

**AN INVESTIGATIVE RESEARCH INTO BUSINESS-ICT ALIGNMENT AND ITS
IMPACT ON INSTITUTIONS OF HIGHER EDUCATION: A CASE STUDY OF
SELECTED UNIVERSITIES IN KABALE DISTRICT.**

SUBMITTED

BY

IMANIRAGABA PROSCOVIA



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PREFACE

This study was done in order to carry out an investigative research into Business-ICT alignment and impact on institutions of higher education with reference to the case study of selected Universities in Kabale district.

DEDICATION

I dedicate this piece of work to all my family members especially my husband Mr. Martin Ampumuza, my daughter Nelly Andinda, my father Mr. Maniragaba Claver and my mother Mrs. Stella Maniragaba, my siblings, in-laws, relatives, friends and well-wishers who supported and encouraged me throughout this academic program.

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LIST OF ABBREVIATIONS

ATM:	Automatic Teller Machine
BIA:	Business-IT-Alignment
IT:	Information Technology
ICT:	Information Communication Technology
MIS:	Management Information Systems
MOOCs:	Massive Open Online Courses
TV:	Television

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ABSTRACT

The study was conducted to explore into Business-ICT alignment and its impact on institutions of higher education and then give the different recommendations on how business-ICT alignment can be integrated in institutions of higher education in Kabale district in order to stimulate business growth and development using both qualitative and quantitative techniques. The study was conducted among Assistant Lecturers, (35.5%), Lecturers (20.5%), Head of department, (5.5%), Non-teaching staff (25.5%), and administrators (13.0%). In the study, data was collected through structured interviews and questionnaire from 200 respondents. More information was gathered through the use of available literature and observation.

The study found out that the main ICTs used in institution were: computers, application software, tablets, projectors, interactive whiteboard and display monitors. However the general business-ICT alignment levels in the institutions are till at a minimal level (38%). The study shows that many respondents strongly agreed (51%) and (37%) agreed that Business-ICT alignment is a suitable process for institution progress and success. The study also found out that by improving the integration & alignment of ICT to institutions, the universities will improve their ability to realise institutional vision & goals (76%), provide more agility in response to institutional diversification, growth and development (87%), improve student, staff and partner experiences with greater enterprise capability, (98%), enable greater sharing of knowledge and resources across the enterprise (67%), improve communications (78%). On establishing how business growth and development can be stimulated through business-ICT alignment respondents said it creates direct job, Contributes to GDP growth, Emergence of new services and industries, Workforce transformation and leads to Business innovation

In conclusion, the use of information and communication technologies no doubt is gaining momentum in Ugandan universities. The ICT is used by faculty, staff and students in sourcing information to align business. ICT use in management is highly embraced and this improves management practices. The use of ICT in works of universities management is observed that indeed, it simplifies work and makes it easier for universities' staff to enjoy their work and hence generate quality decisions for the running of their universities. ICT usage will facilitate development since there will be free flow of information.

CHAPTER ONE

GENERAL INTRODUCTION

1.0: Over view

This chapter highlights the introduction of the research topic, background of the of the research area, background of the study, statement of the problem, research objectives, research questions, significance, scope of the research project, conceptual framework and definition of key terms.

1.1: Introduction

Business-ICT alignment is a dynamic state in which a business organization is able to use information Communication technologies (ICTs) effectively to achieve business objectives, typically improved financial performance or marketplace competitiveness (Wachegu, 2012). As Universities are growing at a mushroom rate, (in terms of courses and students' numbers) the researcher expects their ICTs' usage and application levels within their business environment to grow at the same rate. Effective ICTs' usage and application helps Institutions of higher education to achieve their objectives. Business-ICT alignment is an enabler in different businesses because it improves financial performance and market competitiveness, it leads to quick decision making and control processes-(Decision Support and collaborative Systems, MIS, etc.). "ICTs also provide a research platform hence boosting research and development in business" (Aversano et al 2012). The researcher intends to evaluate the Business-ICT alignment levels, and the different types and standards of IT equipment used within the business environment of selected Universities in Kabale district and also recommend different ideas about Business-ICT alignment.

1.1: Back ground of the research area

Kabale University, Uganda Martyrs University-Kabale Campus, and Bishop Barham University-UCU are located in Kabale municipality, Kabale District, Kigezi sub-region.

Kabale University (KAB) is a public University in Uganda, the third-largest economy in the East African Community. The main campus of KAB is located on Kikungiri Hill, in Kabale Municipality, on 52 hectares (130 acres) of land donated by the Kabale District Administration. This location is 1 kilometre off the Kabale-Gatuna Road, approximately 406 kilometres, by road, southwest of Kampala, Uganda's capital and largest city. The coordinates of KAB are °16'20.0"S, 29°59'18.0"E (Latitude:-1.272215; Longitude: 29.988321). KAB was established as a private institution in 2001 by stakeholders in the Kigezi sub-region. The major objective of KAB is to contribute to the socioeconomic development of Kigezi, Uganda, East Africa, Eastern Africa, and Africa through accessible training, research, and decentralized service delivery, using participatory and inclusive approaches and methodologies. KAB received accreditation from the Uganda National Council for Higher Education in 2005.

In January 2015, after lobbying from stakeholders, the government of Uganda indicated its willingness to take over the private university, provided certain conditions were met. In June 2015, the government formally took over the university

Uganda Martyrs University-Kabale Campus is one of the campuses of Uganda Martyrs University-Nkozi, and it is located along side Kabale-Gatuna road, a kilometre from Kabale town. It offers courses in the field of science and arts and social sciences.

Bishop Barham University-UCU is a campus of Uganda Christian University. It is a regional constituent college of UCU, with about 1,000 students, located in the town of Kabale, approximately 420 kilometres (260 mi), by road, south-west of Kampala.

1.2: Background of the Study

A key success factor for a successful company in a dynamic environment is effective and efficient Information Communication Technologies (ICTs) supporting business strategies and processes. In recent surveys however it is concluded that in most companies ICT is not aligned with business strategy. The alignment between business needs and ICT capabilities is therefore still a prominent area of concern. (Silvius, A. J. Gilbert, 2007). “Related to the above, over the past recent years, institutions have felt increasing pressure to improve efficiency and effectiveness, quality, decrease costs, and enhance a competitive advantage on the market. Institutions of higher education can attain these goals through aligning the ICTs (Information Communication Technologies) direction with the business direction.

Proper alignment can have a considerable impact on an institution's quality provision and control, hence improving its market position and financial performance. Business-ICT alignment is achieved when all IT activities provide optimal support for the business goals, objectives, and strategies. The IT strategy and business strategy are developed concurrently rather than sequentially so that technology enables the business strategy". (Haes, 2009). More so, "it is important to embed the IT strategy within the business strategy, rather than developing it as an afterthought. Alignment is a development that does not occur in an overnight, it is a development that should be seriously and committedly worked on to help in identifying opportunities to use technology for a competitive advantage and increase the value to the business". (Haes, 2009).

1.2: Statement of the Problem

According to Haes et al, (2009), Business-ICT alignment has suddenly emerged and become an important issue in the business and information technology era. Many Organisations have implemented alignment between business and ICT to achieve business growth and competitiveness. Institutions of higher education in Kabale district, that is; Uganda Martyrs, Kabale and Bishop Barham-UCU Universities already have the facilities like computers, the Internet, and some peripheral devices that would enable them to take on the Business-ICT alignment but with these facilities and the enabling technological and human capital, the Business-ICT alignment is not yet clearly evident. This is witnessed by the way business

processes are manually run in these Universities/institutions. Therefore, this study will help achieve the objectives of; investigating the level of Business-ICT alignment in institutions of higher education, analysing the impact of Business-ICT alignment in institutions of higher education, assessing how Business-ICT alignment can be integrated in institutions of higher education, and coming up with a framework that can guide institutions of higher learning on the application of Business-ICT alignment. These specific objectives will help achieve the main objective to carry out an investigative research into Business-ICT alignment and its impact on business competitiveness in institutions of higher education.

1.3: Research Objectives:

1.3.1: Main objective:

To carry out an investigative study into Business-ICT alignment and its impact on institutions of higher education and then give the different recommendations on how Business-ICT alignment can be integrated in institutions of higher education in Kabale district in order to stimulate business growth and development.

1.3.2: Specific objectives

- i) To investigate the level of Business-ICT alignment in institutions of higher education in Kabale district

ii) To analyse the impact of Business-ICT alignment in institutions of higher education in Kabale district

iii) To assess how Business-ICT alignment can be integrated in institutions of higher education in Kabale district

iv) To come up with a framework that can guide institutions of higher education on the application of Business-ICT alignment

1.4: Research Questions

i) What is the level of Business-ICT alignment in institutions of higher education in Kabale district?

ii) What is the impact of Business-ICT alignment in institutions of higher education in Kabale district?

iii) How can Business-ICT alignment be integrated in institutions of higher education in Kabale district?

iv) Which framework can guide institutions of higher learning on the application of Business-ICT alignment?

1.5: Justification of the study

There are no clear frameworks and models to guide institutions on how to integrate business ICT alignment in institutions of higher education

There is limited literature about business-ICT alignment in institutions of higher education

1.6: Significance of the study

To the researcher

This research helped the researcher gain a pool of knowledge on Business-ICT alignment levels and its impact to business competitiveness of institutions of higher education and other different businesses.

To Institutions of higher learning

The research study helped answer the above research questions and this led to recommendations on how to improve Business-ICT alignment levels in institutions of higher education hence improving efficiency and effectiveness, quality, decrease costs, and enhance a competitive advantage in the market.

To other researchers

The study will provide academic knowledge for future researchers and academicians upon which to draw reference to the research subject.

To the public

The study will provide empirical evidence on how Business-ICT alignment influences the performance of institutions of higher learning.

To policy makers

The study will help Institutional policy makers and managers to appreciate the banafits brought about by Business-ICT alignment in institutions of higher learning.

To the Government

This research helped improve the education system in the country by ensuring that the ICT infrastructure development in institutions of higher education is boosted by Government support.

1.7: Scope of the research study

1.7.1: Geographical scope

This research study was conducted in selected Universities of Kabale University, Uganda Martyrs University-Kabale Campus and Bishop Barham University-UCU, in Kabale district.

1.7.2: Time scope

This research study took a period of five months which involved carrying out research by using different research methods and tools that helped the researcher collect the required information which helped in answering the research questions and achieving the general and specific objectives.

1.7.3: Content scope

The research study mainly focused on Business-ICT alignment in institutions of higher education.

1.8: Conceptual framework

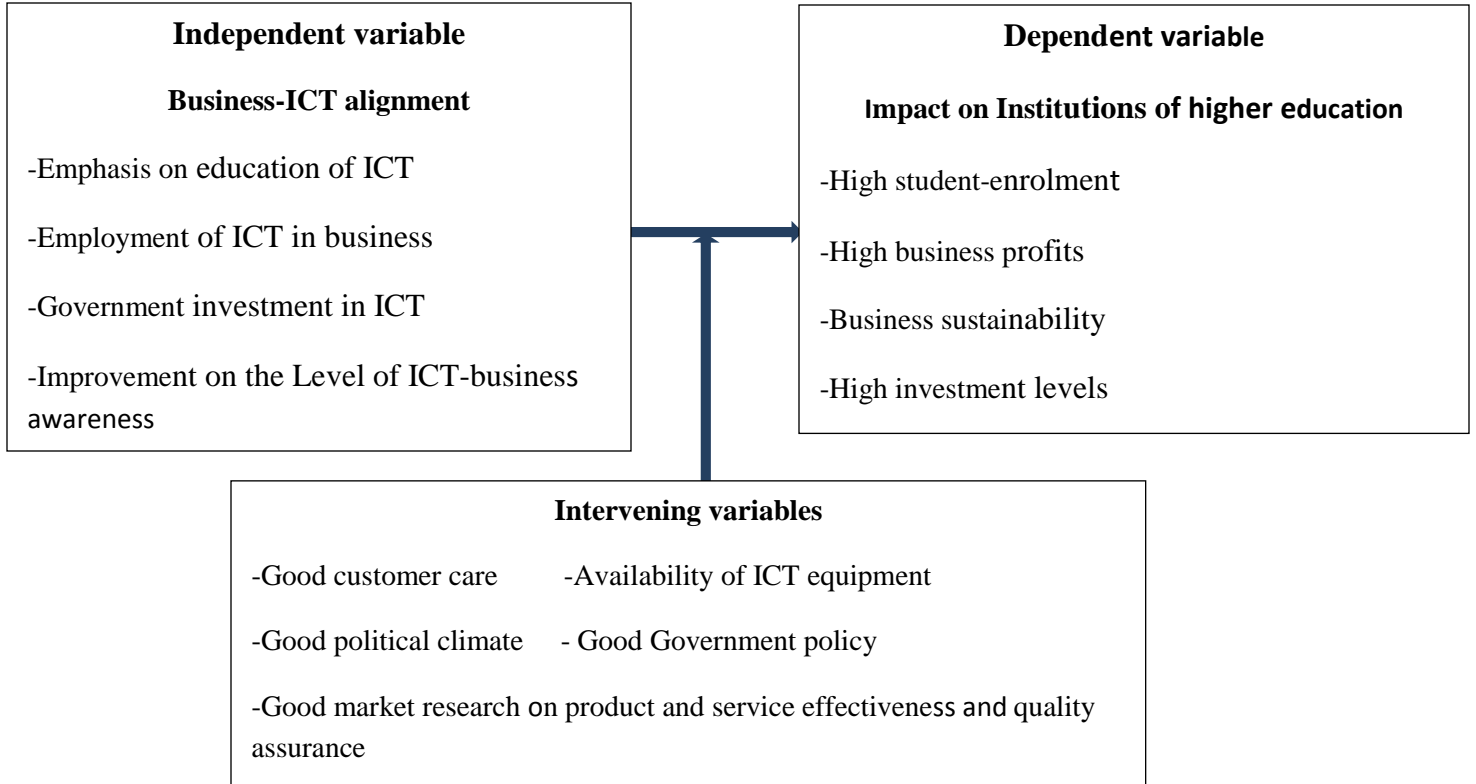


Figure1: Conceptual framework (Source: Researcher)

For Institutions of higher education to grow and acquire efficiency, effectiveness, and profits in today's educational business economy, (hence competitiveness) through Business-ICT alignment, it is taken into consideration that issues that bring about Business-ICT alignment be put into consideration. These issues include; Emphasis on education of Business-ICT alignment, Employment of ICT in business, Government investment in Business-ICT alignment, among others.

Emphasis on education of Business-ICT alignment: According to Rebnita (2005), Business-ICT alignment is the problem of matching ICT services with the requirements of the business. In businesses of any significant size, Business-ICT alignment is a hard problem, which is currently not solved completely. With the advent of networked constellations of enterprises, the problem gets a new dimension, because in such a network, there is not a single point of authority for making decisions about ICT support to solve conflicts in requirements these various enterprises may have. Network constellations exist when different businesses decide to cooperate by means of ICT networks, but they also exist in large corporations, which often consist of nearly independent business units, and thus have no single point of authority anymore. In this case, the need for education of several solution techniques to address the problem of Business-ICT alignment in networked constellations is required. Such techniques include: RE techniques to describe networked value constellations requesting and offering ICT services as economic value. These techniques should allow reasoning about the matching of business needs with available ICT services in the constellation. RE techniques to design a networked ICT architecture that supports ICT services required by the business, taking the value offered by those services, and the costs incurred by the architecture, into account. Models of decision processes about ICT services and their architecture, and maturity models of those processes. Therefore the Government and other institutions, researcher should come in to educate different institutions on the benefits of Business-ICT alignment.

Employment of ICT in business

A study by Lymer et al (1997), stresses that ICT implementation in different institutions and businesses should aim at use of ICTs to execute different business processes given the different benefits of Business-ICT alignment.

Government investment in Business-ICT alignment:

According to Kazi, (2007), Government should support different institutions and business with computers, projectors subsidized internet costs, cheaper information systems, cheaper electricity costs and other factors that lead to successful use of ICTs in institutions.

The following factors as elaborated in the above diagram show a positive impact on institutions of higher education. They include; high student-enrolment, high business profits, business sustainability, high investment levels, increased business competitiveness, to mention but a few.

High student-enrolment: Business-ICT alignment attracts a high student enrolment level due to use of websites, and other information and communication systems.

High business profits: According to Etro and Colciago, (2007), once active in a sector, each firm competes with a number of rivals. However, Business-ICT alignment can help reduce competition and improve competitiveness in a business.

Business sustainability: Carr, (2003) suggests that about half of capital expenditure of modern firms is ICT related. This attracts good business performance, hence business sustainability.

High investment levels: Business-ICT alignment attracts high investment levels due to good market research done using the different ICTs like the Internet.

Increased business competitiveness: According to Solow, R., (1987), you can see the computer age everywhere and in the productivity statistics. This has attracted Business-ICT alignment which attracts business competitiveness, a factor that is brought about by quality services, good customer care that is done using different ICTs like use of computers and the networks, teaching courses practically using computers, and communicating timely and effectively.

There are however, other external factors that can contribute positively to institutions of higher education apart from business ICT-alignment such as good customer care, good working relations, good market research on service effectiveness and quality, to mention but a few.

Good customer care: According to King and Rebelo, (2000), good customer care contributes highly to business success. This factor attracts good will and new customers.

Good working relations: This factor keeps good will and attracts other business aids, advice and more customers.

Good market research on service effectiveness and quality: Once market research is effectively done, it leads to information acquisition. ‘Information is power’

Therefore, the study will seek to establish the significance and effectiveness of the above conceptual frame work.

1.9: Definition of key terms

1.9.1: Business

A business is an organization or enterprising entity engaged in commercial, industrial or professional activities. A business can be a for-profit entity, such as a publicly-traded corporation, or a non-profit organization engaged in business activities, such as an agricultural cooperative. (H. P. Luhn, 2011).

1.9.2: ICT

ICTs are defined as tools that facilitate communication and the processing and transmission of information by electronic means. This definition encompasses the full range of ICTs, from radio and television to telephones (fixed and mobile), computers and the internet. (Chetley et al 2006).

According to Woodcock, Middleton & Nortcliffe, (2012), Information and communication technologies (ICTs) are the technologies used in the conveying, manipulation and storage of data

by electronic means. Information and communication technologies (ICTs) are the technologies used in the conveying, manipulation and storage of data by electronic means.

1.9.3: Business-ICT alignment

This is a dynamic state in which a business organization is able to use tools that facilitate communication and the processing and transmission of information by electronic means effectively (ICTs) to achieve business objectives –typically; improved financial performance or marketplace competitiveness.(Aversano et al, 2012).

1.9.4: Business competitiveness

According to Bird (2014), business competitiveness is the capacity of a firm to create value through sustainable long-term growth and profitability. There are two dimensions of business competitiveness - general and intrinsic. The general dimension influences the nature of the practices a firm chooses to adopt.

1.9.5: An institution of higher education

The term “institution of higher education” means an educational institution in any state that admits regular students as only persons having a certificate of school completion from a school providing secondary education, or the recognized equivalent of such a certificate, or persons who

meet the requirements. (Legal Information Institute, 20 Ugandan Code 1001 - General definition of institution of higher education, 2011)

CHAPTER TWO

LITERATURE REVIEW

2.0: Introduction

This chapter reviews the related literature on the study variables of Business-ICT alignment and its impact on institutions of higher education. The review focused on the major themes of the study according to the study objectives: Business-ICT alignment in institutions of higher education, the impact of Business-ICT alignment on business competitiveness in institutions of higher education, how Business-ICT alignment can be integrated in institutions of higher education and how business growth and development can be stimulated through Business-ICT alignment.

2.1: Business-ICT alignment in institutions of higher education

Technology has revolutionized the college campus; for Universities and other places of higher learning, leveraging the right kind of technology will help students get the most out of every learning opportunity, both in and out of the classroom (Yang, Nguyen & Jang, 2012). Every day we see more and more higher education institutions both aligning themselves with this latest trend of technology adoption, and maximizing the impact of the teaching they deliver.

Today, students are not restricted by the four walls of their classrooms. Online learning is quickly becoming the norm, (Dalal, 2016). Professors are now collaborating across Universities via enhanced educational technologies. New high growth technologies have entered the online education marketplace, making education even more interactive. Higher education is becoming more robust, and is now, even more than before, targeted towards professional development. Some of the trends revolutionizing learning are: Video which are streaming and live, Learning Management Systems, Collaboration platforms for group and remote work and Data Visualization/Big Data, (Kavitha& Ashok, 2015).

According to Kirschner, (2012) Video is becoming a key player in the field of higher education. The flipped classroom trend, where lectures are consumed at home via pre-recorded video, and homework is completed with the lecturer during class hours has been on the rise for the past 15 years or so. Video, both streaming and live, has also enabled higher education institutions to offer massive open online courses or MOOCs which are accessible to hundreds of thousands of students from remote locations. The video recordings of lectures, as well as webinars are also made available online, which makes education more flexible, efficient and effective. In addition, using and getting comfortable with the latest generation of equipment in their day to day classroom activities prepares students for future careers in our technology-driven workspace. (Noble, 2012).

The Learning Management Systems have allowed Universities and educational institutions to plan, assess, facilitate, implement, and monitor students' learning process. The Learning Management Systems software centralizes educational content, resources, and course preparation (Macfadyen & Dawson, 2012). It also helps Universities deliver and track various student activities including discussion and collaboration. Using this system, Universities are now able to calculate and present grades behind a virtual wall that ensures security, privacy, and authentication. It also allows instructors and administrators to view information about student activities from different perspectives.

According to the (Horizon Report, 2014) on Higher Education Edition suggests that education models are gravitating towards including "online learning, blended and hybrid learning, and collaborative models," new collaborative learning processes to engage with students. Online environments are being extended to courses of all kinds, making educational content more dynamic, accessible and flexible. While this encourages collaboration it also provides more freedom for students to interact with each other when working on assessments and projects.

According Salmon, (2013), by combining Big Data with mobile consumer technology, Higher education institutions are providing new ways for students to fully grasp the concepts they are learning. The technology helps release complex environmental datasets, and also facilitates the latest computational modelling, as well as earth and satellite observation research. Not just

that, using data visualization or Big Data in higher education, Universities can turn these datasets into commercially viable ideas. More to that, Salmon, (2013) stresses that data and data analysis has always been a major part of higher education. With the help of the latest technologies, higher education as a whole can now generate more granular data and further break through those silos to the point where statistics and records can be viewed in terms of the individual student; thus, allowing faculties to focus their attention on providing better support to their students.

In summary, the mainstreaming of new technology usage across our day to day lives has naturally led to more acceptances in non-traditional spaces, spaces which now include as many new forms of collaborative digital learning as they do old fashioned text books.

2.1.1: Use of Information and Communications Technology (ICT) in Education

According to Modern developments in information and communication technologies (ICT) provide exciting possibilities to enhance the quality of education. Interactive education software, open access digital libraries, and cheaper and more intuitive technology may facilitate new forms of interaction between students, teachers, education employees and the community and enhance the quality of education by making it more accessible.

Education may be enriched by integrating such technologies into traditional educational activities. However, it must be recognised that ICT may never displace the relationship between teacher and learner which is crucial to the learning and development process.

ICT has the capacity to enhance the learning process and facilitate communications within education institutions and between educators and learners but it must be used in education institutions under the supervision of qualified well-trained professionals with the expertise in pedagogy and in education to ensure that its impact does not damage or undermine the learning process or the development of learners.

Education unions should;

- (i) support the use of ICT as an integral part of the provision of quality education for all. They should advocate for the use of ICT in education as a key modern aid to teaching and learning;
- (ii) advocate for free access for all teachers and learners, support professionals and administrators in education, to high quality dedicated ICT;
- (iii) insist that ICT in education is appropriate to the learning requirements in the curriculum in each subject, is supportive of the work of teachers and learners, and of administrative and professional staff in education;
- (iv) insist that educators are consulted about the introduction of ICT into education institutions and involved in the design and development of appropriate ICT for education purposes;

(v) monitor the implementation of any agreements entered into by governments, national education or school authorities for the provision of ICT by commercial companies.

Governments and national education authorities should;

(i) develop national plans for the use and promotion of ICT in education in consultation with education unions and education community interests and others with relevant expertise;

(ii) allocate the necessary funds to develop appropriate ICT for schools and education institutions and ensure that the outcome of such development work is available freely to all;

(iii) allocate the necessary funds to ensure that every education institution has access to high quality ITC, both hardware and software, irrespective of where it is situated.

(iv) allocate the necessary funds to provide continuous professional development in the use of ICT for teachers and other education professionals;

(v) ensure that high quality internet access is available to all schools and education institutions.

Where commercial ICT companies are engaged by Governments or national education or school authorities to contribute to the provision of ICT in education or become voluntarily involved in such provision, that engagement should be subject to agreements which;

(i) recognise the professional integrity and independence of the education institutions and personnel who are affected:

(ii) ensure that the primary purpose of the engagement is to provide support for teaching and learning;

iii) ensure that consultative processes with professional education staff are an essential element in the development of the software and hardware provided;

iv) include provision for monitoring mechanisms for the implementation of any such agreements which include professional education staff.

2.2: The level of Business-ICT alignment in institutions of higher education

Higher Educational Institutions (HEIs) are reportedly in a state of change or 'transformation'. Regardless of whether this is a result of the context, or a goal in itself as in Uganda, Information Systems and Information and Communication Technology (IS/ICT) should be playing a supporting role. (P. Weill and M. Broadbent,1998).

Institutions are following suit, especially at institutions already active in strategic

Planning and management. IT personnel are creating institution-wide IT strategies for their campuses and tell us without equivocation that the primary reason they do so is to ensure that IT priorities, investments, and initiatives are aligned with campus directions and will effectively enable and support campus processes and initiatives. (P. Weill and M. Broadbent ,1998).

2.3: Impact of Business-ICT alignment on business competitiveness in institutions of higher education

Business-ICTs' alignment has been identified to permit IT investment to enhance organisational performance. Information and communications technologies (ICT) are being integrated in the teaching-learning process in many learning institutions of the world, (Holt et al, 2010). It has been learnt that the integration of ICT in education, *inter alia*, does promote autonomous learning, curriculum differentiation, student-centred learning, higher order thinking, problem-solving, cooperative learning, clarification of abstract concepts and transformation of the understanding of the subject matter. Palmer, (2014) stresses that it is due to such benefits that Tanzania too has been struggling to encourage lecturers integrate ICT in education at various levels.

According to Lechman, (2015), profound transformations in higher education have occurred as a result of recent technological advancements. It has also transformed Medical Science which has much to gain from the Internet that has revolutionized this field. International organizations such as the United Nations (UN) and the World Health Organization (WHO) have acknowledged Information Communication Technology (ICT) as a useful tool to address education in health care sector. Accordingly; most of the developed countries are investing heavily on the infrastructure for ICT and focusing on technology mediated learning approaches to match the

changing learning styles among youth. Even developing countries are taking efforts to acknowledge the technological expansions. Health profession students now have a strong base to utilize information technology for their professional development.

Studies over the past decade reflect a striking change in usage pattern of technology amongst students. Earlier which was used for mails, chats, movies, videos, video games, dictionaries, entertainment has expanded prospects exponentially by e-books, science apps, readymade power-point presentations, etc. The rapid development leading to enhanced literature retrieval applications, together with increased access to personal computers have changed both the study and practice environments in professions, (SrivaSTava, et al., 2014). Studies depict high utilization patterns of ICT among professionals and learners. In contrast to its extensively acknowledged importance; computer access and computer related skills demonstrate a wide diversity, both regional and within students and faculties of the same institution.

Learners; now advocate the incorporation of training in computer skills as part of their curriculum which they report, will enhance their ability to acquire, appraise, and use information in order to solve problems quickly and efficiently in the course of their studies, and more importantly when they graduate, (SrivaSTava, et al., 2014). Although professional student's perceptions regarding role and relevance of ICT in their daily routine has been studied extensively in past decade; the present study goes a step further to fathom their dependence of

information technology for seeking professional knowledge as compared to text books and understand their perceptions about growing dependability on technology; especially in rural set-up where resources are limited. The study also attempts to gauge the necessity of incorporating a formal basic training at both levels, i.e., learners and facilitators to enable optimum utilization of ICT in teaching learning activities.

2.4: How Business-ICT alignment can be integrated in business/Institutions of higher education.

According to Gilbert Silviu et al., (2009), a key success factor for a successful company in a dynamic environment is effective and efficient information technology (IT) supporting business strategies and processes. In recent surveys however, IT executives consistently name IT to Business alignment their top-concern. The alignment between business needs and IT capabilities is therefore still a prominent area of concern. The following literature shows how ICT alignment can be integrated in business/Institutions of higher education.

Although Henderson and Venkatraman are often credited for launching ‘alignment’ as a new concept for the ‘fit’ between business and IT in their Strategic Alignment Model (Henderson and Venkatraman, 1993), the challenge of ‘fitting’ IT solutions to business requirements is not new. Together with the rise of information systems in organizations, the need for alignment of their use with business processes and strategy has grown.

Despite the apparent importance of aligning IT and business, the majority of publications are rather vague in terms of how to define or practise alignment (Maes, et al., 2000). In over a million Google hits, there are few definitions to be found. Consultants and IT companies in particular tend to use the term in unclear and probably different ways. One of the reasons for this is that the theoretical foundation of BIA is still young.

Chan, (2002) distinguishes two prevailing conceptualizations of the alignment problem. The first one focuses on planning and objectives integration and views alignment as the degree to which the business mission, objectives and plans are supported by the IT mission, objectives and plans. This view can be found in Reich and Benbasat, (1996), Kearns and Lederer, (2004) and Hirschheim and Sabherwal, (2001). A more holistic conceptualization of BIA can be found in Henderson and Venkatraman, (1993). Their widespread framework of alignment, known as the Strategic Alignment Model, describes BIA along two dimensions

IT is getting more and more in the critical core of every important business. There is need for aligning IT and business strategies and minimizing the risks and optimizing the use of ICT is becoming the priority of most companies' boards. Strategic Alignment Model is a framework that can be used for achieving this alignment in order to make sure that innovation, extension of knowledge and using of available opportunities can be easily used for competitive advantage

(Phuong et al; 2010). Firms must use appropriate model to align successfully IT and business strategies.

The most widespread and accepted conceptual model of alignment was proposed by Henderson and Venkatraman in 1993. IT and business growth and development alignment concept was born from the need of utilizing IT efficiently and effectively. In many organizations either the IT doesn't support the business strategy or the business doesn't use IT at its full capacity. This fact made the alignment between IT and organizational strategies a top priority for the CIOs in both private and public areas.

2.5: Stimulating business growth and development through Business-ICT alignment.

According to Agénor&Canuto,(2015). At a time of slowed growth and continued volatility, many countries are looking for policies that will stimulate growth and create new jobs. Information communications technology (ICT) is not only one of the fastest growing industries – directly creating millions of jobs – but it is also an important enabler of innovation and development. Agénor&Canuto, (2015). Also stresses that the number of mobile subscriptions (6.8 billion) is approaching global population figures, with 40% of people in the world already online. In this new environment, the competitiveness of economies depends on their ability to leverage new technologies. Here are the five common economic effects of ICT.

Kvochko, 2013, (April), says that the ICT sector is, and is expected to remain, one of the largest employers. In the US alone, computer and information technology jobs are expected to grow by 22% up to 2020, creating 758,800 new jobs. In Australia, building and running the new super-fast National Broadband Network will support 25,000 jobs annually. Naturally, the growth in different segments is uneven. In the US, for each job in the high-tech industry, five additional jobs, on average, are created in other sectors. In 2013, the global tech market will grow by 8%, creating jobs, salaries and a widening range of services and products.

According to Littman-Quinn, et al., (2013), numerous public services have become available online and through mobile phones. The transition to cloud computing is one of the key trends for modernization. Littman-Quinn, et al., (2013) add that the Government of Moldova is one of the first countries in Eastern Europe and Central Asia to shift its Government ICT infrastructure into the cloud and launch mobile and e-services for citizens and businesses. ICT has enabled the emergence of a completely new sector: the app industry. Research shows that Facebook apps alone created over 182,000 jobs in 2011, and that the aggregate value of the Facebook app economy exceeds \$12 billion. According to Kvochko, (2013, April). New “microwork” platforms, developed by companies like oDesk, Amazon and Samasource, help to divide tasks into small components that can then be outsourced to contract workers. The contractors are often based in emerging economies. Microwork platforms allow entrepreneurs to significantly cut

costs and get access to qualified workers. In 2012, oDesk alone had over 3 million registered contractors who performed 1.5 million tasks. This trend had spillover effects on other industries, such as online payment systems. ICT has also contributed to the rise of entrepreneurship, making it much easier for self-starters to access best practices, legal and regulatory information, and marketing and investment resources.

In more countries, more than 95% of businesses have an online presence (Bourlès et al., 2013). The Internet provides them with new ways of reaching out to customers and competing for market share. Over the past few years, social media has established itself as a powerful marketing tool. ICT tools employed within companies help to streamline business processes and improve efficiency. The unprecedented explosion of connected devices throughout the world has created new ways for businesses to serve their customers.

2.6: A framework that can guide institutions of higher learning on the application of Business-ICT alignment

In computer systems, a framework is often a layered structure indicating what kind of programs can or should be built and how they would interrelate. Some computer system frameworks also include actual programs, specify programming interfaces, or offer programming tools for using the frameworks. Steven De Haes, (2014), stresses that a framework may be for a set of functions within a system and how they interrelate; the layers of an operating system; the layers of an

application subsystem; how communication should be standardized at some level of a network; and so forth. A framework is generally more comprehensive than a protocol and more prescriptive than a structure.

Steven De Haes, (2014), says that Business-ICT alignment application is one of these concepts that suddenly have emerged and have become an important issue in the information technology ara. Many organisations have started on the Business-ICT alignment to achieve a better business position on the market.

2.7: Gaps in the Literature

A lot of information has been established regarding Business-ICT alignment and its impact on institutions of higher education in different areas, the information available was generated in different geographical areas which makes it inadequate to explain Business-ICT alignment and its impact on institutions of higher education in the researcher's selected area and still the long lapse of time since the reviewed information was collected makes the information invalid due to changes in the context of studies.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0: Introduction

This chapter covers the methods and procedures that were put into use by the researcher while carrying out the study. It includes specification of the research design, population of the study, sample size and the selection procedure, pilot and pre-test of the instruments, data collection methods and process, data analysis, reliability, ethical considerations and challenges

3.1: Research design

While carrying out the study into Business-ICT alignment and its impact on institutions of higher education in selected Universities (Kabale University, Uganda Martyrs University-Kabale Campus and Bishop Barham University-UCU) in Kabale district, the researcher used an investigative research design to increase the understanding of Business-ICT alignment in the Universities. According to Kasozi, (2003), the principal use of investigative research is to increase the researcher's understanding of the subject. It helped the researcher to determine why and how Business-ICT alignment is impacting institutions of higher education. The design involves finding further more on which little has been known about Business-ICT alignment and its impact on institutions of higher education. The design increased the analyst's familiarity with

the problem and discovery of more, better conclusions and strategic planning. It formulated a problem for more precise investigation and satisfied the researcher's desire for better understanding. The study employed both qualitative and quantitative methods of data collection in the study which enhanced triangulation of both methods.

3.2: Population of the study

The study comprised of University assistant Lecturers, (35.5%), Lecturers (20.5%), Heads of department, (5.5%), Non-teaching staff (25.5%), and administrators who were (13.0%) and the key informants who included 9 Heads of department and 20 University administrators in Kabale University, 29%, Uganda Martyrs University-Kabale Campus and 32% were from Bishop Barham University-UCU. They provided information into Business-ICT alignment and its impact on institutions of higher education and then give the different recommendations on how Business-ICT alignment can be integrated in institutions of higher education in Kabale district in order to stimulate business growth and development. The study found that computers

3.3: Sample size and selection procedure

3.3.1: Sample Size

The researcher selected a sample size of 200 respondents; these included; assistant lecturers, (35.5%), lecturers (20.5%), heads of department, (5.5%), non-teaching staff (25.5%), and

administrators who were (13.0%) both male and female, three Universities (Kabale University, 29%, Uganda Martyrs University-Kabale Campus and 32% Bishop Barham University-UCU). The sample size was 200 respondents and this enabled collection of enriched information from a moderate population.

3.3.2: Selection procedure

Sampling was dominated by qualitative techniques especially purposive sampling. The number of assistant lecturers, lecturers, heads of department, non-teaching was attained with the help of University administrators, purposive sampling was used and assistant lecturers, lecturers, heads of department, non-teaching were selected on the criteria of title/ as these were expected to provide the needed information in relation Business-ICT alignment and its impact on institutions of higher education. A total of 200 respondents were selected to participate in the study and the Key informants were also purposively selected as they were expected to be well versed with information about Business-ICT alignment and its impact on institutions of higher education, 9 key informants were selected as administrator

3.4: Sources of data

The researcher used both primary and secondary data sources. Primary sources dominated the study because the study was field based. These included use of structured interviews, self administered questionnaires, key Informants and observations. Secondary data sources were used

and these included electronic journals, electronic books, Government reports, magazines and local newspapers. These helped to supplement and enrich data collected from primary sources.

3.5: Data collection tools

The researcher used the following data collection tools and methods

3.5.1: A self-administered questionnaire

A self-administered questionnaire was the major instrument that was used in data collection. A standardised self-administered structured questionnaire is considered to be a suitable tool for data gathering because respondents provide only the required information and it can be administered by anyone even without the researcher's presence (Burns, 1997; Gay & Airasian, 2003; Fraenkel, & Wallen, 2006). Questionnaires were administered to 200 respondents. This helped to gather quantitative and qualitative information regarding Business-ICT alignment and its impact on institutions of higher education.

3.5.2: Structured interviews

This involved face to face sessions that the researcher used to collect data. The interview tools contained both close ended and open ended questions where by the open ended questions helped the researcher to get a deeper understanding of Business-ICT alignment and its impact on institutions of higher education. A key informant interview guide was designed and administered

to key informants to capture qualitative information. The key informants for in depth interviews included 9 administrators. This was purposely intended to get more information about Business-ICT alignment and its impact on institutions of higher education.

3.5.2.2: Direct observation

This was also used as a complimentary method in the course of collecting primary data, particularly during interviews with administrators; the researcher collected more information, basing on the aspects of; ICT conditions whether permanent or temporary, on verbal messages and body language.

3.6: Data collection process

Before the field study, the researcher designed all data collection tools corresponding to the study objectives. The researcher requested an introductory letter from the University authorizing her to carry out the study. This provided her with security and also helped her to access her respondents without suspicion. She sought appointment and attention from the respondents, made commitments with them and went ahead to collect data. She therefore sorted out the data collected on the topic hence forming themes, topics and chapters.

3.7: Data Processing and Analysis

3.7.1: Qualitative data

The researcher generated qualitative data from open ended questions of the structured interviews and questionnaires. The researcher used qualitative data analysis mostly because the findings contained a minimum of quantitative measurement, standardization and mathematical techniques. The researcher went through the following cyclical process of qualitative data analysis that is to say reduction, manipulating, integrating, transforming and highlighting data, data organization which is assembling information around themes , topics, narrative texts and points as already noted above then interpretation which involved making decisions and drawing conclusions related to the research question.

3.7.2: Quantitative data

A data entry procedure was developed which included validation rules that helped to reduce any likely data entry errors. Tabulation which involved counting and adding all findings for the whole study sample was applied; this clarified the qualitative findings of the study.

3.8: Reliability and Validity

The researcher ensured that reliable resources of data were used, this was done by setting up a list of possible errors or distortions which the researcher endeavoured to avoid in this case coherence, openness and discourse was observed.

Validity

Validity was ensured by taking great care formulating research tools. This was put into consideration so that the tools could be able to measure what they were intended for.

3.9: Ethical considerations

The researcher first sought permission and obtained informed consent from the administration before approaching the respondents in the field. This provided her with security and also helped her to access her respondents, made commitments with them and went ahead to collect data under informed consent. The researcher also aimed at conducting professional research and following guidelines in that she aimed at exercising research values and principles of justice, beneficence and respect for persons. This was achieved by explaining the objectives of the study to the participants to allow them participate with informed consent, even after explaining the purpose of the study, respondents could still be asked whether to proceed with the interview or not and they were given opportunity to quit the study at any time they felt that their integrity and confidentiality were compromised.

Respondents were assured of confidentiality and they were approached in their convenient times with at most confidentiality.

3.10: Limitations of the study

Interviewer and respondent bias: The researcher met some respondents who intentionally refused to release information on claim that they do not expose certain information to strangers however this was solved by building rapport with the respondents and asking non sensitive questions.

Limited time in which the study was conducted: This limited the researcher on the number of respondents, she interacted with. It was minimized by making a work plan, schedule of activities and making a sample selection that will be highly representative of the whole population of the study.

Financial constraints limited the number of respondents: There were limited funds to facilitate the study, this reduced the number of respondents hence failure to collect variety of data. However this was solved by proper budgeting of the available financial resources and using them equitably as planned for by the researcher.

CHAPTER FOUR

PRESENTATION, ANALYSIS AND DISCUSSION OF THE FINDINGS

4.1: Introduction

This chapter presents the findings of the study, basing on the research questions and objectives as stipulated in Chapter One. The study had four Objectives which are; to investigate whether there is Business-ICT alignment in institutions of higher education, to analyse the impact of Business-ICT alignment on business competitiveness in institutions of higher education, to assess how Business-ICT alignment can be integrated in institutions of higher education and to establish how business growth and development can be stimulated through Business-ICT alignment in Kabale district. The findings are presented and analysed along these objectives to facilitate a quicker comparison and contrast of different data. Data was collected from 200 respondents who were Assistant Lecturers, (35.5%), Lecturers (20.5%), Heads of department, (5.5%), Non-teaching staff (25.5%), and administrators who were (13.0%) and the key informants who included 9 Heads of department and 20 University administrators.

4.2 : Background characteristics of the respondents

This chapter provides demographic characteristics of the respondents on the study about Business-ICT alignment and its impact on institutions of higher education and 39% respondents

were from Kabale University, 29% were from Uganda Martyrs University-Kabale Campus and 32% were from Bishop Barham University-UCU. It describes; Age, Gender, title/position and the Period spent in the university.

4.2.1 Gender of Respondents

In order to collect gender balanced data, the study considered both sexes when sampling the respondents; they were categorized as male or female. From table 1 below, (53.5%) of the respondents were male, and (46.5%) were female. The study sampled both male and female recognizing the fact that in Uganda, Business-ICT alignment in Universities need to be addressed in both gender.

Table 1: Respondent characteristics

Demographic characteristics		Frequency	%
Sex	Male	103	53.5%
	Female	97	46.5%
	Total	200	100
Age	19-25	16	18%
	26-31	54	27%
	32-40	86	43%
	41-50	32	16%
	50+	12	6%
	Total	200	100
Title/position	Assistant Lecturers	71	35.5%
	Lecturers	41	20.5%
	Heads of department	11	5.5%
	Non-teaching staff	51	25.5%
	Administration	26	13.0%
	Total	200	100
Universities	Kabale University	78	39%
	Uganda Martyrs University-Kabale Campus	58	29%
	Bishop Barham University-UCU	64	32%
	Total	200	100
Period spent in the University	Less than 1 year	56	28%
	1 and above years	105	52.5%
	5-10 years	31	15.5%
	Over 10 years	8	4.0%
	Total	200	100

4.2.2 Age of the Respondents

The study sought to determine the age of the respondents to ascertain the age group of people and their understanding about Business-ICT alignment and its impact on institutions of higher education. Respondents reported their ages in years and Responses were grouped into five categories as shown in table above. The study shows that the age group 32-40 had an overwhelming majority of 43% of the respondents, followed by the age range 26-31 represented by 22%, the age group of 19-25 with 18%, the age group of 41-50 had 16% and respondents who were 50+ years were 6%.

4.2.3 :Title/position of Respondents

The researcher was also interested in the title of the respondents in the respective Universities. The responses were recorded as shown in the table above. The study shows that most of the respondents (35.5%) were Assistant Lecturer, 25.5% were Non-teaching staff, 20.5% were Lecturers, 13.0% respondents were Administrators and 5.5% respondents were Heads of department.

4.2.4 : Period spent in the University of Respondents

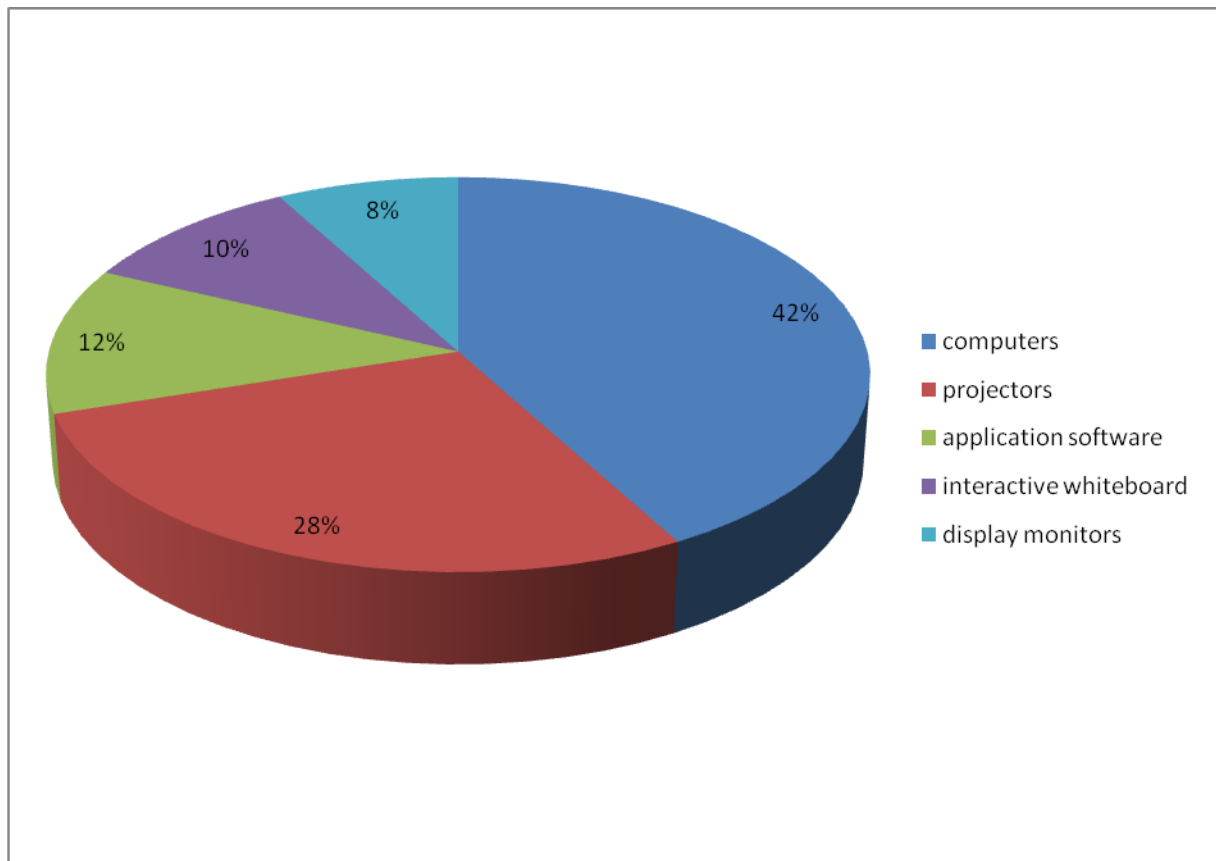
The researcher was also interested in the Period spent in the University of the Respondent in the respective Universities. The study shows that most of the respondents, (52.5%) had spent 1 and

more years in their Universities, (28%) respondents had spent Less than 1 year in their Universities, (15.5%) respondents had spent 5-10 years in their Universities, (4.0%) respondents had spent Over 10 years in their Universities.

4.3 : Business-ICT alignment in institutions of higher education

The first objective of the study was to investigate whether there is Business-ICT alignment in institutions of higher education in Kabale district. This part presents findings from the study in relation to Business-ICT alignment in institutions of higher education in Kabale selected Universities, the population of the study was obtained from Kabale University, Uganda Martyrs University-Kabale Campus and Bishop Barham University-UCU and 200 respondents participated in the study, more information was obtained from heads of departments. The study discovered that the main ICTs used in institution were: computers, application software, tablets, projectors, interactive whiteboard and display monitors.

Figure 2: The different ICTs used in institutions



4.3.1: Computers

This is one of the ICTs used in institution in Kabale Universities. The shift in worldwide computer usage and the need for computer skills in today's workforce have pushed the Ugandan Government to create guidelines for educators to ensure that students are prepared to meet the demands of the 21st century. The Curriculum Content for education are aimed at preparing students with such skills demanded of those entering the 21st century learning environment as well as the 21st century and work environment. The study found out the computers can help to

extend the scope of searches (15%), retrieve precisely targeted data with greater speed and accuracy (19%), increase the amount of data held ready for use (21%), sift relevant data from irrelevant (24%), and turn data into information (21%). However, the study also noted that the most important problems Universities in Kabale have were lack of financial resources to buy enough computers, up-to-date computers, enough printers and other peripherals, licenses for good software, technical support and the inability of lecturers to know how to use the computers effectively and difficulty in integrating computers into the University lecture rooms.

During a structured interview with one of the lecturers when asked noted that: *“I'm a fan of computers; my computer is a vital part of my work. I believe computer literacy is as important for our students in Universities to acquire as any other "basic skill". But I'm not a fan of the wholesale introduction of computers into our Universities, how many computers a University has is not the issue - the issue is, how do they use them?”*

Furthermore, interviews with a head of department noted that:

“For me using a computer effectively is much more than simply being able to type an essay or produce a graph. Parents and educators who deplore the obsession with computers in institutions see computers as eroding students basic skills and knowledge, because they only see computers being used as copy-and-paste and making-it-pretty devices. But computers have potential far beyond that.”

The true value of a computer isn't seen until the user can use it not only as a presentation tool(for making work attractive), and as a productivity tool(for producing work more quickly, effectively, thoroughly), but also as a cognitive tool.

Worldwide research has shown that ICT can lead to improved student learning and better teaching methods. A report made by the National Institute of Multimedia Education in Japan, proved that an increase in student exposure to educational ICT through curriculum integration has a significant and positive impact on student achievement, especially in terms of Knowledge Comprehension, Practical skill and Presentation skill in subject areas such as mathematics, science, and social study.

4.3.2: Projectors

The study also found out projector was another ICT technology used in institution in Kabale Universities. Back in 2001, when Kabale University started in Kabale, it had only three lecture rooms outfitted with projectors as noted by one of the University administrators. Now the 4,000+ Students University has built nearly 10 “smart lecture rooms” with 3 projectors that are shared by the lecturers. These projectors are Sony models. One administrator noted that “*Sony makes a wide range of workhorse projectors and they are at the right price point for us, and quite easy and quick to set up.*”

In a close interview with University administrators, they noted that in recent years, Kabale Universities have been expanding, adding new buildings and renovating lecture halls. The administration tasked the Government and administrators with configuring new smart classrooms and making its new buildings multimedia friendly. *“A big part of that has been bringing on more projectors and hooking them into the hardware in lecture rooms,”* one administrator in Uganda Martyrs University-Kabale Campus noted *“As we have expanded, we have bought more projectors.”* Quality projectors are a sizable investment, so the administrator recommends institutions to carefully compare different models to find the best fit. One of the lecturers said that one of the most important things to consider when buying a projector is the ease of integrating it into a classroom’s pre-existing hardware. *“We did a lot of demos with a lot of brands, and what we like about Sony is their consistent quality,”* he explained

4.3.2: Education software

The study noted that online collaboration tools (65%), such as those in Google Apps, allow students and instructors to share documents online, edit them in real time and project them on a screen. The lectures noted that this gives students a collaborative platform in which to brainstorm ideas and document their work using text and images.

The study also noted that Presentation software (such as *PowerPoint*) enable instructors to embed high-resolution photographs, diagrams, videos and sound files to augment text and verbal lecture content(76%) and the Tablets were used to linked to computers, projectors and so that students and instructors can communicate through text, drawings and diagrams.

The study also noted that Course management tools allowed instructors to organize all the resources students need for a class (e.g. syllabi, assignments, readings, online quizzes), provide valuable grading tools, and create spaces for discussion, document sharing, and video and audio commentary.

The study also noted that Lecture-capture tools, allow instructors to record lectures directly from their computer, without elaborate or additional lecture-room equipment. Some Lecturers (54%) consider recording their lectures as they give them and then uploading them for students to re-watch. Studies show that posting recorded lectures does not diminish attendance and students really appreciate the opportunity to review lectures at their own pace.

4.3.4: Interactive whiteboard

The study found out that Universities in Kabale district were also adopting to the use of whiteboard (10%). An interactive whiteboard is an instructional tool that allows computer images to be displayed onto a board using a digital projector. The instructor can then manipulate

the elements on the board by using his finger as a mouse, directly on the screen. Items can be dragged, clicked and copied and the lecturer can handwrite notes, which can be transformed into text and saved. One of the lecturers said that:

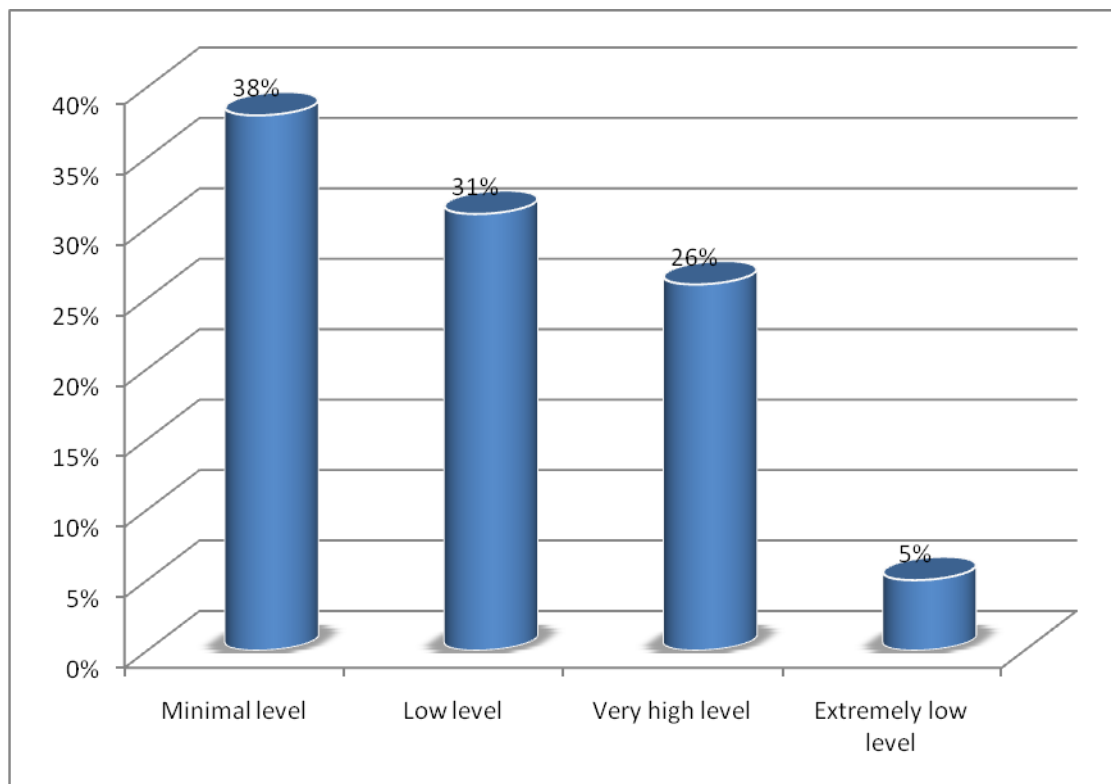
“Interactive whiteboards are a powerful tool in their lecture rooms, they add interactivity and collaboration, allowing the integration of media content into the lecture and supporting collaborative learning and they create a wide range of learning opportunities. However, he noted that in many environments they are not being used to their full potential and in many cases acting as glorified blackboards“.

Research has repeatedly demonstrated that students learn better when they are fully engaged and that multisensory, hands-on learning is the best way to engage them. Interactive whiteboards facilitate multisensory learning whether it is a collaboration exercise for mathematics problem solving or a Google Earth tour of the Amazon rainforest. However, Universities have been slower to adopt this technology. They were originally developed for use in business to demonstrate concepts and record meetings. However, they are an extremely flexible tool which can be used with both the youngest primary school children and University graduates. An interactive whiteboard can be a cost saver as this technology demonstrates how one computer can provide learning stimuli for a whole classroom. This is more cost effective than equipping an entire IT room, or every student with a laptop. Examples of the features available when using an

interactive whiteboard: Add annotations, Highlight text, Add notes and drawings and then save them to be printed out and shared, or added to a virtual learning environment, Show pictures and educational videos to the whole lecture room. You can label parts or highlight elements of an image and demonstrate the content available on a website in a lecturer-directed activity.

4.2.5 : Rate the general Business-ICT alignment levels in your institution

Figure 3: Rate the general Business-ICT alignment levels in your institution



The study shows that general Business-ICT alignment levels in the institutions is still at a minimal level (38%). While ICT continues to advance in western and Asian countries, African countries still experience a lag in its implementation, and that continues to widen the digital and

knowledge divides. In a recent study by Kiptalam et.al (2010), observed that access to ICT facilities is a major challenge facing most African countries, with a ratio of one computer to 150 students against the ratio of 1:15 students in the developed countries. Whereas results indicate that ICT has penetrated many sectors including banking, transportation, communications, and medical services, the Ugandan educational system seems to lag behind. Further, recent report by the National Council for higher education, (2010) indicated that computer use in Ugandan classrooms is still in its early phases, and concluded that the perceptions and experiences of lecturers and administrators do play an important role in the use of computers in Ugandan lecture rooms.

However, findings indicate that despite limited resources, institutions of higher education are investing heavily into ICT. Researchers found that lecturer-ICT usage at the Institution could be grouped into three categories: administrative (86%), entertainment (45%) and pedagogical (45%). Administrators at some Universities reported using ICT primarily to attract students and increase revenue. Implications of this study will assist University administrators to make informed decisions concerning further investment in ICT, efficient use of limited technology resources, and improvement of educational opportunities for students.

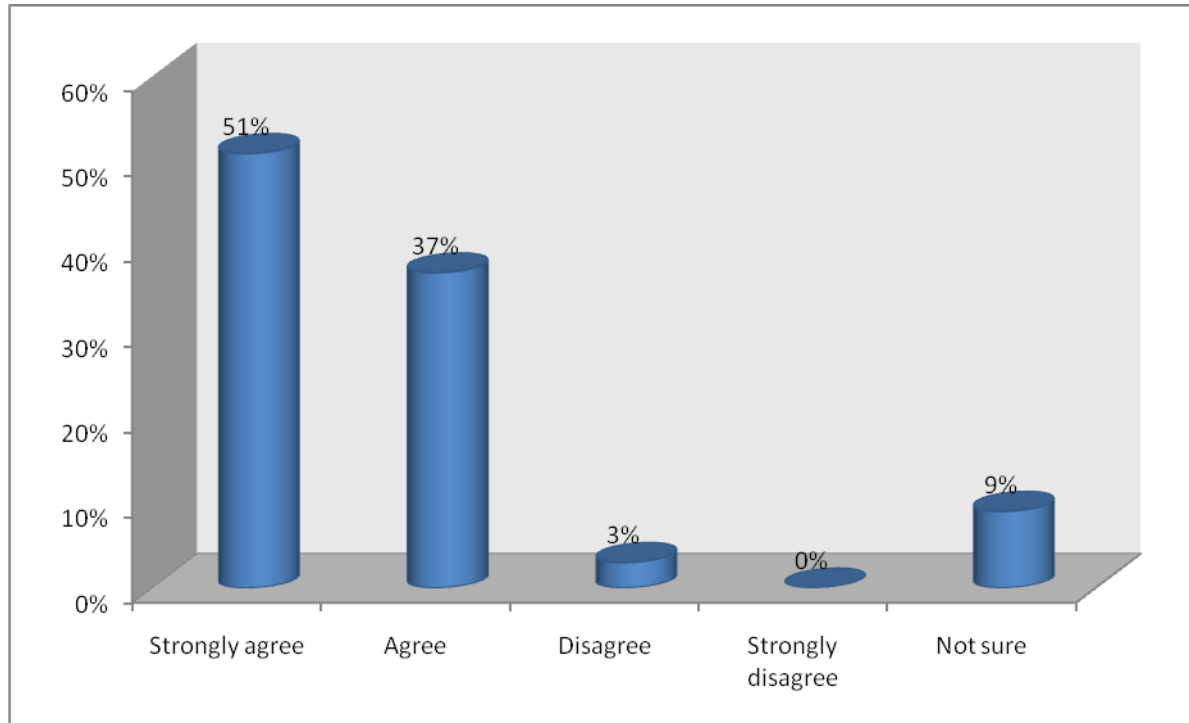
4.4: The impact of Business-ICT alignment on business competitiveness in institutions of higher education

The second objective of the study was to analyse the impact of Business-ICT alignment on business competitiveness in institutions of higher education in Kabale district. In this section, the study examined suitability Business-ICT alignment process for institution progress and success, the indicators of business competitiveness; how Business-ICT alignment improves business competitiveness in institutions, other factors that can lead to competitiveness and success of your institution and what should be done to achieve better results from Business-ICT alignment.

4.4.1: Whether Business-ICT alignment is a suitable process for institution progress and success

The study intended to find out whether Business-ICT alignment is a suitable process for institution progress and success and the finding are reported below.

Figure 4: Whether Business-ICT alignment is a suitable process for institution progress and success



From the table above, many respondents strongly agreed (51%) and (37) agreed that Business-ICT alignment is a suitable process for institution progress and success. No surprise that several types of research showed the implication of alignment on business performance and IT. Business- IT alignment has shown to increase organisation profit, compared to using industry and strategy alone. There is a significant relationship between business-IT alignment and organisational performance. However, the relationship is complex and dependent on business strategy. Separating business from ICTs usage would cause the organisation to fail to manage and extracting the value of ICTs. When the separation between business and ICTs is substantial, the organisational performance would drop. Chan, Sabherwal and Thatcher showed that

organisations that achieved Business-ICT alignment performed better than those that failed. Furthermore, business- ICT alignment drives to a more focused and strategic use of ICTs, resulting in increased organisational performance.

The study also asked respondents for the indicators of business competitiveness in respondent's institutions. The findings show that many interviews with administrators indicated that many students have embraced their Universities instead of going Kampala Universities like Makerere University because of their fully equipped labs with ICTs. Kumar and Kaur (2015) state that, the current information revolution and increasing impact of information and communication technologies have modernised the process, learning and research in most Universities. Ansari (2014) focused on the Internet use by the faculty including the purpose of use, impact on teaching and research, Internet resources that they use and the problem faced while using the Internet. It was discovered that majority of them have been using the computer and the Internet for more than five years. The Internet has helped them save time, find up-to-date information and compare with their colleagues and draw in more students to the university.

The study found out that the website (90%) is seen as an increasingly important reading source. These finds are in line with a study done by Genoni et al. (2006), in their study indicated that the research users are positive regarding the usefulness of the Internet for research purposes and for expanding their scholarly community. The availability of information does not necessarily mean actually use. This showed that users are not aware of the availability of such resources or they do not know how to access them or they do not know what they offer. The study suggested that these call for continued information literacy programme. Over the years, the Internet has become an all-important technological tool in the production, marketing, and use of information

worldwide. Bemah (2012) stated that the exponential growth in information and knowledge and the corresponding increase in user needs have stipulated a greater degree of technological inventions in institutions

Apart from Business-ICT alignment, other factors that can lead to competitiveness and success of institution were also noted in the study. One administrator note that: *“For Universities, talent management offers the opportunity to improve overall organizational execution, and drive a competitive advantage. A well-executed strategy with performance at the core and key programs such as employee coaching/development and succession planning provides employees with a valuable connection to the work they do and the institution’s success, while preparing the institution for the future”*. Universities simply cannot afford to lag behind in their talent practices and then expect to recruit and retain the workers required to drive the organisation’s success. Putting in place a talent management strategy which focuses on creating a culture based on performance helps drive efficiency, reduces turnover costs, fosters employee development and assures a high level of services are delivered to students.

The study noted that (86%) of the respondents asked for increased requirements for monitoring and evaluation. The fact that there is now more and more monitoring and evaluation of school and student activities, a data explosion that has been accompanied by improvements in data interpretation skills, means that more information is becoming available for researchers' and practitioners' use. The evaluation of new ICT interventions can take place alongside a backcloth of information about Institutions of higher education and their local and national contexts.

The study noted that (77%) of the respondents that New planning requirements. At several levels of education, detailed planning is now required. Institutions of higher education in the Uganda

must now produce an ICT development plan as well as a more general school development plan, and these, in turn, may link to a local authority's Education Development Plan. These new planning requirements, with specified aims and objectives, may further facilitate the bringing together of evaluations of ICT strategies and more general school improvement strategies.

4.5: Business-ICT alignment can be integrated in institutions of higher education

The third objective was to assess how Business-ICT alignment can be integrated in institutions of higher education in Kabale district. The study observed that institutions attract a unique profile each having their own market position, strengths, issues and ambitions for the future. The researcher found out that there is no single approach to formulation and implementation of strategic ICT in the Universities. However, there are elements and practices that institutions can learn from and use to develop a more mature and effective approach whilst maintaining an institution's unique profile, that will in turn deliver greater ICT value and business benefits.

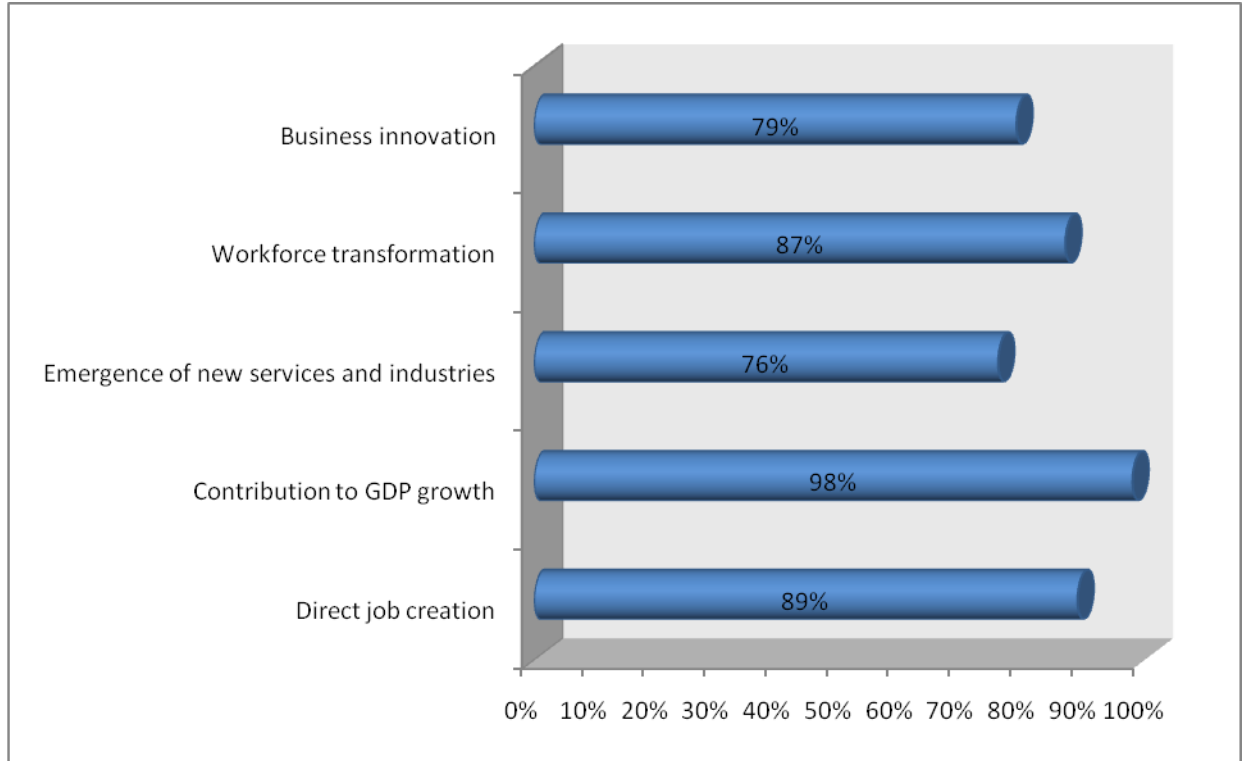
The study found out that by improving the integration & alignment of ICT to institutions, the Universities will; improve their ability to realise institutional vision & goals (76%), provide more agility in response to institutional diversification, growth and development (87%), improve student, staff and partner experiences with greater enterprise capability, (98%), enable greater sharing of knowledge and resources across the enterprise (67%), improve communications (78%). maturity of strategic ICT as a measure of how well ICT is integrated and aligned with the enterprise wide institutional strategy and therefore able to deliver maximum value and agility. An institution's Strategic Plan may require ICT to support the delivery of operational, strategic or transformational objectives. However, although highly deployed there is growing evidence that

ICT does not always add sufficient 'value' to an institution either operationally or strategically in providing the capacity to realise the changing needs of today's institutions.

4.6: How business growth and development can be stimulated through Business-ICT alignment

The fourth objective was to establish how business growth and development can be stimulated through Business-ICT alignment. It's important to note that at a time of slowed growth and continued volatility, many countries are looking for policies that will stimulate growth and create new jobs. Information communications technology (ICT) is not only one of the fastest growing industries directly creating millions of jobs but it is also an important enabler of innovation and development.

Figure 5: Ways technology can help the economy



Direct job creation (89%)

There is no doubt that the ICT sector is expected to remain among the leading employers in Uganda. This study is in line with a study in the US alone, which showed that computer and information technology jobs are expected to grow by 22% up to 2020, creating 758,800 new jobs. In Australia, building and running the new super-fast National Broadband Network will support 25,000 jobs annually. Naturally, the growth in different segments is uneven. In the US, for each job in the high-tech industry, five additional jobs, on average, are created in other sectors. In 2013, the global tech market will grow by 8%, creating jobs, salaries and a widening range of services and products.

Contribution to GDP growth

The study shows that ICT is contributing 98% to GDP. Findings from various countries confirm the positive effect of ICT on growth. For example, a 10% increase in broadband penetration is associated with a 1.4% increase in GDP growth in emerging markets. In China, this number can reach 2.5%. The doubling of mobile data use caused by the increase in 3G connections boosts GDP per capita growth rate by 0.5% globally. The Internet accounts for 3.4% of overall GDP in some economies. Most of this effect is driven by e-commerce people advertising and selling goods online.

Emergence of new services and industries

According to the study, the research observed that numerous public services have become available online and through mobile phones. The transition to cloud computing is one of the key trends for modernization. The Government of Uganda is one of the first countries in Africa to shift its Government IT infrastructure into the cloud and launch mobile and e-services for citizens and businesses in education. ICT has enabled the emergence of a completely new sector: the app industry. Research shows that Facebook apps alone created over 182,000 jobs in 2011, and that the aggregate value of the Facebook app economy exceeds \$12 billion.

Workforce transformation

As observed by the study, ICT is transforming workplaces, the new microwork platforms, developed by companies like oDesk, Amazon help to divide tasks into small components that can then be outsourced to contract workers. The contractors are often based in emerging economies. Micro-work platforms allow entrepreneurs to significantly cut costs and get access to qualified workers. In 2012, oDesk alone had over 3 million registered contractors who performed 1.5 million tasks. ICT has also contributed to the rise of entrepreneurship, making it much easier for self-starters to access best practices, legal and regulatory information, and marketing and investment resources.

Business innovation

According to findings ICT has brought innovations to business, no surprise that In OECD countries, more than 95% of businesses have an online presence. The Internet provides them with new ways of reaching out to customers and competing for market share. Over the past few years, social media has established itself as a powerful marketing tool. ICT tools employed within companies help to streamline business processes and improve efficiency. The unprecedented explosion of connected devices throughout the world has created new ways for businesses to serve their customers.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.0: Introduction

This chapter presents the summary, conclusions and recommendations of the study. The study was both qualitative and quantitative with a sample of 200 respondents, these included Assistant Lecturers, (35.5%), Lecturers (20.5%), Heads of department, (5.5%), Non-teaching staff (25.5%), and administrators, (13.0%) and the key informants who included 9 Heads of department and 20 University office administrators. This chapter therefore attempts to present conclusions drawn from the findings in relation to the study objectives and research questions that guided the study.

5.1: Summary of the findings

The study found out that at a promising level, there was Business-ICT alignment in institutions of higher education in Kabale district and specifically; Kabale University, Uganda Martyrs University-Kabale Campus and Bishop Barham University-UCU and 200 respondents participated in the study, more information was obtained from heads of departments. The study discovered that the main ICTs used in institution were: computers, application software, tablets, projectors, interactive whiteboard and display monitors.

The study also showed that general Business-ICT alignment levels in the institutions are still at a minimal level (38%). Whereas results indicate that ICT has penetrated many sectors including banking, transportation, communications, and medical services, the Uganda educational system seems to lag behind. However, findings indicate that despite limited resources, institutions of higher education are investing heavily into ICT. Researchers found that lecturer/teacher ICT usage at institutions could be grouped into three categories: administrative (86%), entertainment (45%) and pedagogical (45%). Administrators at some Universities reported using ICT primarily to attract students and increase revenue. Implications of this study will assist University administrators to make informed decisions concerning future investment in ICT, efficient use of limited ICT resources, and improvement of educational opportunities for students.

The study shows that many respondents strongly agreed (51%) and (37%) agreed that Business-ICT alignment is a suitable process for institution progress and success. No surprise that several related research topics showed a great implication of business-IT alignment on business performance. Business- ICTs' alignment has shown to increase organisation profit. There is a significant relationship between business-IT alignment and organisational performance. The study also found out that by improving the integration & alignment of ICT to institutions, the Universities will: improve their ability to realise institutional vision & goals (76%), provide more agility in response to institutional diversification, growth and development (87%), improve students' academics, staff and partner experiences with greater institutional capability, (98%),

enable greater sharing of knowledge and resources across the institutions (67%), improve communication (78%).

On establishing how business growth and development can be stimulated through Business-ICT alignment respondents said it creates direct jobs, contributes to GDP growth, emergence of new services and industries, workforce transformation and leads to business innovation

5.3: Recommendations

Proposed plans, models, frameworks and recommendations that can guide institutions of higher learning on the application of Business-ICT alignment

5.3.1: Come up with a Business-ICT alignment integration score model

I. Proposed alignment integration score model

The researcher proposes an adopted alignment integration score model based on Luftman's components of alignment. This variable gives an indication of the alignment capability of an Organisation. It is made up of seven groups of alignment competences. Some of the questions are also inspired by the recent work of Benson et al, (2011). Table 1 gives an overview of the alignment competences used for constructing the alignment integration score model along with some questions that can be asked. This alignment integration score model is what is called a diagnostic model. Using this model, the concerned ICT integration alignment evaluator can diagnose an Organisation to have a poor alignment capability, to show some of the symptoms of alignment or to have a high alignment capability. It is important to understand that, when the evaluator reports a high or low alignment then, he/she refers to a high or low score on the alignment score variable that she adopted. Therefore, alignment as defined here is a relative concept, based on the Organisation's perception and scored on a theoretical framework. This

model uses the 7 survey questions derived from 7 alignment Competences to calculate this alignment score to evaluate the Organisation using the following scale; 1=strongly disagree, 2=disagree, 3=neither agree nor disagree, 4=agree, 5=strongly agree.

Table 3: Business-ICT alignment integration score model

Alignment Competences	Our Organisation has the ability to ...	1=strongly disagree, 2=disagree, 3=neither agree nor disagree, 4=agree, 5=strongly agree.
Hardware and Software	Effectively use the available hardware and software in running Organisational business process	
Communications	Use a common language between business and ICT	
Partnership	Connect and integrate business and ICT planning and management processes.	
Value Measurement	Monitor and benchmark the performance of ICT investments projects against strategic objectives.	
Architecture	Systematically determine the impact of new ICT investments on existing business processes.	
Skills	Minimise the resistance to change that comes with new ICT projects.	
Governance	Have transparency and accountability for outcomes of ICT projects.	

Table 3: Definition of ICT Alignment Competences that help in evaluating the business-ICT Management style in Organisations. Source: Benson et al., 2011.

II. Recommended best practices in regard to the above model

To achieve B/I Alignment, the institutions of higher learning in case, must make better decisions that take into account the ICT discipline as a priority.

The institutions should use the above proposed and adopted alignment score model.

III. Enterprise program management

Enterprise Program Management is the field of organizational development that supports organizations in managing integrally and adapting themselves to the changes of a transformation. To successfully execute duties related to this discipline under ICT management, the Institutions should have a program management office. These institutions have no related office which is used to carry out the Enterprise program management duties. All IT related planning control and accountability should be carried out from this office.

Pitfalls that may hinder Programme Management at these Institutions

- ✓ There is Poor and delayed communication about the prioritization process
- ✓ Poor financial management and Inadequate accountability
- ✓ Unsuccessful investments due to lack of proper planning, poor expenditure, etc.
- ✓ Lack of Strategic alignment and balanced investment
- ✓ Delayed processes/programs execution
- ✓ Poor quality services.
- ✓ Lack of transparency

Recommendations on how to overcome the above pitfalls

The institutions in question should have an independent Program Management Office that specifically manages ICT investments to maximize value, minimize risk, and ensure transparency.

The Program Management Office should be able to answer these questions:

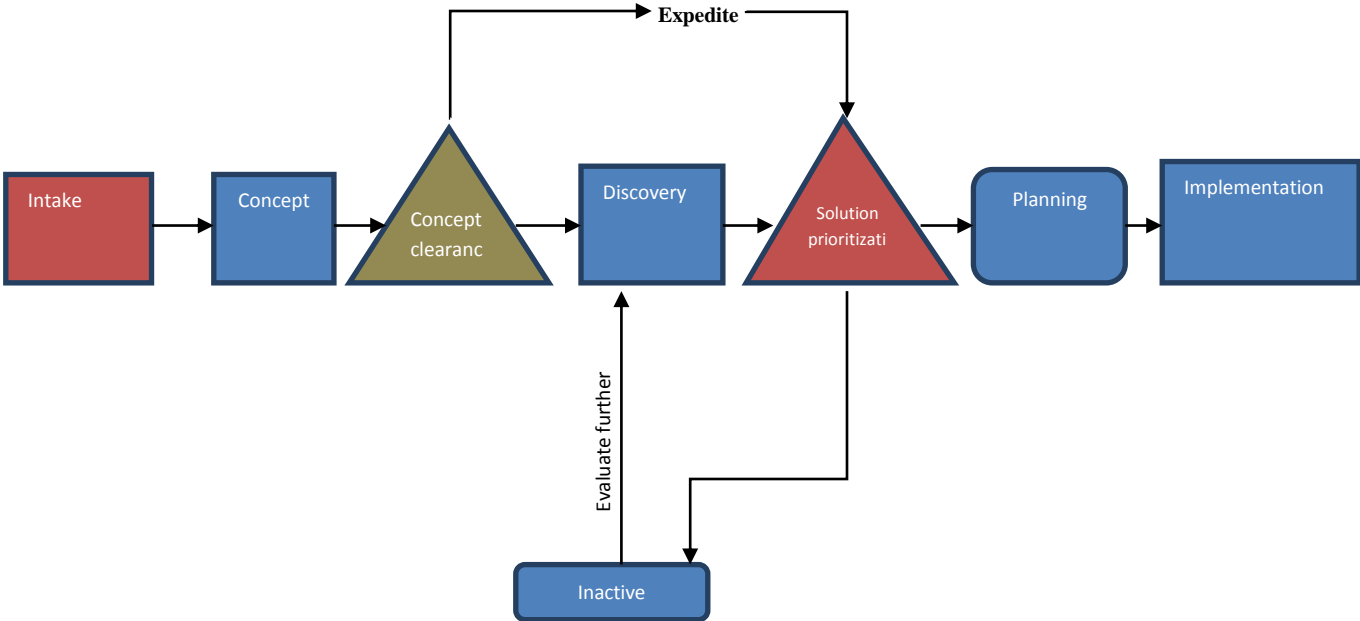
- ✓ How much are we spending on IT investments?
- ✓ How do we ensure success of our investments?
- ✓ How are we deciding where to spend?
- ✓ How do I get in line?

IV. Recommended model for PM prioritization

According to this model, the Program Management Office fulfils the following functions:

- ❖ Intakes requests for solutions and gathers needed information to inform about prioritization
- ❖ Shepherds requests through the prioritization process
- ❖ Manages IT portfolios to ensure strategic alignment and balanced investment
- ❖ Manages high-value programs to deliver intended benefits to the University
- ❖ Reports performance of IT investments to management and institution.
- ❖ Communicates with constituents and stakeholders of the institution.

Following is the recommended frame work used to evaluate the PMO Program Prioritization process in the case study institutions.



From;http://www.montana.edu/pmo/images/PMO_PrioritizationProcessOverview_20130403_2.jpg.

1. **Intake:** Request is received by the programme management office. Initial business case is documented on behalf of the requester.
2. **Concept:** Problem solution is proposed as an initial concept with high level cost, benefit, risk and alignment information.
3. **Concept clearance:** Concept is cleared into discovery for more information or expedited to implement, or is monitored.
4. **Discovery:** Proposed solution is further researched and elaborated with detailed cost information.
5. **Solution Prioritization:** Detailed solutions are evaluated, prioritized, and funded for planning and implementation, or returned to discovery for additional information, or placed on the inactive list to be monitored for a future opportunity.
6. **Planning:** Approved solutions are planned and scheduled for implementation.
7. **Implementation:** Planned solutions are implemented as projects or programs
8. **Expedite:** Some solutions may be expected directly to implementation for reasons such as legal or quality compliance, Information security, mandatory requirement, or exigency.

Evaluate further: Solutions that are promising but lack sufficient Information to approve, prioritize or fund are returned to discovery for additional analysis.

9. **Inactive:** Solutions that are not approved to proceed are placed on the inactive list and are monitored for future opportunity.

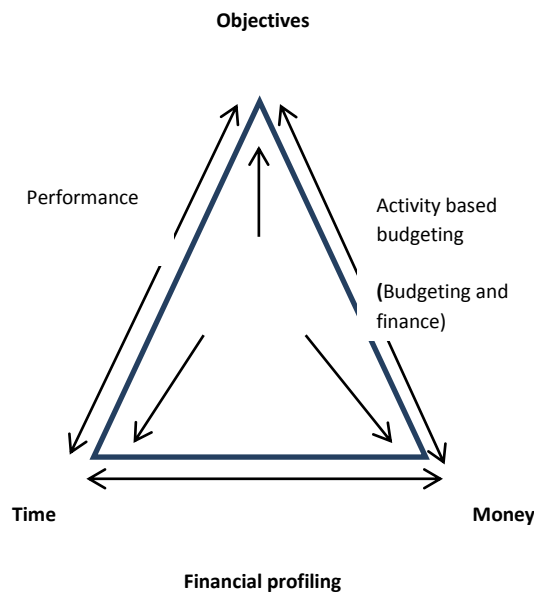
V. Monitoring and Evaluation of Business-ICT alignment initiatives in the case study institutions

Significant investments are being made in the application of new Information and Communications Technologies (ICTs) to teaching, learning and other business processes in institutions of higher learning. However there is no clear model to guide the monitoring and evaluation process.

Recommendations on how to make monitoring and evaluation of Business-ICT alignment initiatives in the case study institutions a success

- ✓ Hiring monitors and evaluators/establishment of a monitoring and Evaluation Reference Group
- ✓ The institution should have a monitoring and evaluation criteria
- ✓ Below is the recommended monitoring triangle to follow during evaluation of ICT initiatives in the research institutions.

VI. Proposed monitoring triangle: A simple way to keep in mind what aspects to monitor



Performance

Monitoring and evaluation of ICT performance guides the institution to know which areas ICT are performing well and where to improve in their ICT in as far as business-ICT alignment is concerned.

Activity based budgeting (Budgeting and finance)

Evaluation and monitoring of budgeting and funding guides the institution through important areas to help them plan and finance their ICT: Forexample;

- Calculating the technology budget – This provides instructions for using a downloadable Excel spreadsheet for a simple way to help them calculate their ICT budget
- Planning and budgeting for IT Equipment –This helps the institution plan for equipment replacement and explains the importance of a purchasing plan.

- Allocating funds for ICT – This provides help with what to consider when putting together a funding application or budget.

Financial profiling

Monitoring financial profiling helps the institution carry out a careful study of a company's financial status, in order to find areas where the company has advantages or could get an assistance somewhere to develop its ICT.

5.3.2: Recommendations to the ICT manager on what should be done in order to make Business-ICT alignment a success.

The ICT Manager at the case study institutions should clarify, through specific studies:

- The degree of influence of ICTs to the institution's development
- Expectations and needs of students, and other stakeholders regarding the use of ICTs;
- Weak integration between ICT policies at the different levels of government

5.3.3: Recommended ICT security plan

The institutions should come up with an ICT security plan in order to ensure visible Business-ICT alignment

5.3.3.1: Proposed ICT security plan

ICT equipment which is to be re-used must be cleared of sensitive information prior to being used for another purpose. All ICT equipment, including damaged equipment, must be disposed of according to the DECD Instructions for Salvage and Disposal.

1.Email Security

Mechanisms must be in place to provide protection and accountability in usage of electronic mail (email). They include, among others;

Data Encryption

Data encryption must be used when sending sensitive email to recipients on foreign networks or at external locations. ICT Services will provide advice on the tools and options available relating to such encryption.

Systems Software

Access to system software and data must be granted to mailbox administrators and operations users for the purpose of system maintenance and backups.

Use of Email

Users of DECD ICT facilities will use email in an appropriate and professional manner as per the DECD Policy – Email Access and Use.

All ICT security weaknesses and incidents, whether suspected or actual, must be reported to the responsible person in the ICT directorate. ICT security incidents include (but are not limited to):

- Software malfunction, for example virus attacks
- Hardware and software faults;
- Theft or suspected theft of any DECD resources, equipment or information;
- A breach of security resulting in internal fraud or suspected fraud;

- A breach of security resulting in non-compliance with statutory requirements regarding privacy of information in legislation.

5.3.4: Other related recommendations

❖ ICT training

Based on the findings, provide opportunities for ICT training and develop clear policies, guidelines and strategies for better use of ICT equipment by all, regardless of sex.

❖ Training on upcoming software

All affected users should be trained properly on any view upcoming software or computer hardware constituting ICT infrastructure.

❖ Use of current ICTs technologies

Universities should use current ICTs technologies as possible in all areas of operations so that to maintain consistency in their modern management practices if quality management has to be maintained.

❖ Authorized use ICT resources

Use ICT resources only for authorized purposes to avoid abusing the resources in process of executing duties.

❖ **Sharing ICT resources:** There is need to be considerate in the use of shared resources.

Refrain from monopolizing systems, overloading networks with excessive data, degrading services, wasting ICT resource time, disk space, manuals or other resources

❖ **ICT management vision:** The University should have an ICT management vision to make it achieve its Business-ICT alignment strategy.

Proposed ICT management vision: The proposed ICT vision of these institutions' stakeholders, hence satisfying the Business-ICT alignment objective.

5.4: Recommended area for further research

The researcher recommends the following areas for further research.

5.4.1: The impact of business-ICT alignment on lower schools of learning

5.4.2: A framework to adopt business-ICT alignment in lower schools of learning

5.4.3: The impact of business-ICT alignment on Agro-business

5.4.4: A framework to adopt business-ICT alignment in Agro-business

5.5: General Conclusion

Based on the study findings, the use of information and communication technologies no doubt is gaining momentum in Ugandan Universities. ICTs are used by different faculties, staff, non-staff and students in sourcing information to align business in Ugandan Universities. Information and communication technologies assist libraries in providing efficient and current information services. ICTs' use in management is highly embraced and this improves management practices. The use of ICTs' in the works of Universities' management is observed that indeed, it simplifies work and makes it easier for Universities' staff to enjoy their work and hence generate quality decisions for the running of their Universities. Once the staff and students are able to use these technologies effectively, the teaching, learning and research activities will be made easier for the University community. ICT usage will facilitate development since there will be free flow of information.

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UGANDA MARTYRS UNIVERSITY

FACULTY OF SCIENCE

STUDY SURVEY

GENERAL QUESTIONNAIRE FOR INSTITUTIONS OF HIGHER EDUCATION

Dear respondent, I am carrying out aninvestigative study into Business-ICT alignment and its impact on institutions of higher learning, a case study of selected institutions in Kabale Municipality. This questionnaire is meant to gather different views which will help in accomplishing the study that will help the researcher complete the postgraduate dissertation to be presented to the faculty of Science in partial fulfilment of the requirements for the award of a Master's degree of science in ICT architectural design, management and policy of Uganda Martyrs University. The general purpose of this study is to carry out aninvestigative study into Business-ICT alignment and its impact on institutions of higher education in Kabale Municipality. You have been chosen for the survey and I therefore request for your assistance in filling in this questionnaire.

Your positive and sincere response will be of great contribution towards the accomplishment of this research.

STATEMENT OF CONFIDENTIALITY

All information provided by you will be strictly kept confidential and your name will not be printed or used in any document or paper work.

SECTION 1: PERSONAL INFORMATION OF THE RESPONDENT

Please, fill in or tick as appropriate

1.1 Age

Age (Years)

1.2 Gender

Male	Female

1.3 Title/position

Assistant Lecturer	Lecturer	Head of department	Non-teaching staff	Administration

SECTION 2: INVESTIGATION ON WHETHER THERE IS BUSINESS-ICT

ALIGNMENT IN INSTITUTIONS OF HIGHER EDUCATION IN KABALE DISTRICT.

2.1: Which is your institution?.....

2.2: For how long have you been in this institution?

Less than 1 year	1 and above years	5-10 years	Over 10 years

2.2: What are the different ICTs used in your institution?

.....

.....

.....

2.3: What are the different businesses processes taking place in your institution?

.....

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.....

.....

2.4: How do the above ICTs help in running business processes?

.....

.....

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.....

.....

2.5: Rate the general business-ICT alignment levels in your institution

a) Very high level

b) Minimal level

c) Low level

d) Extremely low level

SECTION 3: ANALYSIS OF THE IMPACT OF BUSINESS-ICT ALIGNMENT ON BUSINESS COMPETITIVENESS IN INSTITUTIONS OF HIGHER EDUCATION IN KABALE DISTRICT.

3.1: Business-ICT alignment is a suitable process for institution progress and success

- a) Strongly agree
- b) Agree
- c) Disagree
- d) Strongly disagree
- e) Not sure

3.2: What are the indicators of business competitiveness in your institution?

.....

.....

.....

.....

3.3: Briefly explain how business-ICT alignment improves business competitiveness in your institution.

.....

.....

.....

3.4: Apart from business-ICT alignment, what are other factors that can lead to competitiveness and success of your institution?

.....

.....

.....

.....

3.5: What do you suggest in your views should be done to achieve better results from business-ICT alignment?

.....

.....

.....

.....

SECTION 4: ASSESSMENT OF HOW BUSINESS-ICT ALIGNMENT CAN BE INTEGRATED IN INSTITUTIONS OF HIGHER EDUCATION IN KABALE DISTRICT.

4.1: In your own views suggest on how business-ICT alignment can be integrated in your institution

.....

.....

.....

4.2: How useful do you find the integration of business-ICT alignment in institutions of higher education?

.....
.....
.....
.....

SECTION 5: ESTABLISHMENT OF HOW BUSINESS GROWTH AND DEVELOPMENT CAN BE STIMULATED THROUGH BUSINESS-ICT ALIGNMENT

5.1: Briefly explain what you understand by business growth and development?

.....
.....

5.2: In your own views, what do you suggest on how business growth and development can be stimulated through business-ICT alignment?

.....
.....
.....
.....

Thank you for your participation in this survey

UGANDA MARTYRS UNIVERSITY

FACULTY OF SCIENCE

STUDY SURVEY

GENERAL INTERVIEW GUIDE FOR INSTITUTIONS OF HIGHER EDUCATION

Dear respondent, I am carrying out aninvestigative study into Business-ICT alignment and its impact on institutions of higher learning, a case study of selected institutions in Kabale Municipality. This interview is meant to gather different views which will help in accomplishing the study that will help the researcher complete the postgraduate dissertation to be presented to the faculty of Science in partial fulfilment of the requirements for the award of a Master’s degree of science in ICT architectural design, management and policy of Uganda Martyrs University. The general purpose of this study is to carry out an investigative study into Business-ICT alignment and its impact on institutions of higher education in Kabale Municipality. You have been chosen for the survey and I therefore request for your assistance in filling in this questionnaire.

Your positive and sincere response will be of great contribution towards the accomplishment of this research.

STATEMENT OF CONFIDENTIALITY

All information provided by you will be strictly kept confidential and your name will not be printed or used in any document or paper work.

SECTION 1: PERSONAL INFORMATION OF THE RESPONDENT

Please, respond as appropriate

- 1.1 How old are you?
- 1.2 What is your gender?
- 1.3 What is your title/position in this institution?

Assistant Lecturer?Lecturer?Head of department? Non-teaching staff? Administration?

SECTION 2: INVESTIGATION ON WHETHER THERE IS BUSINESS-ICT ALIGNMENT IN INSTITUTIONS OF HIGHER EDUCATION IN KABALE DISTRICT.

- 2.1:** Which is your institution?
- 2.2:** For how long have you been in this institution? a)Less than 1 year? b)1 and above years? c) 5-10 years? d) Over 10 years?
- 2.3:** What are the different ICTs used in your institution?
- 2.4:** What are the different businesses processes taking place in your institution?
- 2.5:** How do the above ICTs help in running business processes?
- 2.6:** Rate the general business-ICT alignment levels in your institution
a) Very high level? b) Minimal level? c) Low level? d) Extremely low level?

SECTION 3: ANALYSIS OF THE IMPACT OF BUSINESS-ICT ALIGNMENT ON BUSINESS COMPETITIVENESS IN INSTITUTIONS OF HIGHER EDUCATION IN KABALE DISTRICT.

- 3.1:** Business-ICT alignment is a suitable process for institution progress and success
a) Strongly agree? b) Agree? c) Disagree? d) Strongly disagree? e) Not sure?

3.2: What are the indicators of business competitiveness in your institution?

3.3: Briefly explain how business-ICT alignment improves business competitiveness in your institution.

3.4: Apart from business-ICT alignment, what are other factors that can lead to competitiveness and success of your institution?

3.5: What do you suggest in your views should be done to achieve better results from business-ICT alignment?

SECTION 4: ASSESSMENT OF HOW BUSINESS-ICT ALIGNMENT CAN BE INTEGRATED IN INSTITUTIONS OF HIGHER EDUCATION IN KABALE DISTRICT.

4.1: In your own views suggest on how business-ICT alignment can be integrated in your institution

4.2: How useful do you find the integration of business-ICT alignment in institutions of higher education?

SECTION 5: ESTABLISHMENT OF HOW BUSINESS GROWTH AND DEVELOPMENT CAN BE STIMULATED THROUGH BUSINESS-ICT ALIGNMENT

5.1: Briefly explain what you understand by business growth and development?

5.2: In your own views, what do you suggest on how business growth and development can be stimulated through business-ICT alignment?

Thank you for your participation in this survey

UGANDA MARTYRS UNIVERSITY
FACULTY OF SCIENCE

OBSERVATION CHECK LIST

1. Name of the institution of higher education
2. General view
 - a) Location of the institution of higher education
 - b) Available ICTs
 - c) Condition of available ICTs
3. Institution of higher education records and reports related to business-ICT alignment
4. Institution of higher education staff
 - a) Assistant Lecturer
 - b) Lecturer
 - c) Head of department
 - d) Non-teaching staff
 - e) Administration
5. Institutions of higher education clients (students)
 - a) Males
 - b) Females
6. Business/institutional process drivers apart from ICTs