DECLARATION

I declare that this research project is my original work and has not been presented either in part or full for examination or degree in this or any other university.



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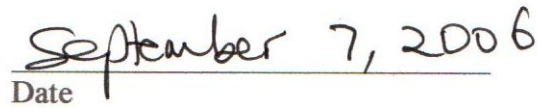
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APPROVAL OF PROJECT

This project has been submitted to Graduate School, Egerton University with our approval as university supervisors.



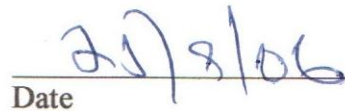
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Date

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ABSTRACT

Despite investing in Information Technology infrastructure, Kenyan public universities, and Egerton University in particular, seem not to have reaped maximum benefit. It is not clear how the available IT infrastructure is being used and the constraints that may be hindering their maximum utilization. An investigation was carried out to find out how the available IT infrastructure was being used and the factors that may influence its utilization. The main objective was to determine the extent of the use of IT in the management of Egerton University. A questionnaire was administered to respondents from various departments both teaching and non-teaching. Judgmental sampling technique was used to collect data from academic and non-academic departments, at Njoro and Laikipia Campus College. The data collected was analyzed by way of descriptive statistics. The results obtained indicated that the University could not do without IT in furtherance of its core function and that students were its main customers. The results also indicated there were factors that hindered the proper utilization of the existing IT infrastructure. Some of the factors were; how level of IT training, lack of top management support, lack of central poor IT infrastructure among others.

Some of the recommendations were to get top management commitment and support. It was also suggested that the University involve the user in IT planning and acquisition. The other recommendations that had wide support was the need to have a University-wide IT policy.

CHAPTER ONE Introduction

1.1 Background Information

In the last four or five decades, there has been a tremendous evolution and spread of Information Technology. This has revolutionized the way people have to do things and made the world a global village. Instantaneous communication has made the spread of information easy, and knows no boundaries. New industries and systems have come up and this has had an effect in the ways organizations operate.

The widespread effect of Information Technology (IT) upon organizations and office systems has changed the ways in which office personnel communicate. Computerized telecommunications have created a truly global village in terms of the immediacy within which people across continents can share conversations, televised pictures, maps or graphics. One reason systems play a large role in organizations, and why they affect more people is the growing power and declining cost of information technology; computer and peripheral devices that make up the core of information systems (Laudon, 2002).

Organizations are investing heavily in IT in order to cope with the volume of required information and the reduction of time within which the information is required. This is so because information is a major capital investment and therefore a major investment in IT will be a requirement for better planning, monitoring and control, communication across time and space, and the development and use of

management information system, and decision support system. (Williams, et al., 2004).

A good information system mines, collects, and provides a wide range of pertinent information relating to aspects of both the external and internal environments of an organization. By using the wide variety of tools and techniques available for solving problems of different magnitude, managers and other people in an organization, can find solutions to various concerns merely by securing access to these data available in the system and analyzing them (Sekaran, 2003).

The government of Kenya in its draft IT policy, recognizes that information, education and knowledge are at the core of human progress endeavour and well-being, and that ITs' are creating immense impact on the way services are delivered. It is therefore committed to optimizing the potential of IT to generate growth, to develop and promote people to people dialogue to increase productivity, and to improve the quality of life (GOK, 2004).

Public universities in Kenya occupy the highest point in the education ladder and play the leading role in the acquisition, storage and dissemination of knowledge. These makes them unique in terms of being the agents of technological transfer in the developing world. Much is expected from them by other organizations to provide leadership in the management and utilization of new technologies in addition to scholarship and research in IT (Wanyembi, 2002).

Egerton University, one of the six public universities in Kenya, started as an Agricultural school in 1939 and became a fully-fledged university by an Act of

Parliament in 1987. Over the years it has grown tremendously in terms of education programmes and number of students. It has also established other campuses to cope with the growing need for University education and the increasing number of students leaving secondary schools.

Currently, the University has the following programmes: Twenty (20) undergraduate degree, six (6) diploma, fifteen (15) masters (six in sciences and nine in arts), one (1) Postgraduate Diploma (in Education) and four (4) doctorate. It has over 42 departments in 9 faculties with 2,500 staff members (academic, administrative and support) and 8096 students. The University has acquired a teaching facility – Nakuru Town Campus, which is in full operation. This, alongside other College Campus offers self-sponsored programmes as offered in regular programmes.

With the rapid growth in student numbers and courses, the organization of the University becomes more complex and the need for information from within and with out of the University increases. Students' records and examination results need to be processed. Staff salary records need to be processed and up dated continuously. The need for IT therefore becomes more pronounced.

Egerton University has seen the need for a comprehensive IT policy for the University that will help improve access to quality and cost effective IT services in the University (EU-IT Policy, 2001). This will help in the provision of appropriate IT systems that will support the realization of its mission of developing quality human resources by providing client driven education, research, outreach, and consultancy services that promote the prosperity of human kind.

The EU-IT system is expected to, among others provide Campus-wide computer networks, provide staff and students with easy access to telephone services at the lowest cost, academic and administrative records storage and access, library automation and security systems. Provision of Internet based access to library catalogues, current journals and new book titles.

The core function of Egerton University is the creation, acquisition, storage and dissemination of knowledge. This is done through research, teaching and outreach programmes. Thus, vast amount of information is produced and also acquired. It is therefore important for this information to be stored and disseminated in an efficient and cost-effective manner for effective decision making.

1.2 Problem Statement

Since computer technology is expensive, it is necessary for it to be used productively by the University. A significant number of operations in the University are still manual despite the presence of Information Technology. Students academic records need to be processed, and stored securely for a long time. Examinations processing, and production of transcripts and academic certificates need to be done quickly and accurately. Currently, this is taking place in all faculties by stand-alone PC's in the faculty's Assistant Registrar's office. Common examinations done across faculties have to be manually taken to individual faculties for processing thus exposure to possible exam malpractices.

A significant number of research theses, academic papers, and proceedings are not kept in electronic form. Most of them are bound and kept in the library and searching for these information becomes difficult since it has to be done manually. Most University personnel records are kept in files and in filing cabinets. While this might be useful in some cases, it is possible to lose all these records in case of a disaster like fire, floods or theft. An electronic form of storage would be far better preferred because of easy retrieval of backups.

Despite the investment in Information Technology, it is not clear how it is used in management of the University in the furtherance of its vision and mission. This then leads to the question of how the available Information Technology is actually used in the management of the University, and the constraints that may be hindering its full utilization. It is therefore important to find out and document the actual use of the IT infrastructure and the factors that may influence how it is used.

1.3 Objectives Of The Study

- a) To determine the factors hindering the significant utilization of IT in the day-to-day operation of the university.
- b) To determine the extent of use of Information Technology in the management of Egerton University.
- c) To make policy recommendation that will improve the utilization of Information Technology in the University.

1.4 Research Questions

- a) What are the factors that hinder proper significant utilization of Information Technology?
- b) Is Information Technology is fully utilized in the management and day-to-day operations of the University?

1.5 Justification/Significance

The findings of this research will contribute to the literature on the ongoing academic research on how IT can be an important tool in organization management. It will also enable the University to have a clear IT policy that will enable rational investment and effective and efficient utilization of IT by the University, students, teaching and non-teaching staff will be able to appreciate the great capabilities of IT and make full use of it.

The findings will be also useful in making the University embark on networking the existing computers, more sharing of resources and information among staff and making better use of existing computers by all staff, in the furtherance of its mandate.

1.6 Limitation And Scope Of The Study

The study will investigate the extent to which IT infrastructure is utilized at Egerton University and determine whether staff both teaching and non teaching have access to computers and if they make full use of them.

The study will be limited to Egerton University due to its accessibility and also because the researcher is constrained by resources of finance and time.

1.7 Definition of terms

Information Technology: Collection of Computer software, hardware and connectivity through communication links that turn data into useful meaningful, accessible information.

Local Area Network: A communication network that connects computers, terminals, and other computerized gadgets within a limited physical area such as an office, building, campus and other work site.

CHAPTER TWO Literature Review

Development in the last decades have led to the convergence of Information Technology (IT) broadcasting and telecommunications, and created the opportunity of using the technologies for communicating and sharing information on a global scale. In this regard, telecommunications and broadcasting services bridge the gap while IT provides the tool to develop innovative applications. Their combination in a communications value-chain improves inputs to learning, productions, commerce, decision-making and other processes.

Computer hardware and software, storage technology, communications technology constitute an organizations IT infrastructure. The IT infrastructure provides the foundation on which an organization can build its specific information systems. Each organization must carefully design and manage its IT infrastructure so that it has the set of technology services it needs for the work it wants to accomplish with information systems (Laudon, 2002).

2.1 Importance of IT in Organizations

According to Lane *et al* (2000) the impact of IT on organizations has been tremendous and that this major technological change has brought about dramatic changes in worker behaviour and requirements. Laudon (2002) asserts that IT has progressively replaced manual work procedure with automated work procedures, workflows and work processes and this has reduced the cost of operations in many

organizations. This is due, in large part, to the ability of IT to collect, process, store, analyze and present information at phenomenal speeds (Drucker, 2001). This is then provided to people in the form and at the time they need it.

Improved workflow management has enabled many corporations not only to cut costs significantly, but also to improve customer service at the same time. Redesigned workflows can have a profound impact on organizational efficiency and can even lead to new organizational structures, products and services (Tibman et al; 2002). Organizations can use communication technology to organize in more flexible ways, increasing their ability to sense and respond to changes in the market place and to take advantage of new opportunities (Obrien,2002).

Putting in place a working IT infrastructure is quite expensive to any organization. To ensure that the money is well spent, it is necessary for these expensive facilities to be used productively by students, staff and faculties. Otherwise there will be a great deal of very powerful equipment that is grossly underutilized (Beeharry ,1996). According to Drucker (2001), most IT users like government agencies do little with them except to collect, store and present data. Very little use is yet to be made of the IT infrastructure to analyze information.

Applegat et al (1996) have advocated for an IT management control system to be integrated into the rest of the organization's operations, so as to ensure that it is being managed and utilized in a cost-effective and reliable fashion. The broad objectives of an effective IT management control system include to.

- 1) facilitate appropriate communication between the user and provider of IT services and provide motivational incentives for them to work together on a day-to-day basis;
- 2) encourage users of IT to act in the best interest of the organization as a whole;
- 3) encourage effective utilization of the IT resources and educate users of the potential of existing and evolving technologies; and
- 4) develop the standards for measuring performance and the methods for evaluating performance against the standards to ensure productivity.

Public universities in Kenya have been undergoing transformation in response to increase in the number of students, decline in the number of qualified staff, declining government funding and crumbling infrastructure. According to Adam (2003), reforms in higher education cannot take place without paying attention to IT and in its application in education management and administration, and support of teaching, research and life long learning.

The rapid infusion and diffusion of IT into public universities in Kenya raises important management issues for top management and technical staff. The establishment of many computer centres in public universities without clear aims, objectives and control has led to an alienation of these units from their organizations (Wanyembi, 2002). Equipment (primarily microcomputers) is purchased without articulation of corporate standards. The user is fully responsible for design of the system (Gallia and Baker 1998) and the purchase. The buyer especially in public

universities, mostly the procurement officer is responsible for the specification in terms of speed, and memory size of the computer despite not being an IT expert.

Wanyembi (2002) argues that there is bias towards the technical and less to the managerial on the utilization of computer technology. This has led to poor utilization and exploitation of the technology. A healthy combination of the technical and managerial expertise is vital for the proper exploitation of computer technology.

Information in terms of its collection, relevance, dissemination and retrieval supports a University's integral function. In its many forms lies at the heart of a university's primary activities relating to teaching, learning and research (Marcella and Knox 2004). Information Technology plays a crucial role in making information accessible, reliable, consistent and relevant for the University staff in management, academics, research and administration to work effectively on a day-to-day basis.

Manurlin, Spragre (2004) contend that how IT is used depends on the stakeholders both internal and external to an organization. In a University context, Marcella and Knox (1992) identify these internal and external stakeholders as among others students and their families, employers, teaching and administrative staff, government and funding bodies.

The majority of higher education institutions in Africa, in general and Kenya in particular, do not have well established IT strategies that provide consistent figures on their IT situation (Adam, 2003). Different departments and units receive IT equipment through donations and direct purchase without central coordination. It

therefore becomes difficult to coordinate and integrate parallel IT activities into a cohesive university-wide program.

From the above, we can see that universities have been wrestling with answers to questions about how they can fully utilize information technology in support of their stated vision and mission. They also have to grapple with the issue of creating an environment where IT not only exists, but is used effectively and productively.

2.2 Constraints to IT Utilization

There are outstanding organizational, user support, bandwidth, skill, resource, and coordination constraints to IT utilization. Laudon (2002) has observed that each organization has a unique culture, or fundamental set of assumptions, values and ways of doing things, that has been accepted by most of its members. Parts of organizations culture can always be found embedded in its IT systems. According to Mulling (2005), technical knowledge develops faster than consideration of human and social consequences. This means staff may become resentful, suspicious and defensive. People's cognitive limitation uncertainties and fears may result in a reluctance to accept change.

In this regard Banavjee et al (1995) say that, a new IT system quite often meets with resistance from the user organization because people do not accept what they do not understand. The reasons for these are among others: threat to status, threat to ego, threat to personal powers and political base, loss of autonomy and control. According

to Banavjee et al (1995), the single most critical problem in effective IT utilization is the need for understanding and support from top management. This is mainly in form of availing resources for the acquisition of IT infrastructure, training, and repair and maintenance. Even after top management support is ensured it is necessary that there is user participation in the design phase of corporate IT so as to avoid subsequent extensive and time-consuming re-work.

According to Adam (2003), a serious barrier to acquiring bandwidth by African universities is its high cost, mainly high licensing fees for connecting to advanced circuits. These results in its insufficient bandwidth that is quickly filled up and slow speed in accessing the Internet.

With the necessary IT infrastructure in place, Adam (2003) says that all too often the user simply wonders how to make use of these services. There should be a support system in place to cover the areas of user training, on-line assistance and repair and maintenance. There is lack of trained and experienced personnel to manage, control and maintain the increasingly large number of IT resources. It is therefore not possible to ascertain their utility values, effectiveness and efficiency (Wanyembi,2002).

There has been increased awareness of the significance of IT to higher education in Kenya. But this overall awareness has not been matched by advanced skills for the implication of IT to subject areas, like medicine, engineering and the social sciences among others and the lack of IT literacy skills to access, navigate and evaluate information within global networks, (Adam, 2003).

Public universities in Kenya have suffered from declining government support over the years. This coupled with lack of long term planning for investment in IT, has pushed IT acquisition from the list of institutional investment priorities or considerations (Wanyembi,2002).

Different University departments and faculties receive IT equipment through donations and direct purchase without central coordination (Adam 2003). This results in equipments of various makes, types and capacities. Similarly Wanyembi (2002) states that, the establishment of many computer centres in public universities without clear aims, objectives and control has led to an alienation of these units from their organizations causing them to operate independent of the organization they are supposed to serve.

2.3 The Role of Information Technology in the Management of Institutions of Higher Education

Information Technology constitutes a vital component of successful organizations. It helps all kinds of organizations improve the efficiency and effectiveness of their business process and managerial decision-making in a rapidly changing environment (Obrien , 2002). The rapid growth of the Internet and the Worldwide Web has created opportunities for organizations in today's dynamic global environment.

Ombui (2003) has observed that organizations should not equate IT to automation. It is about exploiting the latest capabilities of IT to achieve new goals, break old rules and create new ways of working. It is an important contributor to operational efficiency, employee productivity and effective decision-making by managers.

According to Adam (2003) African higher institutions of learning are growing rapidly in terms of number of students and courses, and declining resources to meet these growth. Information Technology has therefore been regarded as a solution for the problem of having to do more with less, providing access to increasingly diverse demography to students, and improving both the quality and quantity of educational content.

IT has made distance education available to growing number of student thus transforming universities form elite to mass education. It has also made it possible to store and retrieve a vast array of information, including course materials that improve the quality of instruction and learning. Information Technology transforms organizational patterns of higher education by making all institutional tasks more effective (Adam , 2003).

Information Technology in an Organization

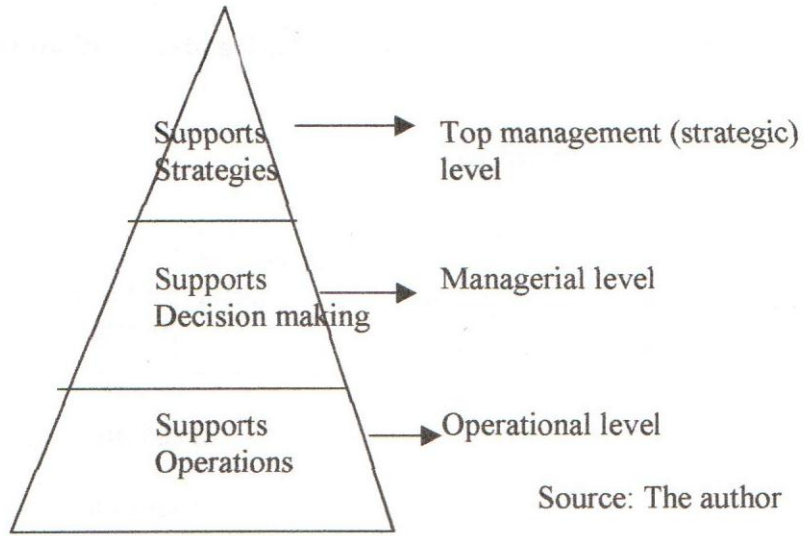


Fig 1.

2.4 Conceptual Framework

In particular IT may be critical in University management in terms of resource management and strategic planning, recruitment and retention of students, staff payroll administration; students examination processing and record keeping. This is true since IT is supposed to phase out manual, tedious processes that are both unreliable and inefficient due to difficulties inherent in information retrieval and sharing (Ombui, 2003). Information Technology therefore plays a great role in the success of the operations of a University, and also allows the institution to evolve and meet the challenges posed by the government, students and other stakeholders.

Performance Focus on Information Technology

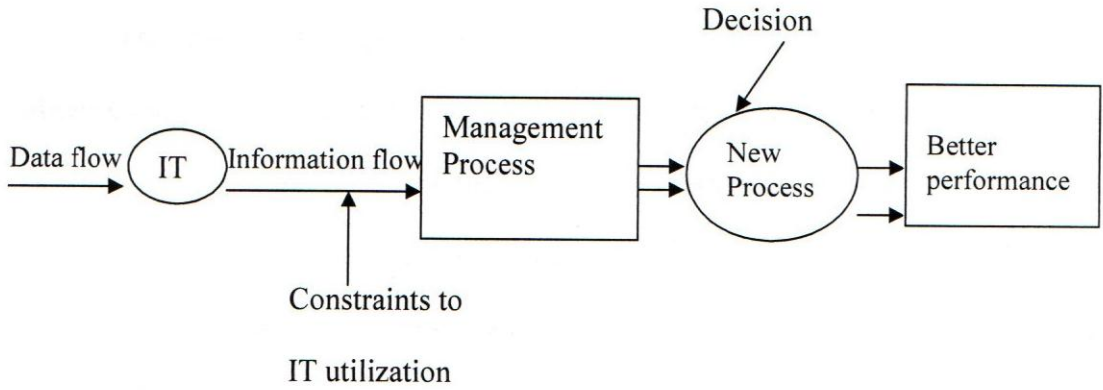


Fig. 2

Source: The Author

Data is converted to information, and this allows managers, and other users at all levels of an organization to make timely and informed decisions. This brings about new process and hence better overall performance for the organization.

CHAPTER THREE: Research Design and Methodology

3.1 Research Design

The case study approach was used. It involves a careful and complete observation of a social unit, family, an institution or even the entire community (Kothari, 2004). The object of the case study method is to locate the factors that account for the behavior patterns of the given unit as an integrated totality. Case studies usually provide qualitative rather quantitative data for analysis and interpretation.

3.2 Study Population

Egerton University Njoro Campus has 42 academic departments, 9 faculties and 11 administrative departments. These are the functional areas where IT has great impact. Laikipia Campus College has 4 academic departments, 1 faculty and 9 non-academic departments. These two campuses were selected because of the number of departments having IT infrastructure making it more diverse and representative

3.3 Sample Size Determination And Sampling

A sample of academic and non-academic departments, were considered by judgment sampling because of the different roles they play in the day-to-day running of the University and their ability to provide the desired information. A total of 50 questionnaires were administered to staff working in these areas.

3.4 Data Collection

Data was collected from respondents by way of questionnaires. Standardized questionnaires provide data in the same form from all respondents. The researcher personally delivered and administered questionnaires. The researcher also collected the questionnaires after completion.

3.5 Data Analysis

The data collected was analyzed using descriptive statistics, using Statistical Package for Social Sciences (SPSS) software.

Descriptive statistics was used to summarize the data. This includes percentage and frequencies, which will be used to establish the number and proportion of respondents responding positively or negatively so as to make logical conclusions on the population the sample represents.

CHAPTER FOUR: Data Analysis And Interpretation

4.1 Introduction

This study aimed to investigate the factors that influence information technology utilization in public universities. From the 50 staff members sampled, 39 answered and returned the questionnaires, a 78% response, which is fairly representative. The completed questionnaires were collected and entered in the Statistical Data Analysis Package, based on the variables considered in the objectives. Data extracted from the questionnaires were analysed by use of descriptive statistic.

4.2 General Findings

Table 1: Computer Skills

	Frequency	Percent	Valid Percent	Cumulative Percent
Average	13	33.3	33.3	33.3
Good	15	38.5	38.5	71.8
Competent	11	28.2	28.2	10.0
Excellent	0	0		
Total	39			

Source: Field data

From Table 1 we can see that 38.6% of the respondents rated their computer skills as good. None of the respondents rated themselves as excellent. This shows a low level of computer skills among staff and this has an impact on information technology utilization. This could mean most of them have been learning on the job. This translates to staff using computers mainly for tasks like word processing. The other capabilities of computers have largely been unexplored.

Table 2: Level of IT Training

	Frequency	Percent	Valid Percent	Cumulative Percent
Elementary	20	51.3	51.3	51.3
Intermediate	15	38.5	38.5	89.8
Advanced	4	10.2	10.2	100.0
Total	39			

Source: Field data

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Slightly over half (51.3%) of the respondents had an elementary level of Information Technology training. Such a low level of training has a major impact on computer skills hence most staff would not be in a position to fully utilize Information Technology. This could mean that a majority of staff have not been updating their IT skills continuously. Information Technology changes rapidly, and if one does deep up

to date with the changes, chances are that one will not be in a position to make optimum use of its capabilities.

Table 3: Area of Work

	Frequency	Percent	Valid Percent	Cumulative Percent
Academic	17	43.6	43.6	43.6
Administration	15	38.5	38.5	82.1
Non-Academic	7	17.0	17.9	100.0
Total	39			

Source: Field data

From Table 3 it can be seen that a good number of the respondents, 43.6% work in the academic division. This is to be expected as the University's core business is the acquisition, storage and dissemination of knowledge. This is also where we have students, and their personal and academic records are most vital and need to be maintained and updated regularly. Those who work in administration are significant, in as far as this area supports the academic functions of the University. Some of these areas are: Personnel, Finance, Transport, Estates, Halls among others.

Table 4: Percentage of Work requiring IT

	Frequency	Percent	Valid Percent	Cumulative Percent
About 25%	6	15.4	15.4	15.4
About 50%	7	17.9	17.9	33.3
About 75%	16	41.0	41.0	74.3
About 100%	10	25.7	25.7	100.0
Total	39			

Source: Field Data

From Table 4 we can over 80% of the respondents said their work-required use of computers. This shows that IT is crucial in the day-to-day work of the University. The amount of data for staff and student that need to be captured and processed is quite large and hence the need for IT. The use of IT supports management and Strategic decision-making.

Table 5: Main Customers

	Frequency	Percent	Valid Percent	Cumulative Percent
Students	27	69.2	69.2	69.2
Academic staff	3	7.7	7.7	76.9
Non-academic	7	18.0	18.0	94.9
External	2	5.1	5.1	100.0
Total	39			

Source: Field Work

From table 5 we can see that almost 70% of the respondents said that their main customers were students. This is expected since the University exists to create, disseminate and store knowledge. The high proportion of the response reflects the frequency with which the respondents interact with students. This is not surprising because of the centrality of students as the major customers of higher education and its major products.

Table 6: Category of day-to-day Work where IT is Appropriate

	Frequency	Percent	Valid Percent	Cumulative Percent
Operational	27	69.3	69.3	69.3
Tactical	9	23.1	23.1	92.4
Strategic	3	7.6	7.6	100.00
Total	39			

Source: Field Data

From Table 6 it can be seen that IT would be most appropriate at operational level i.e. supporting day-to-day University. This is where transactional activities mostly take place. Data is input and the information can be used for decision-making. Although those who said their day-to-day work was tactical (23.1%) and strategic (7.6) might appear small, this is dictated by how much the individuals have decision making skills. It is also a reflection of the seniority of some of the respondents

Table 7: Data often Used

	Frequency	Percent	Valid Percent	Cumulative Percent
Staff	9	23.1	23.1	23.1
Financial	5	12.8	12.8	35.9
Student	25	64.1	64.1	100.0
Total	39			

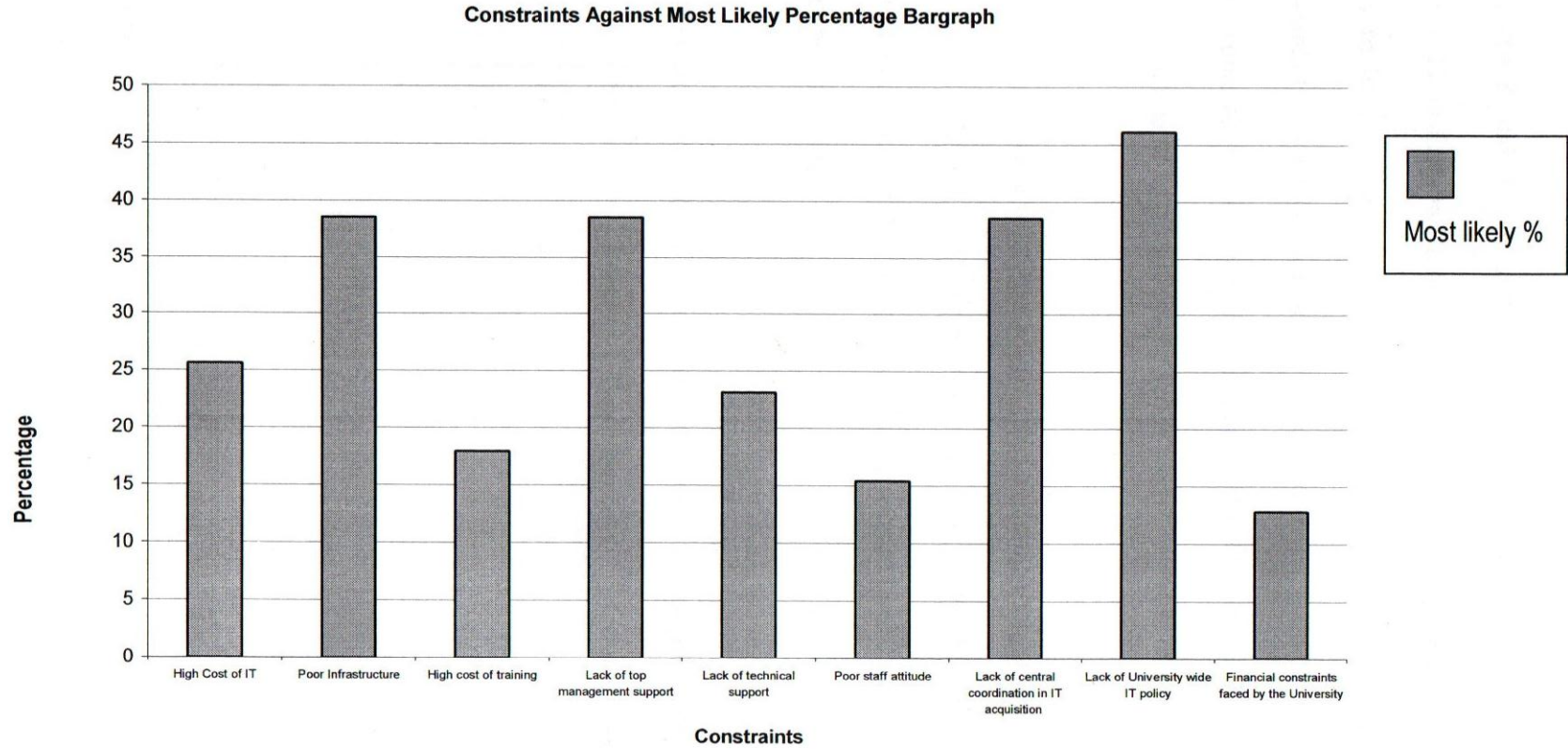
Source: Field Data

From table 7 it can be seen that most respondents 64.1% used student data in their day-to-day works. The University has a student population of about 10,000 and it is important to keep their data in electronic form. These are the individuals who interact with students on a mostly daily basis, and would therefore be expected to be using data in the fulfillment of their duties. In contrast, staff and financial data are not widely used since they tend to be restricted to staff who really need them or more tailor made to specific group needs.

Table 8: Major Constraints

	Constraints	Least likely %	Likely %	Very likely %	More likely %	Most likely %
1.	High cost of IT	10.3	17.9	20.5	25.6	25.6
2.	Poor infrastructure	7.7	15.4	17.9	20.5	38.5
3.	High cost of training	15.4	25.6	20.5	20.5	17.9
4.	Lack of top management support	10.3	10.3	7.7	33.3	38.5
5.	Lack of technical support	20.5	20.5	15.4	23.1	23.1
6.	Poor staff attitude	23.1	15.4	17.9	28.2	15.4
7.	Lack of central coordination in IT acquisition	12.8	10.3	10.3	28.2	38.5
8.	Lack of University-wide IT policy	5.1	7.7	7.7	33.3	46.1
9.	Financial constraints faced by the University	41.0	20.5	17.9	7.7	12.8

Table 9 Bar graph



From figure 8 and 9, we can see that although there were a number of constraints to full IT utilization, there are some that most respondents felt were or were not likely to have an effect. An example are the 41.0% who said that the financial constraints faced by the University were not a major factor to IT utilization. This could be explained by the fact that, although the University faced financial problems, IT was not one of its priorities and funds were channeled to other areas.

On the other end, some constraints were cited as being a major hindrance to IT utilization. These include lack of University-wide IT policy (46.1%); lack of central coordination in IT acquisition (38.5%); poor IT infrastructure (38.5%) and lack of top management support (38.5%).

Table 10: Extent User Would Like to be Involved in IT Acquisition

	Frequency	Percent	Valid Percent	Cumulative Percent
Whole process	11	40.7	40.7	40.7
Give specifications	16	59.3	59.3	100.0
Procurement	0			
Total	27			

Source: Field Data

From the 39 questionnaires received, only 27 respondents answered to this question. Of those who answered, 59.3% said they would like to be involved in giving specification and 40.7% would like to be involved in the whole process. This shows a high degree of awareness by the respondents that they are hardly involved or consulted in IT acquisition. And the systems acquired might not meet their requirements, or they may be unaware of their full capabilities.

Table 11: Computer Connected to Others in the University

	Frequency	Percent	Valid percent	Cumulative percent
Connected	3	7.7	7.7	7.7
Not connected	36	92.3	92.3	100.0
Total	39			

Source field data

A high percentage, 92.3% of the respondents said they were not connected to others in the University. This shows that the University has not invested widely in interconnecting its IT infrastructure, through the Local Area Network. It is not possible for most departments to share resources with others, both within and without the University.

CHAPTER FIVE: Conclusion and Recommendation

5.0 Conclusion

The study gathered data from departments representing the full range of University functions. A number of issues come up from the respondents, which had a major or significant bearing, on the Universities ability to fully utilize IT for the furtherance of its mission and objectives.

Over half of the respondents (51.3%) had an elementary level of IT training, this was collaborated by the percentage of respondents who rated their computer skills competent (28.2%). Most rated themselves as good (38.5%) or average (33.3%). These might be passable for getting by on day-to-day work, but not adequate for one to exploit the full capabilities of the existing IT infrastructure. There is therefore a need for continuous IT training and development of staff and their being made aware of the capabilities of the current IT system.

The percentages of responses on the area of work (Academic- 43.6%), main customers the respondents dealt with on a day-to-day basis (Students – 69.2%); and data often used (Student data – 64%), illustrates the fact that students are central in a University and also its major product.

An overwhelming majority, 93.3% agreed that the University could not do without IT. This shows high awareness of the major contribution IT can make in the running of the University in its quest to achieve its objectives and perform its core functions. An equally high number of the respondents, 92.3% said that their

computers were not connected to others in the University. By not investing in interconnectivity, through the Local Area Network, the University is missing out on lowering its operational costs and making optimum use of the available resources. It was also not possible to share information.

Despite this, 66.7% said that the University had not effectively performed its core function of creation, acquisition, storage and dissemination of knowledge. A number of reasons or constraints were cited as to why the University has not been able to do so. High among them was lack of a University-wide IT policy (46.1%). An IT policy is necessary so as to give clear direction, cohesion, and consistency in all IT matters. A high number of respondents who cited financial constraints faced by the University (41.0%) as least likely to affect development and use of IT, can be explained by the fact that IT has not been a priority in the University. Clearly IT has not been seen as being of strategic importance, and therefore place it at the center of the University success.

Most respondents said they would like to be involved in one way or the other in the acquisition of IT infrastructure (whole process 40.7% or give specifications 59.3%). This most likely means that, IT acquisition is done without the input of those who would use the system or benefit from it. Whatever is acquired will most likely not meet the need of the users and will therefore not be fully utilized.

5.1 Recommendations

For IT to be used effectively, the University needs to change organizational characteristics and approaches that might hamper IT effectiveness. These, among others, include organizational culture, goals and, IT policy among others. Top management support and involvement must be sought and be sustained, since this has a major bearing in the proper utilization and exploitation of IT.

IT has moved from paper processing to general management support and then made to decision support tools. This has improved on decision making through the provision of relevant and timely information.

A majority of the respondents (92.3%) said that computers in their department were not connected to others in the University. Not being connected means that staff are not able to share resources, and mostly increases paper work, and hence increased operational costs. Attempts should also be made to integrate IT infrastructure within the University and have a single, centrally linked system that works for everybody. Currently, there are pockets of systems all over the University that cannot communicate with each other.

Staff attitude towards continuous training and being involved in IT planning sessions. The emphasis should not be on equipments but an ideas and attitudes needed to support the equipment.

The need for a University-wide IT policy cannot be over emphasized. There are compelling reasons, which among others, related to the aligning of IT development

and planning to the University's core functions. It should also bring on board all stakeholders whose ideas should be sought. Although the University has an IT policy, the contents have not disseminated to users. This should be a continuous exercise.

Another areas to be emphasized on is the acquisition of IT equipments. Currently these are acquired in an ad hoc manner, by departments without first finding out if they really need the system. A centrally coordinated IT acquisition will try to look at the whole University's IT needs and see how to make best use of the current system, and not acquire them for the sake of it.

5.2 Suggestion for Further Research

Further research should explore the benefits that accrues from investing in IT. By being able to calculate the benefits of IT investments, it may be possible for the University to fully utilize their systems and put IT in their development agendas. Another area would be to measure IT infrastructure performance against some set benchmarks to see if the organization is getting value for its investment.

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APPENDIX A

QUESTIONNAIRE

You have been randomly selected to provide information for a study on “Factors Influencing Information Technology utilization in Public Universities: A case of Egerton University”. Please answer all questions in this questionnaire as honestly and accurately as possible. All the information provided will be treated confidentially.

A. GENERAL QUESTIONS

1. How do you rate your computer skills?

i Average

ii Good

iii Competent

iv Excellent

2. What level of training in computers have you undergone?

i Elementary

ii Intermediate

iii Advanced

3. In which area do you work?

i Academic

ii Administration

iii Non-academic

4. What percentage (%) of your work requires the use of computer?

i About 25%

ii About 50%

iii About 75%

iv About 100%

5. Is (are) the computer(s) in your department connected to other computers in the University? Yes No

6. Is it possible to extend/vary your computer specifications? (e.g. memory size, update software).

Yes

No

7. What in your opinion is the drawback to the current computer system you are using?

B. FUNCTIONAL AREAS

8. Who are your main customers?

i Students

ii Academic staff

iii Non- academic staff

iv External

9. In what category does your day-to-day work fall into?

- i Operational – Supporting the day-to-day operations activities.
- ii Tactical - Addressing departments/Faculty/school needs.
- iii Strategic – Addressing University needs (Top management)

10. How often do you use student data?

- i Not at all
- ii Frequently
- iii Sometimes
- iv Daily

11. Which data do you often need?

- i Staff data
- ii Financial data
- iii Student data

12. When accessing information is it:

- i Usually available on time, every time
- ii Usually available most times
- iii Usually available after many requests
- iv Not available at all.

13. What application software do you use most?

- i Word processor
- ii Spreadsheet
- iii Database Management
-

iv Students Records Management System

v Other

(specify) _____

14. Are other departments willing to share information necessary for your day-to-day work?

Yes

No

15. Why do you think departments are unwilling or reluctant to share information?

16. In your own view, can the University do without Information Technology?

Yes

No

17. Is Information Technology useful in a University?

Yes

No

18. To what extent are the following major constraints affecting the development and use Information Technology in the University. Use the 5 point Likert scale.

1 (least likely) to 5 (most likely)

a) High cost of computer technology

1 2 3 4 5

b) Poor computer technology infrastructure

1 2 3 4 5

c) High cost of training

1 2 3 4 5

d) Lack of the top management support and commitment.

1 2 3 4 5

e) Poor staff attitude to Information Technology

1 2 3 4 5

f) Lack of technical support.

1 2 3 4 5

g) Lack of central coordination in IT acquisition.

1 2 3 4 5

h) Lack of University-wide IT policy.

1 2 3 4 5

i) Financial constraints faced by the University.

1 2 3 4 5

19. How often does the University upgrade its IT infrastructure?

Monthly Yearly Never

20. Which of the following management level shown below would Information Technology be most appropriate.

- i Operational - Supporting day-to-day university activities.
- ii Tactical - Addressing departments/Faculty/students needs.
- iii Strategic - Addressing long term University needs.

21. What in your assessment is the present level of Information Technology development in the University?

- i High
- ii Average
- iii Low

22. Do you as a user participate in the acquisition of computer technology infrastructure appropriate for your work?

Yes No

23. If you answer above is 'No', to what extent would you like to be involved?

- i The whole process
- ii Giving specifications about the hardware soft ware
- iii Procurement

24. One of Egerton University's core functions is the creation, acquisition, storage and dissemination of knowledge. Has it done these effectively? Yes No

Why do you think that is the case? _____



OFFICE OF THE REGISTRAR
(ADMINISTRATION)

APPENDIX B

EUNJ/60159

8th June, 2006

Mr. M. M. Gathua
Senior Assistant Registrar (Administration)
Laikipia Campus College

Thro'
The Principal
Laikipia Campus College

Forwarded
[Signature]
12/06/2006

Dear Mr. Gathua

RE: PERMISSION TO COLLECT DATA

Reference is made to your letter dated 25th May, 2006 on the above mentioned subject.

This is to inform you that permission has been granted for you to collect data from Njoro and Laikipia campuses respectively to enable you undertake a research project for your MBA Degree on "**Factors influencing Information Technology Utilization in Public Universities: A Case of Egerton University**".

Yours sincerely

Dr. T. K. Serrem
REGISTRAR (ADMINISTRATION)

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