Developing a Knowledge Management Strategy for The Marist International University College, Nairobi - Kenya.

by

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DECLARATION

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I declare that: Developing a Knowledge Management Strategy for The Marist International University College, Nairobi - Kenya is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

7 February 2015

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ABSTRACT

Marist International University College, Nairobi – Kenya is challenged with problems like duplication of work due to lack of a central repository for knowledge, loss of knowledge through expertise leaving the institution without knowledge being captured and over reliance on a few known subject experts as others have not been identified. This research thus set out to address these problems. The aim of the study was to conduct a knowledge management assessment at the Marist International University College (MIUC) in order to identify and recommend a suitable strategy for the institution. The study employed a concurrent triangulation mixed methodology approach which encompassed a questionnaire and an interview schedule to collect data from 33 academic staff and 9 members of the MIUC management respectively. These two groups were purposively selected as the target population for the study as they play the key role in knowledge creation at MIUC. All 33 copies of the questionnaires that were distributed to the teaching staff were returned by respondents and all the 9 MIUC members of management were successfully interviewed. Data transformation analysis was applied during which qualitative data from open-ended questions and interviews were quantified using content analysis. Quantitative data in the questionnaires was descriptively analysed using SPSS. The study revealed a variety of informal knowledge management structures and resources at MIUC and the challenges of managing knowledge at Marist. The main challenge was that there was no uniformity and consistency in the management of knowledge. The study hence, formulated a KM strategy for MIUC that would help leverage its knowledge assets.

Key words: Knowledge Management; KM Assessment; KM Strategies; KM Processes; KM Critical Success Factors; KM implementation; Higher Learning Institutions; Academic institutions; Universities; Marist.

DEDICATION

To:

My family: the Anduvare's and

My daughter: Baby Evita.

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LIST OF ABBREVIATIONS AND ACRONYMS

ACET	Adams Communication and Engineering Technology.
AMREF	African Medical and Research Foundation
BT	Building Technologies
CKOs	Chief Knowledge Officers
CoPs	Communities of Practice
CSFs	Critical Success Factors
CUE	Commission of University Education
CUEA	Catholic University of Eastern Africa
GDNet	Global Development Network
HEIs	Higher Education Institutions
HR	Human Resource
ICT	Information and Communications Technology
IR	Institutional Repository
IT	Information Technology
KM	Knowledge Management
KMA	Knowledge Management Africa
KMAT	Knowledge Management Assessment Tool
KT	Knowledge Transfer
LIMAT	Lingayas Institute of Management and Technology
MCDM	Multi Criteria Decision Making
MESI	Moscow State University of Economics, Statistics and Informatics
MIT	Massachusetts Institute of Technology
MIUC	Marist International University College

MMR	Mixed Methods Research
OECD	Organisation for Economic Co-operation and Development
QMS	Quality Management Systems
SPSS	Statistical Package for the Social Sciences
UAPs	University Access Programs
UK	United Kingdom
UN	United Nations
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNHABITAT	United Nations Human Settlements Programme
UNISA	University of South Africa.

CHAPTER ONE: INTRODUCTION

1.1 Background to the study

Knowledge plays a key role in organisations especially in the current knowledge – based economy. An organisation that aims to achieve and maintain higher standards of production of goods and/or services can no longer ignore management of its knowledge resources including knowledge flows. According to Schulz and Jobe (2001:1), "knowledge flows transmit localised know-how which is generated in one sub-unit to other locations in the organisation." Knowledge in an academic institution may be spread all over various units and hence requires to be managed. The success of an organisation is dependent upon the human resources it has in place. Capturing the intellectual capital of certain experts that are relied upon to accomplish tasks therefore becomes quite a challenge for organisations whenever such experts leave. This situation can have a greater impact in a learning institution because an expert may leave incomplete an expensive project or research. In order to manage knowledge in an institution, a strategy must be put in place. This study therefore assessed knowledge management strategies at Marist International University College, Nairobi - Kenya and preferred recommendations on how the situation may be improved.

1.2 Conceptual setting

In a globally competitive world, it is becoming increasingly important for organisations to capture knowledge, develop people and establish lifelong learning practices (Emerald Insight Staff 2005:2). It has been argued that the most vital resource of today's enterprise is the collective knowledge residing in the minds of organisations' employees, customers and vendors. Learning how to manage organisational knowledge therefore may produce many benefits, including leveraging core business competencies, accelerating innovation and time-to-market, improving cycle times and decision-making, strengthening organisational commitment, and building sustainable competitive advantage

(Fernandez et al. 2008:4). Wiig (1997:9) adds that well applied knowledge is the fuel that will improve quality of life for the world-at large. Knowledge management hence becomes a key strategic tool for organisations.

Knowledge management (KM) represents an evolution of the move towards personal and intellectual freedom that started with the age of enlightenment and reason over 200 years ago. The emergence of the explicit knowledge focus and the introduction of the term "KM" in the 1980s was no accident and did not happen by chance (Wiig 1999:2). KM consequently is not a new concept although it has been popularized in the recent years. KM has a history through the passage of time and an attempt to trace it follows.

1.2.1 Historical mapping

The palace archives of Sumer and Akkad and the extensive cuneiform archives discovered at Ebla in Syria, all more than 4,000 years old, were attempts to organise the records of civilisation, government and commerce, so that the high value information contained therein could be used to guide new transactions and to prevent the loss of knowledge from generation to generation (Ives et al. 1998:269). Preserving knowledge eventually led to the great libraries of antiquity, the most notable was the Library of Alexandria in Egypt, which was founded in the 3rd century BC and lasted almost 1,000 years. At its peak the library contained more than 500,000 hand-written works, copies of which were made and disseminated throughout the world. This time-consuming, hand done reproduction and hand-carried dissemination fortunately saved much of the knowledge of antiquity as the library, itself, was frequently burned by invading armies (Ives et. al. 1998:269). These historical efforts to conserve and disseminate information/archives laid the foundation for the current efforts of KM aimed at sharing knowledge and its preservation.

In the pre-writing oral tradition, the conditions for the preservation of ideas were mnemonic. To promote memory, instruction and knowledge preservation made use of verbal and musical rhythms (Ives et al. 1998:270). Presently, uses of such

methods are re-introduced as measures of knowledge retention. Story telling for instance is encouraged as it is an easy way to pass tacit knowledge. Denning (2002) related how from time immemorial, the elder, the traditional healer, and the midwife in the village have been the living repositories of distilled experience in the life of the community.

As older civilizations passed, great efforts were made to preserve the knowledge gained through experience and reflection over great periods of time. There was an increasing need to store knowledge thus according to Ives et al. (1998: 270), developments in the technologies of recording media and devices. Wooden stylus was used on wet clay. The tablets were then baked and stored. This posed a challenge of portability of the recorded information. Papyrus reeds were therefore introduced which made real literary and academic works to be easily recorded and transported. This technology was used by the Greeks and Romans from the 5th century BC until the 8th or 9th century AD. It was superseded by parchment beginning in the 4th century AD.

Knowledge eventually made its way into the monasteries of Europe where knowledge specialists – monks dedicated to seeking truth and viewing all knowledge as an expression of God and his creative acts (Ives et al. 1998:271). From time immemorial there has always been need for specialists to spearhead KM practices from monks in the past to knowledge specialists/managers in the current era.

Medieval monks were subjected to and engaged in a systematic process of KM (McGrath 2007:212). The primary motivation underlying much of the daily life of an Irish monk focused on the learning, perfection, and protection of Christian religious knowledge (McGrath 2007:214). Within monastic schools, secular learning practices of memorization, particularly through song and poem, were adopted although limited within an elite knowledge community. The written word, the book, became the primary source of knowledge sharing and protection

(McGrath 2007:215). The knowledge they produced was also seen as common property to be openly shared internally and then disseminated selectively out into the wider Christian community. Knowledge sharing was also assisted through the extensive inclusion of glosses (Irish translations or explanations written in between the lines of the main text) within teaching texts. These contributions were aimed at assisting comprehension, marking issues requiring clarification by the masters and generally accelerating the learning process (McGrath 2007:216).

Through the control of and selective sharing of religious knowledge and ritual, the monks located themselves as part of an elite Mandarin class of intellectuals and had strong vested interests in maintaining the system and their influential position at the top. Their control of, association with and propagation of ideologically derived religious knowledge was important but it was the pragmatic and political use to which they put this knowledge that ultimately determined their enduring influence and prosperity (McGrath 2007:218). The monastic used knowledge to elevate their symbolic role in society, to exploit uncertainty and gain significant political capital (McGrath 2007:219). The control of knowledge can still be witnessed in the modern society as individuals (experts) consider knowledge as power and a security measure.

Hisperic style of writing is a Latin method that probably originated in the British Isles in the 7th century. It is characterized by extreme obscurity intentionally produced by periphrasis (preference for a longer phrase over a shorter, equally adequate phrase), coinage of new words, and very probably composed in Ireland in the mid-7th century (Britannica 2013). This style of writing in the seventh century encouraged innovative writing and recording of new knowledge.

The craft-guilds and apprentice-journeyman master systems of the 13th century were based on systematic and pragmatic KM considerations (Wiig 1999:2). The 15th century saw the invention of printing press that greatly enhanced information production and accessibility. The problem was that it limited the type of information stored and transmitted. It also limited access to this information to

those who could become literate in the new technology (Ives et al. 1998:271). Wiig (1999) further states that until the industrial revolution changed the economic landscape in the 17th century, KM was implicit and largely based on the apprentice-journeyman-master model. Schools and Universities mostly fulfilled a tacit mission to provide education as required for a leading minority.

1.2.2 Current conceptualizations of KM

Research on KM came into being in the early 1990s. With the growth of information technology and knowledge economy, KM has gained very strong presence in the business field in past decade and enjoyed an emerging popularity across disciplines and industries (Tian, Nakamori and Wierzbicki 2009). Information explosion of the late twentieth and early twenty-first century revolutionized KM. Recent perspectives come from efforts to explain economic driving forces in the "knowledge era" and the 20th century efforts to increase effectiveness (Wiig 1999:3). New advances in technology in the digital age have brought enormous opportunities for KM. Possibilities for enormous storage, accessibility, sharing, creation and dissemination of knowledge have been greatly enhanced through computer technologies. According to MIT Press (n.d.:17), with the advent of the information or computer age, KM has come to mean the systematic, deliberate leveraging of knowledge assets. Technologies enable valuable knowledge to be remembered, via organisational learning and corporate memory; as well as enabling valuable knowledge to be published, that is, widely disseminated to all stakeholders. Skyrme (1999) observed that KM in its current form first received significant attention in 1995. Petrides and Nodine (2003) stated that today, over a hundred Universities around the world offer courses in KM, and quite a few business and library schools offer degree programs in KM.

Africa is also making milestones in knowledge management development. Organisations such as Knowledge Management Africa (KMA) and Global Development Network (GDNet) organise various workshops in Africa to promote use of Africa's collective knowledge for development (Mosoti and Masheka 2010:111). They further state that for African countries to compete internationally

they need to have access to the latest knowledge and information, similar to the countries with which they are competing. According to Mchombu (2007:29), a critical dilemma for African (and other developing) countries is that the past 20 years have witnessed the most massive accumulation of explicit knowledge and information in human history. Digital information and communication technologies, and new ways of thinking on knowledge management, have revolutionised the ways in which knowledge and technical knowhow move around the world. Mchombu (2007:30) also notes that the African local content is also very low, because of lack of capacity to produce, transfer, and disseminate information. Partly the reason for this situation could also be attributed to lack of financial resources and lack of awareness of the critical and strategic importance of information and knowledge to a country's competitiveness and development.

In Kenya, International organisations such as African Medical and Research Foundation (AMREF), World Bank and United Nations (UN) have made efforts to manage knowledge. AMREF Kenya which, according to Mosoti and Masheka (2010:112) have programs in 7 African countries with its head quarters in Nairobi Kenya recognises knowledge as a valuable resource that deserves to be consciously captured and managed. World Bank Kenya has its collective digital resources freely available to the public. United Nations Human Settlements Programme (UNHABITAT) has a knowledge management unit responsible for managing the organisations knowledge. Kenyan Universities which are considered to be the core of knowledge creation are still lagging behind with regard to KM. With the exception of a few Universities such as Management University of Africa (MUA) which begun to manage its knowledge back in 2012, most Universities are yet to take KM as a key task. Mosoti and Masheka (2010:129) in their study found out that most of the challenges faced by organisations in Nairobi are how to create and implement knowledge management practices as part of the organisational culture, strategy and leadership. They recommended that organisations should become learning centers and provide

facilities for KM and that they should reinforce the creation of knowledge by integrating effective leadership, strategy and culture.

Wiig (1999:13) states that advances in KM practices will continue to modify the workplace–sometimes drastically. Visible changes will be evident by increased application of, and reliance on, technology for cognitive support compared to the information focus of the 1980s and 1990s. Ives et al. (1998:273) stated that anyone participating in the field of knowledge management must understand that KM is an emerging field and that there is no agreed-upon industry-standard definition of knowledge Management, nor is there a framework in which to align different professionals.

Much of the KM history and practices highlighted above have been linked to organisations but not Universities. This study therefore attempts to fill that gap by looking into KM in academic institutions with special reference to Marist International University College, Nairobi, Kenya. Moreover, the basic KM concept, definitions and importance have been discussed in chapter two under literature review. Literature is also reviewed on KM in academic institutions.

1.3 Contextual setting

Literature addresses knowledge management in organisations. The nature and structure of Higher Education Institutions (HEIs) makes them vary from other organisations making the concept of managing knowledge a bit more complex. Universities in general tend to have a larger population all embedded in different smaller ‘organisations’ such as libraries, faculties, schools, departments all of which may be totally different to each other in terms of their operations though they are geared towards attaining the same goals. HEIs therefore call for careful thought if one intends to manage knowledge in such settings. Firestone and McElroy (2005:44), state that there are extensive patterns of networks in higher education with faculty members interacting across disciplines to enhance teaching and research; administrative departments collaborate to achieve complex goals, and students are challenged to seek new paradigms in cognitive development.

Healthy networks also exist and enable interaction and conflict that challenge this community to attain higher levels of understanding of complex issues.

1.3.1 Marist International University College (MIUC)

The Marist International University College (MIUC) is an academic institution consisting of a student population of approximately 1400 and full time staff both administrative and academic adding up to 109.

MIUC was officially recognised as a Constituent College of The Catholic University of Eastern Africa (CUEA) in May 2002. The College, then Marist International Centre, was established in 1986 as a post-novitiate formation centre in Nairobi. It is founded on Christian principles. It is located in Karen area – Marist Lane off Langata Road – 10 kms away from Nairobi City. This serene environment provides a conducive atmosphere for learning. MIUC offers Degree, Diploma and Certificate programs, with the main Degree course being Bachelor of Education (both Science and Arts). As a Constituent College of CUEA, MIUC is focused on producing highly trained and well-formed teachers who will make a difference in the education sector in Kenya and beyond.

Apart from the Degree and Diploma programs in Education, MIUC also offers a wide range of Diploma courses in Business and Social Sciences; that is, Diploma in Business Management, Advanced Diploma in Business Management, Diploma in Development Studies and Social Work, Advanced Diploma in Social Work and Diploma in ICT.

The MIUC acknowledges that education is a progressive activity and, as an institution that champions education for all, it has mounted University Access Programs (UAPs), including Bridging courses in Mathematics and English, Access Certificate and Pre-University all tailored for students who did not meet the required University entry grades thereby giving them a second chance to pursue their careers.

As a Christian institution of higher learning, the MIUC's Mission is to produce graduates who are agents of liberation, transformation and development of

humanity in tandem with its motto: **"You are the Light of the World."** (MIUC 2012:1).

Being an institution of higher learning, the Diploma and Degree programs entail tuition and research work; this means that there is creation of knowledge through learning, teaching and research activities. As such, the MIUC needs to have a common repository for the knowledge created within the college, to ensure that vital information is collected and stored for dissemination in a timely manner.

A knowledge management strategy, it is assumed, would help MIUC to roll out a plan of action that would see it manage its knowledge more effectively. Hopefully, the strategy will assist MIUC to formulate and implement a knowledge management initiative that would see it achieve better knowledge creation and sharing. It will also help to outline factors that should be considered when embarking on a knowledge management practice so as to ensure long term success during implementation.

1.4 Statement of the problem

Knowledge management is an important tool that can be deployed by an organisation to improve its overall performance. Universities as organisations must be prepared to thrive in the knowledge-based economies, and take the lead in managing knowledge. According to Wiig (1997:3), faculties within Universities and other learning institutions have been concerned about knowledge transfer processes and the creation and application of knowledge for several millennia. While the Marist International University College (MIUC) as a learning institution has a significant amount of KM practices in place that includes knowledge creation and sharing, the challenge is the lack of a formal strategy that would provide an appropriate framework for those practices to ensure maximum utilisation of available intellectual capital for competitive advantage.

Due to this lack of a strategy, MIUC has been continually "reinventing the wheel" whenever it loses knowledge through expertise leaving the college. This loss of

knowledge through staff leaving or retiring raises the need to have formal structures in place that will help MIUC to capture that relevant knowledge. Kidwell et al. (2000:31) say that relying on the institutional knowledge of unique individuals can hamper the flexibility and responsiveness of any organisation. In his study on management strategies for individual and organisational knowledge, Bhatt (2002:35) also observes that relying on only expertise is not an efficient means of managing knowledge in an organisation. This, he states is because individual knowledge, if not shared with others, will have very little effect on the organisational knowledge base. Smith (2005:4) asserts that knowledge management combined with a knowledge program actively pursues ways to collaborate and share information in a manner that makes the retiring staff receptive to sharing knowledge with the remaining staff.

There is also an aspect of knowledge duplication as there is not a common repository for knowledge created within MIUC. According to Gold et al. (2001:190), knowledge about a particular subject may reside in different parts of the organisation or in different systems within the organisation. Combining or integrating this knowledge reduces redundancy, enhances consistent representation, and improves efficiency by eliminating excess volume. Loh et al. (2003:9) observe that few Universities have an integrated collection of knowledge, embedded either in one knowledge repository, or in a series of linked repositories. According to Rowley (2000), Universities are still a long way from a scenario in which each member of the community that is the University has access to the combined knowledge and wisdom of others in the organisation and MIUC is no exception.

In summation, it may be argued that the lack of a KM strategy is an impediment to the growth of MIUC as it is not able to efficiently tap and share pertinent knowledge for the improvement of the individuals and the institution at large. Once a KM strategy is determined, MIUC would be provided with means that would probably be able to salvage the knowledge situation at hand. As Jenelic

(2011:36) says, the ultimate result of a well – created process of KM is that every employee in the company fulfills its mission, which reaches the corporate objectives and strategies, and identifies the most valuable knowledge from the 'sea of information'.

1.5 Aim and objectives

The aim and objectives of the study are as follows:

1.5.1 Aim

The main purpose of this study was to conduct a knowledge management assessment at the Marist International University College (MIUC) in order to recommend a suitable KM strategy for the institution.

1.5.2 Objectives

The following were the objectives of the study:

1.5.2.1 To take inventory of KM resources and capabilities at the MIUC.

1.5.2.2 To review the various knowledge management strategies available in literature and identify critical components of a knowledge management strategy.

1.5.2.3 To identify the critical success factors for the implementation of a knowledge management strategy.

1.5.2.4 To formulate a suitable KM strategy for the MIUC.

1.6 Research questions

In addressing the research problem the following research questions were addressed:

1.6.1 What structures and resources are available to support knowledge management at the MIUC?

1.6.2 What knowledge management strategies are available in literature and what are the critical components of a knowledge management strategy?

1.6.3 What are the critical success factors for knowledge management implementation?

1.6.4 Which knowledge management strategy would be suitable for managing knowledge at MIUC?

1.7 Justification for the study

This study on knowledge management is significant and quite timely for MIUC as an academic setting considering the challenges being faced by academic institutions with regard to knowledge production, manipulation and storage. Knowledge has become a valuable asset for organisations although most of them have not put up proper frameworks to identify and manage the key knowledge so that it's made available for the success of the organisation. Organisations are faced with problems such as employees with specific expertise leaving hence knowledge loss; over reliance on key persons to solve organisation's problems hence reinvention of the wheel each time they exit; a lot of data available in the organisation but not centralised leading to duplication and further external pressures and competition arising because of information technology. MIUC as an institution of higher learning is not exempted from these problems. The research topic was therefore identified as it will help the researcher to identify key knowledge related issues and therefore determine and suggest a strategy that would help make knowledge management practicable at MIUC.

1.8 Scope and delimitations

The study was based on a single research setting i.e. MIUC as different academic settings have different visions, missions, culture and population which can have a different impact on the kind of knowledge management strategy that can be adopted. The results may therefore not be generalised to all institutions of higher learning. The participants were limited to the academic staff members i.e. the full time teaching staff members and the members of MIUC management because the two groups play key roles in knowledge creation and use in the University.

1.9 Definitions of terms

Much misunderstanding in human communication results from people bringing different meanings to the words they use in speaking and writing. Effective researchers seek to avoid this difficulty by clearly explaining the meanings they assign to key terms in their investigations (Master papers 2013). Some terms used in this study have been defined below:

1.9.1 Knowledge Management

Knowledge management is a collaborative and integrated approach to the creation, capture, organisation, access, and use of an enterprise's intellectual assets (Grey 1996). For the purpose of this study, knowledge management implies all collaborative efforts that are undertaken to enhance creation and use of organisational knowledge.

1.9.2 Knowledge Management Strategy

Zack as cited by Hsieh (2007:23) defines a knowledge management strategy as a high-level plan that describes and outlines the processes, tools and infrastructures (organisational and technological) required in managing any knowledge gaps or surpluses. Knowledge management strategy is the means by which the exact knowledge determined by a knowledge strategy can flow effectively in corporations. In this study knowledge management strategy refers to the plan of action that is established to systematically manage knowledge flows.

1.9.3 Knowledge Management Capabilities

Singh et al. (2006:7) refer to KM capability as an organisational capability to manage the organisation's knowledge with efficacy (efficiently and effectively. KM capability in this study refers to the resources an organisation has in place that can enable the effective management of the organisation's knowledge.

1.10 Dissertation structure

This dissertation has preliminary pages and 6 chapters:

Preliminaries: Title page, declaration, abstract, dedication, acknowledgements, table of contents, list of tables and figures, list of abbreviations and acronyms, and list of appendices.

Chapter 1: Introduction

This includes: conceptual setting, contextual setting, statement of the problem, research questions, aim and objectives of the study, justification of the study, scope and delimitations of the study and definition of terms.

Chapter 2: Literature review

This includes a review of literature on relevant topics based on the set objectives including KM concept, KM assessment, critical success factors of KM implementation and KM strategies.

Chapter 3: Methodology

This contains a description and explanation of research design, target population, research instruments, data collection procedures and problems, validity and reliability and ethical considerations.

Chapter 4: Data presentation and analysis

This includes a report of the data using tabulations, tables, figures and descriptions by use of SPSS statistical package.

Chapter 5: Discussion of findings

This includes discussions of main issues arising from the results presented in chapter four.

Chapter 6: Summary, conclusion and recommendation

Based on the findings, conclusions and recommendations are presented in this chapter.

1.11 Time schedule

A time schedule refers to how long the researcher will take to finish the research (Mugenda and Mugenda 2003:217). Its importance is to enable the researcher to assess the feasibility of conducting a study within existing time limits and it helps the researcher to stay on schedule as the research progresses (Mugenda and Mugenda 2003:218). The following table indicates the time limits that were set for various activities of the dissertation.

	Activity	**Time Schedule**
1	Drafting chapter 1, 2 and 3 and preparation of research instruments	February - July 2013
2	Refine data instruments	July 2013
3	Data collection	July - August 2013
4	Data presentation and analysis and drafting chapter 4	September – December 2013
5	Refine chapter 4	January 2014
6	Draft discussion and conclusion (chapters 5 and 6)	February - April 2014
7	Collating the dissertation	May - August 2014
8	Language editing	September 2014
9	Submitting the final dissertation for examination.	October 2014

1.12 Summary of chapter one

This chapter has introduced the study, including a historical background of the concept knowledge management, and the Marist International University College as the contextual setting. It has provided the statement of the problem, aim and objectives, the research questions, scope and delimitations, definition of terms, overview of chapters to follow and time schedule that was used to complete the dissertation. The next chapter elaborates further on the conceptualisation of KM and further focuses on reviewing some pertinent literature that underpins this study.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter expounds on concepts of KM and reviews some studies and published literature on knowledge management, with particular focus on the knowledge management concept, knowledge management assessment, knowledge management strategies, components of a knowledge management strategy and critical success factors for knowledge management implementation.

2.2 Knowledge management

Knowledge management remains debatable both in definitions and as a concept. But the importance of knowledge and or knowledgeable personnel in an organisation has been acknowledged widely. According to Brelade and Harman (2003:5), knowledge management has various definitions but common to them is that they take two dimensions of people and information. Brelade and Harman further states that knowledge management lies in the relationship of these two dimensions, mediated by systems and processes.

Knowledge processes are central to knowledge management. According to Jurisica et al. (1999:1), knowledge management is concerned with the representation, organisation, acquisition, creation, usage, and evolution of knowledge in its many forms. Kebede (2010:421) states that knowledge management is a purposeful and systematic management of knowledge and the associated processes and tools with the aim of realizing fully the potential of knowledge in making effective decisions, solving problems, facilitating innovations and creativity and achieving competitive advantage at all levels (personal, group, organisation, country and so on). For Dalkir (2011:3), knowledge management represents a deliberate and systematic approach to ensure the full utilization of the organisation’s knowledge base, coupled with the potential of individual skills, competencies, thoughts, innovations, and ideas to create a more efficient and effective organisation. Dalkir therefore implies that human resource is central to KM.

The knowledge management practice clearly entails a number of processes as brought out by the authors above. According to Armistead (1999:145), the knowledge management processes which have the greatest effect on operational processes are those for the creation of knowledge, transfer and sharing of knowledge and the embedding and use of knowledge.

Not all knowledge management activities have been shown to positively influence business performance or to result in a competitive advantage. Many parameters and their interactions need to be considered for the successful application of knowledge management initiatives in an organisation (Greiner et al. 2007:3). This is the reason why an assessment is carried out to outline the activities that will be beneficial to the organisation. KM has an impact on knowledge processes, which as realized naturally exist in higher education institutes. It is difficult to talk about a KM strategy without outlining the processes involved in KM. Small and Sage (2006:6) say that knowledge creation is a natural phenomenon; however, within the context of an enterprise, there are often practices that are embedded in organisational culture, processes, and strategies that inhibit this process.

According to Perez- Soltero et al. (2006:3), to select core processes, an evaluation of all processes of the organisation must be made and select those that better fulfill the following characteristics:

i. It has direct impact on the mission and vision.
ii. It generates revenues or is the most critical to overall success of the organization.
iii. It adds value to organisation.
iv. It satisfies customer requirements.
v. It has valuable human, technological and information resources.

Organisations progress from simple KM activities such as capturing existing knowledge to more sophisticated and complex ones such as the continuous creation of new knowledge. According to Loh et al. (2003:6), core business driven knowledge processes of the KM event chain includes: (i) locating and

capturing knowledge; (ii) sharing knowledge and (iii) creating new knowledge. Grover and Davenport (2001:8) on the other hand say that knowledge process can be generically represented as three sub processes: knowledge generation, knowledge codification, and knowledge transfer or realization. Knowledge generation includes all processes involved in the acquisition and development of knowledge. Knowledge codification involves the conversion of knowledge into accessible and applicable formats. Knowledge transfer includes the movement of knowledge from its point of generation or codified form to the point of use.

There are many approaches for developing a knowledge management strategy, each supported by a holistic model of KM processes (Robertson 2004:3). Definitions of KM include KM processes. KM processes are therefore central to the development of a KM strategy.

Knowledge management is a natural development in Information Science that follows data and information management (Kebede 2010:420). This development follows the continuum running from data to information to knowledge. Information science as it exists today already provides many of the important foundations for supporting knowledge management. The documentation tradition has a long history of developing methods and practices for organising the wide range of human knowledge for access by various kinds of users (Jurisica et al. 1999:1). Information scientists have always played a role in organising of information and hence are well equipped to manage knowledge which is a progression from information. As Kebede (2010:417) states, the primary implications of the relationships revealed by the knowledge hierarchy are that knowledge is the highest form that information would take, making knowledge and its management the ultimate target towards which developments in the field of Information Science have logically been progressing.

The goal of knowledge management is facilitating access to information and knowledge in organisations, groups, communities, business, research, and so on

whenever it is needed (Kebede 2010:421). Many universities seek creative and innovative ways to enhance their nimbleness in knowledge translation, access and usability. Successful universities embrace these challenges creatively, including revisiting and repurposing the roles of their academic libraries and IT organisations (Cain et al. 2008:26). The academic libraries in institutions of higher learning are better positioned to facilitate knowledge management practices as they already have the skills of packaging information and disseminating it to the right users.

Knowledge management is a discipline that promotes an integrated approach to identifying, managing and sharing an organisation's information assets, including databases, policies and procedures as well as unarticulated expertise and experience resident in individual workers (De Jager 1999:1). In a university setting, individual workers with knowledge include both teaching and non teaching staff. Hence institution's that need to manage knowledge have to carry out an assessment of what kind of knowledge exists and what is required to be managed in order not only to meet its goals but also to utilize its intellectual capacity to enhance the status of its employees and the institution at large.

There is no generally accepted definition of knowledge management, but most practitioners and professionals concur that knowledge management treats both tacit and explicit knowledge with the objective of adding value to the organisation (Dalkir 2011:26). Tacit knowledge exists in the mind of individuals and poses a great deal of challenge with regard to its management, while explicit knowledge is codified. Most organisations have concentrated in managing codified knowledge (arguably referred to as information management) whilst tacit knowledge has not received as much attention. Yet, literature recognises tacit knowledge as critical for an organisation wishing to gain competitive advantage.

Knowledge is intricate to manage. Nevertheless, as Grover and Davenport (2001:6) state, "knowledge has the highest value, the most human contribution, the greatest relevance to decisions and actions, and the greatest dependence on a

specific situation or context. It is also the most difficult of content types to manage, because it originates and is applied in the minds of human beings." It can be argued that there is codified knowledge that can be managed and used but then why would some personnel in organisations be relied upon so much for certain expertise while not others, even in places where explicit knowledge is well managed? Is it undeniably because of what they know best that others don't, applying tacit knowledge? Knowledge is imperceptible. Firestone and McElroy (2005:2) suggested that, "while knowledge management plays no direct role in developing knowledge outcomes, its influence on knowledge processes – which in turn directly drive knowledge outcomes – cannot be underestimated." Knowledge management processes are natural in many organisations and especially in higher education institutions. How these processes are harmonized formally to bear fruit is what has not received much attention.

According to Loh et al. (2003:8), KM refers to the totality of organisational strategies aimed at creating an intelligent organisation, which is able to leverage upon its tangible and intangible assets, to learn from past experiences, whether successful or unsuccessful, and to create new knowledge. At the people level, KM centers on the competencies and learning abilities of individuals. At the organisational level, KM puts emphasis on the creation, utilization and development of an organisation's collective intelligence.

2.2.1 KM in organisations

Knowledge management discipline has coincided with the development of the global knowledge based economy in which emphasis has been shifted from traditional factors of production, namely capital, land and labor, to knowledge (Jasimuddin 2008:57). Organisations are faced with the challenge of managing knowledge which is deemed central in enhancing products or services.

The forces of technology, globalization and the emerging knowledge economy are creating a revolution that is forcing organisations to seek new ways to reinvent themselves (Rowley 2000:1). The knowledge-based society has arrived, and that

those organisations that will succeed in the global information society are those that can identify, value, create and evolve their knowledge assets (Rowley 2000:325). The creation of knowledge occurs in an unexpected or unplanned way (Dalkir 2011:65) especially in university settings where knowledge is produced by various academic staff through presentations, teaching, project supervision and writing publications. Loh et al. (2003:9) put it well, when they say that the creation of a knowledge environment in which knowledge management activities such as knowledge creation, transfer and use have traditionally been embedded within the academic reward structure of research and scholarship.

Many times in an organisation, employees work on various tasks and none of that knowledge is captured. According to Dalkir (2011:19) much of an organisation's valuable knowledge walks out the door at the end of the day. Loh et al. (2003:9) point out that few universities have an integrated collection of knowledge, embedded either in one knowledge repository, or in a series of linked repositories. This makes it hard for knowledge to be re-used and hence leads to re-inventing the wheel. According to Fernandez et al. (2008:4), a greater challenge rests in the development of ways to manage the expertise of employees that reside solely in their minds, and to enhance the returns of such knowledge.

What would be the motivation for an institution of higher learning to have knowledge management strategies in place? According to Dalkir (2011:4), some of management's motives are obvious: the loss of skilled people through turnover, pressure to avoid reinventing the wheel, pressure for organisation-wide innovations in processes as well as products, managing risks, and the accelerating rate with which new knowledge is being created.

Institutions of higher learning can benefit from knowledge management by creating and maintaining relevant knowledge repositories, improving knowledge access, enhancing the knowledge environment, and valuing knowledge (Loh et al. 2003:1). The question from an operational perspective is how can a 'knowledge' perspective lead to improvements in performance? (Colin 1999:143). Knowledge

has always been produced in higher learning institutions. The challenges of knowledge duplication and losses clearly call for knowledge management practices. With a clear strategy, the 'knowledge' perspective can lead to fruition.

Knowledge management is significant in institutions of higher learning more than ever before with the increasing reliance on knowledge to grow economies coupled with the influx of information due to new technologies that has made it easier to produce and distribute information. These external forces experienced by these institutions are some of the aspects that have prompted them to adopt knowledge management practices to ensure that relevant knowledge is captured, stored and shared. Additionally, academic have to embrace knowledge management due to the fact that in nature, they are learning organisations and hence there is ongoing knowledge production and usage. Hwang (2003:92) defines a learning organisation as an organisation in which its members can acquire, share, create knowledge or apply it in their decision making. In order to manage knowledge, an academic institution has to realize its actual knowledge needs and capacity to manage it. This hence raises the need for such an institution to conduct a KM assessment and have a KM strategy in place.

2.2.2 KM in Higher Education Institutions (HEIs)

According to Shattock (2010:7), universities are multi-faceted, multi-product organisations taking on additional roles, particularly in relation to the knowledge economy and social inclusion. Although their core business remains teaching and research, this broadening of a university's role represents an important new dimension in university life, and can be critical to the way universities are now regarded by their local communities and by government. This may pose a challenge to knowledge management efforts. HEIs therefore need to pay much more attention to KM.

Shattock (2010:195) asserts that academic departments represent the essential building blocks of a successful university and that structures which relate departments directly to the centre of the university without intermediary layers

provide shorter lines of communication and speedier decision making. There are some characteristics of HEIs in the knowledge economy that can have an impact on knowledge management practices and this include the following:

i. Role of HEIs in the knowledge economy.
ii. Nature of staff in HEIs.
iii. Organisational culture.
iv. Access to IT infrastructure.
v. Management support at universities.

2.2.2.1 Role of HEIs in the knowledge economy

HEIs are varied with regard to population, size, programs, vision and mission. These variations make it difficult to generalize on a KM strategy that can be applicable in HEIs as a whole. HEIs have various characteristics that can have an implication on the development of a KM strategy and the implementation of KM practices. Knowledge creation for instance has been the core business of universities with demand increasing in the knowledge-driven economy. According to Loh et al. (2003:2), the development and transmission of knowledge has traditionally been seen as a central governing role and responsibility of universities. Loh et al. (2003:10), further asserts that universities have traditionally been defined by their diversity and their role in relation to knowledge and learning across a range of different disciplines.

Among the most significant effects of mass higher education is the great increase in the market for continuing education in response to life-long learning as well as training and retraining (Loh et al. 2003:4). The knowledge economy has experienced knowledge explosion. This is posing much more pressure for HEIs to generate research output that is relevant to drive the economy forth. HEIs have a great role in the production of highly knowledgeable graduates as well if a knowledge society is to be transformed.

2.2.2.2 Nature of staff in HEIs

Human capital - competencies - is a key component of value in a knowledge-based economy. The academics at university level play a key role in the

production of knowledge. HEIs employ staff on part time and full time basis. Some part time staff may not really give their whole know-how to the institution. The full time staff on the other hand may just be focused on what will be of benefit to them. It may be difficult for the institution to know its knowledge capacity. As Cranfield and Taylor (2008:94) state, academics affiliation, allegiance and priority lies first with research unit or disciplines before their school.

Ways and means should be devised for the academic staff regardless of their department to share pertinent knowledge. Cranfield and Taylor (2008:94) mention that academics generally tend to provide very long service to a university and hence, once they decide to leave, this could have a detrimental impact on the school, faculty and ultimately the institution, especially if the academic is a renowned expert within a particular field attracting students and funding for the school, faculty and institution as a whole.

Although an organisation can use individual expertise in seeking the solutions of organisation-wide problems, it cannot claim its right on individual's knowledge. On the contrary, the organisation itself becomes vulnerable to the mobility and idiosyncrasies of experts. Therefore, even after employing a number of experts, the organisation may still not gain its full potential in solving organisation wide complex problems (Bhatt 2002:33). This calls for measures to capture the tacit knowledge so that the organisation is freed from danger of getting to a halt once an expert exits.

2.2.2.3 Organisational culture

The culture of a university may also influence KM practices. If the university does not have the culture of sharing among faculty maybe because an employee is trying to remain indispensable and therefore has to hold on to what they know that others don't. This kind of 'holding onto knowledge' culture is immature and may be detrimental.

Competition in academia has made works-in-progress confidential and often inaccessible. Researchers are not rewarded based on the extent of internal knowledge sharing activities but rather based on the number of publications in internationally refereed top journals. Often there are little incentives for university lecturers to share knowledge about effective research strategies and know how besides participating in research seminars and conferences (Loh et al. 2003:22). This lack of a supportive culture may hinder academics from sharing what they know.

Highly political environments in universities can also cause discomfort and lack of commitment. Some HEIs are highly politicised which might send people into isolation and holding onto what can be useful for the growth of the institution. This may also lead to job insecurities and hence discourage knowledge sharing.

HEIs that cannot afford to employ staff on full time basis tend to employ them on part time basis. The impact of this is lack of innovation and knowledge sharing as there is no commitment to the organisations.

2.2.2.4 Access to IT infrastructure

Most people; faculty, students and non teaching staff rely on a university's IT infrastructure in terms of PCs and free bandwidth to access the internet. These easily accessible and free tools could therefore be made useful while practicing knowledge management. Knowledge sharing can be enhanced through the use of IT. According to Loh et al. (2003:9), within universities, networks based on intranet technology have supported internal communication through email and access to databases and electronic documents. These technologies hence become invaluable in promoting knowledge sharing which is a key process in knowledge management.

2.2.2.5 Management support in universities

This is important if knowledge management has to be successful. In some HEIs, faculty and researchers have the full support of the institutions with regard to conducting research and publishing. Collecting and sharing of local content is

encouraged. When this support lacks, people tend to be non committal and selfish with their acquired knowledge. According to De Jager (1999), in some organisations, knowledge is not shared, because rewards, recognition and promotion go to those with knowledge, not those who share knowledge.

2.3 Knowledge management assessment

Managing knowledge is a significant endeavor. With the advent of technologies, more and more people are becoming knowledgeable through self efforts as information is easily available through electronic gadgets. An institution may never know what kind of knowledge resides in its employees when knowledge management is lacking. In order to manage knowledge, it becomes imperative for the institution to identify what kind of knowledge is within reach and what is useful. This is expressed by Soliman and Spooner (2000:339) who say that it is important to conduct full-scale business analysis before choosing a knowledge management program to suit an organisation. A number of practices are used to help identify existing knowledge or an organisations capacity to manage it. These include knowledge auditing, gap analysis, knowledge mapping and knowledge assessment. For the sake of this study it is essential to briefly outline these practices as one of the objectives is to conduct a knowledge management assessment.

2.3.1 Knowledge audit

Quiamco (n.d.:1) defines a knowledge audit as a systematic method of determining the status of critical knowledge in your organisation or group, a way of ‘knowing what you know.’ Knowledge audit is essential to the development of a knowledge management strategy. According to Dalkir (2011:318) a knowledge management program or system should never be implemented without a knowledge audit having been conducted. Dan (2008) clarifies that a knowledge audit differs from a knowledge assessment in that in the audit the goal is to conduct systematic inventories, examination, and evaluation of the organisational knowledge to determine the actual status of organisational knowledge assets

(location, source, usability, utilization, transferability among others.), whereas a knowledge assessment is conducted to determine whether the organisation can and is effectively using that knowledge. Liang (2004) presumes that knowledge audit is conducted with a process-orientation, which means, audit the knowledge embedded in each (critical) business process such as product development, marketing and sales. A knowledge audit is therefore critical especially if a process-oriented strategy is to be adopted.

2.3.2 Knowledge gap/Gap analysis

A knowledge gap analysis exercise is important as it helps identify the critical knowledge that requires to be managed. According to O'Farrell (2012), knowledge gap analysis is a way of looking at what knowledge resources a company, or individual, has in place. Current knowledge is compared to the target level and a plan is developed to attain that level. Powers (2002:2) also states that organisations can develop a gap analysis based on what knowledge is needed and what is already in place. Liang (2004) further states that based on the results from auditing the current knowledge stock (as is), the gap analysis identifies the distance from a future vision directed by the goal of each business process (to be).

2.3.3 Knowledge mapping

Knowledge mapping acts as an explicit example within a business process of who has the knowledge, where the knowledge is located, and why it is important (Powers 2002:1). It maps out knowledge to give it relevance. Liang (2004) says that it is concerned about the value chain and identifies where a company's core competence lies. According to Powers (2002:1) knowledge mapping differs from a knowledge assessment, which focuses more on the enabling critical aspects that are necessary to begin a knowledge management (KM) approach, such as culture, leadership, business opportunities, and information technology. Knowledge mapping can be one tool used when conducting a knowledge assessment. Ebener et al. (2006:640) says that knowledge mapping has the advantage of being concrete and tactical. It makes tacit and explicit knowledge graphic and visual. Perez-Soltero et al. (2006:7) identify knowledge mapping as a stage in knowledge

auditing. According to them, knowledge map includes knowledge inventory and knowledge flow within the organisation represented as diagrams, graphs, tables and software knowledge maps.

2.3.4 Knowledge assessment

A knowledge assessment is an assessment of an organisation's knowledge management capacity in key areas such as knowledge processes, leadership, culture, technology and knowledge metrics. Knowledge assessment is sometimes referred to as a KM Assessment or as a KM Capabilities Assessment. In a sense, the knowledge assessment is a diagnostic examination and evaluation of the health and effectiveness of the organisation's knowledge management program, practice and efforts (Dan 2008).

Knowledge assessment is an important step involved in developing a KM strategy. It touches on areas that are critical in the implementation of knowledge management. Pasher and Ronen (2011:181) recommend starting with some kind of an assessment of the current organisational state of affairs with regard to knowledge management. De Jager (1999:1) recommends that educational institutions measure how well they share and manage knowledge by using Arthur Andersen's Knowledge Management Assessment Tool (KMAT) as a *benchmarking* tool that directs institutions toward areas that require more attention and identify knowledge management practices in which they excel. KMAT tool covers KM process, leadership, culture, technology and measurement. These aspects are critical for successful implementation. Small and Sage (2006:5) also comment on KMAT model by saying it is used to characterize the current state of the processes and to assess how well the enablers within an organisation are supporting the KM processes.

MIUC has no formal KM practices in place. A knowledge assessment was relevant in determining its capability to manage knowledge. One of the objectives of this study was to conduct a knowledge management assessment. For the purposes of this, a KM assessment was conducted and the responses from the

assessment became useful in determining what kind of KM strategy was suggested for MIUC. This study adopted the KMAT model to assess knowledge.

Table 2.1: Evaluation of knowledge management assessment models

Factors for evaluation	European Knowledge Management Forum	Knowledge Management Assessment Tool	The Know-Net Assessment	The Know-All 10
Implementing in different enterprises	W	G	G	E
Have a complete guideline for filling the questionnaire of models	W	G	W	E
Evaluating whole internal situation of organization completely	G	G	G	E
According to the organizational layers	W	G	G	E
Simplicity in performing in the organization	W	W	W	G
Interaction with environment	W	G	G	E
Have a good universal experiences	G	G	G	E
Recognize progress in the organization	W	W	W	E

Table adopted from Fathian et.al. (2008) *W: Weak, G: Good, E: Excellent*

Fathian et al. (2008:11) highlight other models (see table 2.1) that have been known as practical models for knowledge management assessment in organisations. These models which have been used by universal propounded organisations are:

i. European Knowledge Management Forum
ii. Knowledge Management Assessment Tools, APQC's Road Map
iii. The Know-Net Assessment
iv. The know-All 10: The Quick Knowledge Management Assessment

An organisation therefore has to evaluate and decide on the appropriate model to be used to assess knowledge for its organisation.

2.4 Knowledge management strategies

A strategy can be defined as a general direction set for a company and its various components to achieve a desired state in the future (MSG 2011). The company here would be MIUC and the desired state would be an efficient and consistent knowledge management practices in place. A knowledge management strategy should as a result serve as a guide for an institution intending to implement knowledge management. It should be able to provide a perspective as to how knowledge can be managed. According to Robertson (2004), a knowledge management strategy should identify the key organisational needs and issues and provide a framework for addressing them. With organisations experiencing information overload, it should provide a means to filter out key information needed by the organisation implementing it.

A knowledge management strategy is critical for a successful knowledge management initiative. It helps to create the foundation for future success on a long-term basis. "knowledge management cannot be practiced without having a strategic plan" (Jain 2007:11). Maier and Remus (2003:62) seem to be supporting Jain's statement by stating that; there are already a large number of KM activities implemented in organisations which often lack a strategic perspective. In the absence of a commonly agreed framework, methods or procedures for implementing KM, these initiatives seem to "absorb" all kinds of theoretical approaches as well as practical activities, measures and technologies without thorough consideration as to its strategic or business value. According to Eunson (2012:539) an organisation may be awash with data, but unless that data can be organised into information, and unless human minds can synthesize and learn from information to create knowledge, then very little advantage is made of it.

For the reasons highlighted above about the purposes of a KM strategy, it is imperative for knowledge institutions such as universities and colleges to have a KM strategy in place. A focused strategy should be identified and it should basically outline:

i. How an assessment of knowledge needs and human expertise should be carried out. These can be done through knowledge mapping and identification of expertise.
ii. How knowledge management processes will be integrated and conducted to help manage knowledge at the institution.
iii. How critical success factors that the researcher will identify can be integrated into the strategy to ensure effective implementation of KM practices. Migdadi (2009:841) states that the need for a more systematic and deliberate study on the critical success factors (CSFs) for implementing KM is crucial. Organisations need to be cognizant of the factors that will influence the success of a KM initiative. Ignorance and failure to notice the necessary important factors will likely hinder an organisation's effort to realize its full benefit.
iv. How implementation will be carried out.

Universities need to be consciously and explicitly managing the processes associated with the creation of their knowledge assets, and recognize the value of their intellectual capital to their continuing role in society, and in a wider global marketplace for higher education (Rowley 2000:329). It should be noted however; as Soliman and Spooner (2000:338) stated that implementing knowledge management programs within an organisation can be very costly, especially during the start-up phase (discussed further in section 2.5 of this chapter). Therefore, looking at the business case for knowledge management is essential to ensure that the organisation has in place a set of strategies suitable for the implementation of the knowledge management effort.

The key to KM success lies in choosing an appropriate KM strategy. Knowledge should be managed strategically. Once the core knowledge of an organisation has been defined, a strategy for managing it needs to be designed too. Therefore, the knowledge management strategy outlines a systematic and comprehensive plan for managing knowledge. Knowledge should not be managed ad hoc (Pasher and Ronen 2011: 38). It has to be identified analytically first to ensure that knowledge

management efforts are not put to waste. There is vast knowledge in an organisation and managing it without an assessment and plan can lead to futility.

Dalkir (2011:316) says that a KM strategy is used to define a plan of action and helps address the following questions:

i. Which KM approach or set of KM approaches, will bring the most value to the organisation?
ii. How can the organisation prioritize alternatives when any one or several of the alternatives are appealing and resources are limited?

Having looked at the questions raised by Dalkir above, the KM strategy selection can be said to be a kind of MCDM (Multi Criteria Decision Making) problem, which requires considering a large number of complex factors as multiple evaluation criteria. Consequently we need to employ MCDM methods to handle it appropriately (Pourdarab et al. 2011:60). Factors such as goals and vision of the organisation, processes, human resources, and enablers such as IT infrastructure, cost and quality, critical success factors among others must all be put into consideration when developing a KM strategy.

Knight (2012) states that the actual knowledge management strategy needs to be created through a three stage process:

i. The creation of a clear vision for the organisation that envisages how knowledge and information would best be created, shared, captured, codified and made available in an ideal world. It also considers what sort of resources might be available and what capabilities the organisation might have in this future state;
ii. A full assessment of the current organisation, using a variety of auditing tools, so that a knowledge gap analysis can be conducted. This process examines what roles, skills, technologies or processes might need to be put in place to meet the established vision for knowledge;
iii. The mapping of this gap analysis onto the levers and enablers available to a knowledge program. These are grouped under the headings of

leadership, people, process, infrastructure and technology, content, and change management.

Having looked at what a KM strategy and its importance are, a number of existing KM strategies were identified from various literatures and included:

2.4.1 Explicit and tacit-oriented strategies

Explicit knowledge is the type of knowledge that can be easily documented and shaped. It can be created, written down, transferred or followed among the organisational units verbally or through computer programs, patents, diagrams and information technologies (Choi and Lee 2003). Explicit knowledge can be codified – it is recorded and available and is held in databases, in corporate intranets and in intellectual property portfolios (Stenmark 2000:10).

Tacit knowledge exists in people's minds (Stenmark 2000:10). Tacit form of knowledge: i-) is embodied in mental processes; ii-) has its origins from practices and experiences; iii-) is expressed through ability applications; is transferred in form of learning by doing and learning by watching (Choi and Lee 2003). Tacit knowledge is not only difficult to exploit but also almost impossible to quickly spread or share it within an organisation since it only resides inside people. Stenmark (2000:10) suggests that instead of trying to identify, capture and make explicit tacit knowledge we should design IT solutions that will help us locate and communicate with knowledgeable people.

The explicit-oriented degree (how far knowledge is documented) corresponds to the extent of codification and storage of the organisational knowledge for later access and use. The tacit-oriented degree (how far knowledge is directly shared) corresponds to the degree of acquiring and sharing of tacit knowledge through interpersonal interaction (Choi and Jong 2006:8). Explicit knowledge is codified knowledge while tacit knowledge is in people's mind. A KM strategy of this kind may be focused on managing explicit knowledge, tacit knowledge or a mixture of both at varied levels. According to Choi and Jong (2006:6), empirical researchers

agree that tacit-oriented and explicit-oriented strategy is central to a KM strategy of an organisation.

The focus of explicit oriented KM strategy is to manage, use and store the knowledge asset of the firm systematically (for example, standards and procedures). Its aim is to increase the codification capability of the firm, thereby, reducing the complexity of access and reuse of knowledge via information technologies (Keskin 2005:170). In tacit oriented KM strategy context, the emphasis is on sharing knowledge through mutual interactions; dialogues that supports sharing knowledge by one-to-one social networks, occupational groups or teams (Keskin 2005:170).

2.4.2 System and human oriented strategies

System orientation emphasizes codified knowledge, focuses on codifying and storing knowledge via information technology and attempts are made to share knowledge formally. On the contrary, human orientation emphasizes dialogue through social networks and person-to-person contacts, focuses on acquiring knowledge via experienced and skilled people and attempts are made to share knowledge informally (Pourdarab et al. 2011:60). System oriented strategy therefore focus on manipulating explicit knowledge while human oriented strategy is focused on capturing tacit knowledge. Tikhomirova et al. (2008:20) state that the main idea of a systematic approach to KM implementation is integrating the KM cycle to every business process.

System-oriented strategy is explicitly attempting to increase organisational efficiencies by codifying and reusing knowledge through advanced information technologies (Choi and Jong 2006:8). While codified knowledge is also information, much human knowledge cannot be codified and remains inaccessible to information technology (Quintas 2004:36). Human-oriented strategy takes on the personalization approach where tacit knowledge is communicated through direct person-to-person contact. The emphasis of the strategy is on acquiring and sharing tacit knowledge and interpersonal experience. (Choi and Jong 2006:9).

Hansen et al. as cited by Ju, Li and Lee (2006:871) while commenting on system and human oriented strategies propose an 80-20 percent split between the dominant and the supporting KM strategy. Hansel further says that companies that try to pursue both strategies in equal measure run the risk of failing at both. Executives may need to rethink their KM strategy and find a balance between human-oriented strategy and system-oriented strategy.

2.4.3 Bottom-up, top -down approach

This was another strategy identified. The beginnings of formal KM may be located anywhere in the organisation and may be bottom-up or top-down. Bottom-up KM often starts with a small core of interested and active enthusiasts, as is the case in both Siemens and BT (Quintas 2004:36). A top-down approach is likely to receive a lot of support from management as they will give directions on the organisations activities and KM initiatives to be practiced, which may be an imposition. Robertson (2004:3) states that in a top-down approach, the overall strategic direction of the organisation is used to identify the focus of the knowledge management initiative. This is reflected in a series of activities designed to meet this broad goal.

In a bottom-up approach, research is conducted into the activities of staff involved in key business processes. The findings of this research highlights key staff needs and issues, which are then tackled through a range of knowledge management initiatives (Robertson 2004:3). A bottom-up approach is likely to receive a lot of support from the staff as it involves them and their ideas. Ideally, this would be a preferred method as opposed to top-down approach as KM requires a lot of commitment and willingness from the employees. Bottom-up approach applies especially to informal methods of sharing knowledge. These may be effective, but some managers find it hard to allow them to take place. From the bottom up, the workforce needs to take ownership of processes, and to make sure that descriptions of the process remain in step with what actually happens. Training is viewed as an important means of sharing and retaining knowledge but can only work if what is recorded matches what is done (Shaw and Edwards 2005).

From the top, successful implementation might be supported through a knowledge champion promoting a collectivistic culture, implementing reward structures appropriate to such a culture by linking with the HR, and the influence of line management in reinforcing this. A team of knowledge champions one of whom should be in the top management have to be identified as they are critical in facilitating the acquisition and use of an organisation's knowledge. Knowledge champions are at the core of a knowledge management practice in an organisation linking themselves to employees to acquire and disseminate knowledge, departments like IT to facilitate knowledge sharing and storage, human resources department to enable employee motivation to share knowledge, to the management for communications and decisions and to external organisations to facilitate exchange of valuable knowledge. Davenport and Prusak as cited by Jones, Herschel and Moesel (2003: 50) highlight some of the critical functions that are carried out by knowledge champions in an organisation as to:

i. Advocate knowledge discovery and use. They contend that given the important role for knowledge in the strategies and processes of many firms today, chief knowledge officers (CKOs) can champion changes in organisational cultures and individual behaviors relative to knowledge.
ii. Design, implement, and oversee a firm's knowledge infrastructure, including its libraries, knowledge bases, human and computer knowledge networks, research centers, and knowledge-oriented organisational structure.
iii. Manage relationships with external providers of information and knowledge and negotiate contracts with them. This is already a major expense for many companies, and efficient and effective management is important.
iv. Provide critical input to the process of knowledge creation and use around the firm and facilitate efforts to improve such processes if necessary.
v. Design and implement a firm's knowledge codification process. The goal is to specify key categories of information or knowledge that the

organisation would address, and entails mapping both the current knowledge inventory and future knowledge models.

vi. Measure and manage the value of knowledge, either by conventional financial analysis or by anecdotal management.

vii. Manage the organisation's professional knowledge managers, giving them a sense of community, establishing professional standards, and managing their careers.

viii. Lead the development of knowledge strategy, focusing the firm's resources on the types of knowledge it needs to manage most, and the current knowledge processes with the largest gaps between need and current capability.

Knowledge champions therefore play a critical role in an organisation that is set out to practice KM. It is more effective to have a chief knowledge officer from the selected knowledge champions as part of the management of an organisation.

2.4.4 Codification and personalization

This is related to the tacit vs. explicit concept. It involves an organisation's primary approach to knowledge transfer. Companies using codification approaches rely primarily on repositories of explicit knowledge. Personalization approaches imply that the primary mode of knowledge transfer is direct interaction among people. Both are necessary in most organisations, but an increased focus on one approach or the other at a given time within a specific organisation may be appropriate (Grover and Davenport 2001:8). Gloet (2002:311) distinguishes between the two strategies as codification strategy centered around IT resources; and a personalization strategy centered around human resources.

Pourdarab et al. (2011:61) says that with a codification strategy, knowledge is stored in repositories systematically, while a personalization strategy implies person-to-person communication. Pourdarab et al. (2011:61) further says that in a codification strategy, individual knowledge is amalgamated, put in a cohesive

context, and made centrally available to members of the organisation via databases and data warehouses.

Codification emphasizes the capability to help create, store, share, and use an organisation's explicitly documented knowledge. This strategy emphasizes codifying and storing knowledge. Typically, knowledge can be codified via information technology. Codified knowledge is more likely to be reused. The emphasis is on completely specified sets of rules about what to do under every possible set of circumstances. Knowledge management using this approach is highly structured as compared to the personalization approach that is semi structured (Pourdarab et al. 2011:61). Codified knowledge is independent of the person who initially created it while personalized knowledge is difficult to codify and store because databases are unable to replicate the human qualities used when resolving an issue.

The personalization approach does not impose a distinction between the knowledge and the knowledge provider. It recognizes the tacit dimension of knowledge and assumes that knowledge is shared mainly through direct person-to-person contacts. The role of information technology here is to facilitate communication between members of the organisation through tools such as e-mail, group support systems, etc (Pourdarab et al. 2011:61).

Codification/personalization distinction fits in system/human orientation (Pourdarab et al. 2011:61). The codification strategy has the objective to collect knowledge, store it in databases, and provide the available knowledge in an explicit and codified form. Such a reuse of explicit knowledge and solutions can save time and money (Greiner et al. 2007:5). Personalization strategy is not to store knowledge, but to use Information Technology to help people communicate their knowledge. The objective of the personalization strategy is to transfer, communicate, and exchange knowledge via knowledge networks such as discussion forums (Greiner et al. 2007:5).

Whilst many organisations start by emphasizing the importance of codification, this strategy is not appropriate for all types of knowledge. Some tacit knowledge can be very difficult to codify, and is easier to pass on through direct contact or observation. Even if knowledge is capable of codification, the benefits may not justify the time and effort involved. If knowledge changes very quickly or if it is required relatively infrequently, it can be more efficient for the person with the knowledge to pass it on directly, as and when it is required (Vincent n.d.: 7).

According to Soliman and Spooner (2000:339) if the enterprise primarily provides clients with a repeat of earlier solutions, then it should emphasize the capture and automation of explicit knowledge. This means investing heavily in information technology (IT) and less heavily in the ``best'' experts. If on the other hand the enterprise specializes in finding solutions for one-off projects, then knowledge management strategy should focus on tacit knowledge, that is, hiring the best minds available.

Most KM strategies chosen by companies fall into these two categories. The effective use of KM strategies is to pursue one strategy predominantly and use the second one to support the other - that is, 80% of one strategy and 20% the other (Oxbridge Writers 2012). This is to mean that a company may pursue personalization 80% and codification 20%. Codification hence encompasses the explicit oriented and system oriented as it encourages explicit knowledge to be acquired and stored using technologies and can be re-used. Personalization encompasses tacit oriented and human oriented as it targets capturing knowledge in the mind that has been acquired through beliefs and experiences and it encourages sharing of these knowledge through personal interactions. Information technology may be used to share the knowledge although emphasis is not on codifying and storing.

2.4.5 Dynamic KM strategy

The dynamic KM strategy integrates the conceptual scope of system and human-oriented KM strategies (Pourdarab et al. 2011:61). It focuses on both knowledge

reusability through information technologies and knowledge sharing through informal discussions among employees (Choi and Jong 2006:4). According to Choi and Jong (2006:9) the dynamic strategy focuses on firms aligning their strategies with knowledge characteristics. This strategy hence insists on adopting both the system and human oriented strategies to manage knowledge.

2.4.6 Process oriented

In process-oriented knowledge management, each knowledge management project is developed around an organisational process and the mission, rationale and objectives of the process define the scope of the project (Kwan and Balasubramanian 2003:2). Process-oriented knowledge management ties the value of knowledge management to process performance by defining the scope of the knowledge management project around a strategic process.

Its repository contains not only knowledge created and manipulated in an organisational process, but also the knowledge of the process itself in the form of process designs, case histories and lessons learned from past experience (Kwan and Balasubramanian 2003:2). Process orientation is justified by the fact that process knowledge is believed to be the source of the core competence of an organisation. It therefore requires an identification of the processes then links to KM practices.

A process – oriented knowledge structure can help to avoid information overload by filtering and presenting knowledge from a variety of sources internal and external to the organisation according to the specific needs of a certain activity in a business process (Maier 2004:67).

2.4.7 Passive strategy

Companies using the passive strategy are ineffective in integrating different streams of knowledge and in implementing new knowledge into the organisation. They do not truly exploit their knowledge, do not manage their knowledge systematically, nor do they recognize the importance of sharing their knowledge within the firm (Choi and Jong 2006:8). Basically the passive strategy is like

having knowledge flows and KM practices but informally. No aggressive strategy has been adopted to guide the organisation to make full use of the available knowledge.

In a nutshell, tacit oriented KM strategy focuses on knowledge in people's mind. Human oriented strategies focus on sharing knowledge informally through personal interactions. Personalization encompasses the process of transferring knowledge directly through interactions. Explicit orientation focuses on coding and storing organisational knowledge. System oriented strategy focuses on storage of explicit knowledge via technology. Codification encompasses the process of codifying and storing knowledge. Suggestions are made of combining various strategies at an 80-20% split to strengthen the KM. It is said that any organisation trying to use two strategies in a parallel way, say 50-50% is doomed to fail.

2.5 Critical components of a knowledge management strategy

Dalkir (2011:316) suggests that a good KM strategy should compose:

i. An articulated business strategy and objectives
- Products and services; target customers; preferred distribution or delivery channels; characterization of regulatory environment; mission or vision statement.

ii. A description of knowledge-based business issues
- Need for collaboration; need to level performance variance; need to address information overload.

iii. An inventory of available knowledge resources
- Knowledge capital; social capital; infrastructure capital.

iv. An analysis of recommended knowledge leverage points that describes what can be done with the identified knowledge
- Collect artifacts; store for future use; focus on connecting.

According to Smith (2005:5-6), a KM strategic plan should have the following elements:

i. Objectives, problems that will be addressed

Objectives of the KM program need to be aligned with the corporate strategy.

ii. Approach

The most successful knowledge programs emphasize one approach over the other.

iii. Plan

An action plan needs to be developed around the stated objectives. Using the objectives, strategy, and goals of the KM program, the action plan should include the activities and timelines in order to gain the benefits defined.

iv. Budget

Once an action plan is developed a budget can be developed. The budget needs to address resources, outside expertise, technology, and subscriptions (access to additional information sources). It is important to set aside a budget for KM as funds will be required for various activities such as: purchasing and or improving the technology required to facilitate KM, training employees on KM and encouraging employees to create and share knowledge. Milton (2014) points out that delivering KM requires not only new technology, new processes, new roles and new governance, but also a program of cultural change. A delivery team is needed to run the implementation project, and the project needs a budget. Depending therefore on the organisation, the knowledge champions will also require some form of stipend considering the amount of work to be done and also the returns anticipated from a successful KM implementation.

v. Cost Benefit Analysis

People, process, data, and technology assessments including to-be state development cost benefit analysis is required. The business case takes the budget and benefits and develops the case for the executives to decide if the plan makes business sense. Often times, there are hard and soft benefits to consider. Key hard benefits to consider include project startup costs, proposal or business development costs, replacement costs, corrective costs if done incorrectly. Soft benefits include employee satisfaction, capture of intellectual capital, less reliance on key individuals or internal knowledge.

vi. Measurements

In order to determine if a program is working, it is always best to determine how to measure its success and progress. Based on the business case, the measurable outcome can be established.

Rowley (1999:418-419) outlines a number of questions that senior managers should seek to answer during the planning of knowledge management initiative:

(1) What is the central objective of knowledge management within an organisation? Is the interest, for example, in leveraging implicit knowledge, retaining knowledge of employees as they exit the organisation, or in more efficient access to knowledge repositories?

(2) What are the levels at which knowledge management must be considered, and how can it be executed at the different levels? Can knowledge management be utilised for specific projects or work groups, without impacting upon the entire organisation?

(3) What is the scope of knowledge management in relation to the types of knowledge that it should embrace? The main divide is between implicit and explicit knowledge, but there may also be different types of focus. For example, the emphasis may be on competitor profiles, or on technical know-how.

(4) What are the technologies and techniques to be employed in knowledge management? Is the priority document creation and management technologies or on group working technologies, such as Lotus Notes?

Rowley (1999:418-419) further raises another key element that needs to be outlined in the strategy that will help in the implementation stage:

(5) What organisational roles are needed to support knowledge management, and what are the associated competencies that both individuals and organisation need to acquire? Organisations have recognised that successful knowledge management initiatives depend on the commitment of top management, and the contribution of senior consultants or experts. Ernst & Young for instance, have found two roles to be key: the database content manager is a subject matter expert who is responsible for the quality of the content; and the knowledge network co-coordinator is a consultant or coach to the people in the network, and their main role is to drive change in the way in which people do their jobs. It consequently becomes critical to have a knowledge champion in the top management if possible. This will enhance KM initiatives as the person is in a position to guide the management and as well direct the other knowledge champions.

An organisation must have clear outlined time frame and systematic action plans. According to Vincent (n.d. 15), one should bear in mind that implementing knowledge management is not a mechanistic process. It involves introducing new practices, new tools and techniques, developing skills and changing behaviors. It is an evolving process and the learning that occurs should be used to review and adjust one's plans as they go along.

Having examined some literature and keeping in mind the objectives of this study, the KM strategy for MIUC may therefore contain the following key components:

i. Objectives of the Knowledge Management strategy.
ii. An inventory of MIUC knowledge management capability derived from the results of the knowledge management assessment to be conducted.

iii. An outline of the knowledge management strategy to be adopted.
iv. Action plans – this consists implementation plan including roles and responsibilities for the project.
v. Assessment plan - If implemented, the process should be assessed to check for effectiveness and this should be a continuous process. The strategy should outline how the project will be measured.

2.6 Primary principles of knowledge management (Critical Success Factors)

Measures of the success of knowledge creation need to include assessment of the reliability of the knowledge, the extent to which it solves a problem, timeliness, acceptability within the organisation and readiness to exploit it should it lead to new opportunities, the cost of exploitation and potential value (Armistead 1999:146).

The following table, adopted from Alazmi and Zairi (2003:6) highlights the various critical success factors that they identified from various authors that should be considered for the success of a knowledge management practice.

Table 2.2: Critical success factors adopted from Alazmi and Zairi (2003:6)

Authors	**Training**	**Sharing**	**Culture**	**Transferring**	**Top-Management support**	**Technology Infrastructure**	**Creating**	**Knowledge strategy**	**Knowledge infrastructure**
Wiig (1996)		*		*		*	*		
Davenport *et al.* (1998)			*		*	*		*	*
Davenport & Prusak (1998)	*	*	*	*	*	*	*		*
Morey (1998)						*			
Trussler (1998)	*	*	*	*	*	*			*
Finneran (1999)		*	*				*		
Liebowitz (1999)		*	*		*	*		*	
Manasco (1999)		*				*	*		
Bassi (2000)	*	*				*			
Choi (2000)	*	*		*	*			*	
Skyrme (2000)	*	*	*		*			*	
Skyrme & Amidon(2000)	*				*	*		*	
Steele (2000)		*			*	*		*	
Haxel (2001)		*						*	
Heising (2001)			*	*	*	*	*		
Total	**6**	**11**	**6**	**4**	**9**	**10**	**5**	**7**	**3**

From table 2.2, Alazmi and Zairi (2003:6) indicated that out of the 15 authors listed, 7 considered knowledge strategy as a key component for successful KM implementation in an organisation. Other critical factors that were identified included training of personnel about KM, sharing knowledge, cultural aspects of the organisation, knowledge transfer capabilities, support from top management, IT infrastructure, knowledge creation and knowledge infrastructure which received the least vote. All of these factors need to be considered during the development and implementation of a KM strategy. A knowledge assessment of an organisation should be able to highlight these critical factors. Below is a brief discussion on the critical success factors provided on table 2.2 in the order listed on the table.

2.6.1 Training

Training employees on KM and its benefits is critical considering organisational knowledge is derived from individual knowledge. Wong (2005) states that as the KM program develops, ongoing training and education should take place to keep employees abreast of how they can contribute and how they can take advantage of the new tools and processes that have been put in place. The more employees know about and are aware of how they can improve their day-to-day tasks by means of engaging in KM efforts, the more likely they are to use and contribute to organisational knowledge structures. Wong (2005:272) noted that organisational members need to be aware of the needs to manage knowledge and to recognise it as a key resource for the viability of a company. This issue can be addressed if proper basic training is provided to the employees. Through such training, they will have a better understanding of the concept of KM. It also helps to frame a common language and perception of how they define and think about knowledge. Choy (2005) suggested that the top management is responsible to educate its employees on the importance of knowledge management, not only to the bottom-line of the organisation, but also to its employees. Many knowledge management strategies fail because the employees cannot see the benefits when they share knowledge. Choy (2005) further noted that perhaps these organisations should first train a few of its employees from different departments on knowledge

management, and assign them to their respective departments to sell the idea of knowledge management.

Training in usage of information technologies employed to enable KM is also essential in an organisation. Employees need the knowledge on how to upload and share knowledge so as to use the available technologies effectively.

2.6.2 Knowledge sharing

Knowledge sharing is an informal and social process (Bhatt 2002:33). The organisation cannot dictate the rules of coordination and knowledge sharing. Since only a part of tacit knowledge is internalized by the organisation, the other part is internalized by employees. Therefore it becomes critical for management to find some kind of commonality between individual and organisation knowledge and provide necessary incentives to employees to share their knowledge and enhance the contents of the organisational knowledge base (Bhatt 2002:33-34). An organisation's ability to effectively leverage its knowledge is highly dependent on its people, who actually create, share, and use the knowledge. Leveraging knowledge is only possible when people can share the knowledge they have and build on the knowledge of others (Ipe 2003:341). Organisational knowledge is built from individual knowledge and this is enhanced through encouraging employees to share what they know. Knowledge sharing is a KM process. Other KM processes listed on the table include transferring and creation of knowledge. KM processes are central to KM as pointed out in section 2.2 of this chapter 2. Alazmi and Zairi (2003:6) point out three KM processes only but others include knowledge identification, capturing, access, storage and use. These processes are explored further in this study during the MIUC assessment and discussion (see 4.3.1 and 5.2.2).

2.6.3 Culture

Organisational culture has been cited as one of the most difficult factors to achieve as well as one of the biggest barriers to KM success (Conley and Zheng 2009:337). Wong (2005:267) also supports this view when he stated that a culture supportive of KM is one that highly values knowledge and encourages its

creation, sharing and application. The biggest challenge for most KM efforts actually lies in developing such a culture. The culture challenge may even be much broader in a religious academic institution like MIUC which has to consider in cooperation of both religious, and government policies and practices in the already complicated KM initiative. This calls for a more careful and calculated planning to reach a balanced level.

Dialogue between individuals or groups is often the basis for the creation of new ideas and can therefore be viewed as having the potential for creating knowledge (Gold et al. 2001:189). A culture of trust and openness may play a role in encouraging knowledge sharing. Emphasis in vision statements and value systems should be placed on the components of the organisation that encourage effective knowledge management processes to occur. Funding hence becomes critical in enhancing cultural change processes.

2.6.4 Management support and leadership

The realization that there are serious people-management and cultural challenges associated with "capturing" the knowledge of employees, or influencing the ways people deal with or share knowledge, has led to greater involvement of HR professionals (Quintas 2004:35). The HR therefore is critical in the KM practice and needs to be linked with the knowledge champions. An increasing number of enterprises are now viewing the collective knowledge of their employees as a key competitive tool from which innovation can emerge, and are encouraging, supporting and rewarding collaboration between people (Soliman and Spooner 2000:338). KM requires management approval as it is an all inclusive project that entails the employees. KM also requires finance in some areas hence management must be involved. Callahan (n.d. 12) established that a useful indicator of an organisation's real values is contained in its budget. If an organisation says that knowledge management is important, but provides no resources or budget to implement its objectives, it can be assumed that knowledge management is not really valued by the senior decision-makers. Artail (2006) finds that top management support also influences other factors critical to the success of KM,

such as organisational culture, as the top management is crucial in fostering trust and promoting a knowledge-sharing culture. Top management is also charged with decisions regarding offering employee's incentives that will encourage knowledge sharing. Davenport et al. (1998) found that organisations that recognized this and offered both financial and nonfinancial incentives to employees that were of greater or lasting value have met with greater sustained participation and engagement in organisational KM initiatives.

2.6.5 Technology

An organisation should invest in a comprehensive infrastructure that supports the various types of knowledge and communications that are critical (Gold et al. 2001:187). Technology enables an organisation to generate and transfer knowledge. According to Gold et al. (2001:188), collaboration and distributed learning technologies allow individuals within the organisation to collaborate. Knowledge discovery technologies allow the firm to find new knowledge that is either internal or external to the firm. Knowledge mapping technologies allow the firm to effectively track sources of knowledge, creating a catalog of internal organisational knowledge. Knowledge application technologies enable a firm to use its existing knowledge. Quintas (2004:38) states that for organisations seeking to better manage their knowledge, it seems that the use of ICTs should be focused on connectivity – providing communication systems that link humans together – rather than concentrating on the capture and representation of human knowledge. Quintas (2004:38) further points out that ICTs can only deal with knowledge in so far as it can be represented or codified – this does not include tacit experiential human knowledge. Technology has potential primarily as a communications medium, shifting the emphasis to "connectivity" rather than "knowledge capture"

Although technology is relevant, Stenmark (2000:11) states that we should not look on technology alone as the solution to our problem of finding and sharing knowledge but, at best, as a facilitator that helps us initiate and sustain social interactions. As Callahan (n.d.:13) points out knowledge processes can occur effectively with little assistance from technology. Two collaborators working

together in the same room can productively find, share, and create knowledge without any sophisticated tools, documents, and databases. However, if the number of collaborators is increased, if they are spread across multiple time zones, and if their information and data requirements are increased, the tools of information technology and telecommunication become increasingly important. This could be the case in a university setting where departments and even campuses are far apart hence technology can be used to enhance communication. Quintas (2004:37) alludes that certainly information and communications technologies (ICTs) have potential to support communication and information flows, and the vast expansion of information available via the internet is an undeniable resource. However studies of organisations that have adopted an IT-driven approach to KM show that the use of ICTs must be framed within a strategy that addresses other, fundamental factors. Prusak as cited by OECD Statistics Canada (2003:32) points out that if you spend more than one-third of your knowledge budget on technology, then it becomes a technology project and not a knowledge project. They are therefore suggesting utmost a third of the knowledge management budget for technology. Technology hence should be used as a supporting role for KM practice. Setting up technologies to support KM also calls for a budget and this should be put into consideration.

2.6.6 Strategy

According to Alazmi and Zairi (2003) first, to be successful and truly meaningful to the organisation, KM should support corporate and business strategies and be integrated within the strategic planning process of the organisation. Second, to carry out these goals, there should be an identified KM strategy in place, for example, codification or personalization strategies. Wong (2005) noted that numerous KM strategies have been suggested throughout the literature; however, the most appropriate KM strategy is one that is crafted on the basis of the highly contextual needs of each individual organisation. This study focuses on creation a KM strategy and bases this development on assessing MIUC to identify the resources available or not available to support a KM initiative. The study therefore tackles an aspect of what have been identified as critical success factors.

2.6.7 Knowledge infrastructure

This may refer to the organisational structures and facilities that facilitate knowledge creation and use in an organisation. It entails how knowledge is accessed and manipulated in an organisation.

The study has identified that the above CSFs as provided on table 2.2 are not exhaustive. This study seeks to add knowledge champions, KM budget and measurement as critical success factors for KM implementation. A brief description of each is provided below:

2.6.8 KM champions

When an organisation makes a decision to implement knowledge management, roles and responsibilities need to be assigned to particular employees to ensure accountability. Conley and Zheng (2009:343) state that although KM initiatives often require the involvement and engagement of every individual in an organisation, it is important to develop positions whose primary roles and responsibilities are related to the organisation's KM program. According to Soliman and Spooner (2000:340), knowledge management teams are required not only to improve the performance and standing of the enterprise but also to ensure the effectiveness of the knowledge management program. Callahan (n.d.:12) supports this by saying that assigning responsibility for a task helps people to focus on what is important and what needs to be done to meet business objectives. Section 2.4.3 of this chapter highlights the importance of knowledge champions in a KM initiative.

2.6.9 Budget

A budget is required for the development, implementation and measurement stages of a KM project. Most of the CSFs listed here will call for some form of funding. Training of employees on KM and IT usage, effecting KM processes, initiating culture change, technology requirements to enable KM, strategy and policies development, operations to be carried out by KM champions and even KM measurement. A KM budget is therefore critical and should be drawn and supported by top leadership.

2.6.10 Measurement

Measurement provides milestones and benchmarks from which targets, goals, and improvements can be calculated. For a KM initiative, measurement of a defined set of criteria is important as it allows those responsible for KM efforts to evaluate the impact of KM and also provides evidence of value to top management and other stakeholders (Hariharan 2005). Measurement allows the organisation to check on what is working and what is not working hence decisions on how to improve the KM efforts can be made. According to Wong (2005:270), an initiative like KM will suffer the risk of becoming just another management fad if it is left unmeasured. Wong (2005:270) further asserts that measurement enables organisations to track the progress of KM and to determine its benefits and effectiveness.

2.7 Review of related studies

This review of related studies focuses on knowledge management in universities looking at the approaches and implementation that have been taken by other institutions of higher learning.

Tikhomirova et al. (2008) conducted a case study on a university's approach to knowledge management. The purpose was to describe several knowledge management initiatives at Moscow State University of Economics, Statistics and Informatics (MESI). They found that MESI has implemented a quality management system (QMS) with concepts such as leadership, process and systemic approach, client orientation among others that lays the foundation for planned KM initiatives. The main goal of KM for MESI is the rapid, efficient, effective, and innovative utilization of knowledge resources/assets for university personnel, infrastructure, processes, and technologies. They reported that MESI leverages its knowledge resources/assets by using a systems approach and it operates its business activities and functions by utilizing a process model. Further, every six months, MESI conducts both an internal and external evaluation of its vision, goals, and strategy, in accordance with an internal Rules of Procedure. This is a self-assessment of each main process and output. There is also a system

for monitoring, reviewing and analysing of needs, opinions and attitudes of employers and end-users (for instance through applicants'/students'/graduate students' surveys, special forums at the MESI web-site, interviewing and testing, among others). Knowledge mapping activities help in the knowledge audit stage. The most difficult thing after that stage is classifying all the knowledge sources and objects in a clear and useful way. This study used knowledge mapping (2.3.3) and auditing (2.3.1) to take inventory of knowledge resources at the institution. It further integrated use of both system (see 2.4.2) and process oriented (see 2.4.6) strategies to manage knowledge.

Shoham and Perry (2008) investigated knowledge management as a mechanism for technological and organisational change management in Israeli universities. The research was guided by two principal questions: What are the sources for organisation-wide technological changes in the higher education system? What are the central processes used for managing change in organisations of this type? The higher education system has been transformed into a complex system that is open to external influences, from domestic and international forces. The system has become dynamic and therefore control, current data and information are needed (Shoham and Perry 2008:232). The Council for Higher Education's Committee for Planning and Budgeting in Israeli examined the integration of information systems into institutions of higher education and decided that the incorporation of technology is important for the processes of teaching and learning, for research and for developing the hi-tech industry. Using grounded theory as the methodology, the research was conducted at two large research universities and studied both the administrative and the academic sector of each university. The study finds that the organisational structure and culture of academic institutions are different from that of companies, business organisations and non-profit organisations. They realize that universities are faced with increased competition; high cost of education vis-à-vis demand for quality products and services from the students and increased distribution of ICT hence universities no longer have monopoly on up-to-date, quality information.

Analysis of the research data reveals that an (irrational) mechanism for managing organisation-wide technological changes is operating in Israeli universities and in their environment; through it the universities also influence each other. Information is received by the community of knowledge, which serves as a catalyst for change. Members of the community ‘‘digest’’ and ‘‘process’’ the information they receive from the university’s immediate and distant environment and raise problems, difficulties, challenges and issues that require response and action. The communities of knowledge map the knowledge in their possession (either in the community or their home institution); analyze the alternative solutions available in Israel or abroad while developing a stance and new information. On this basis, they then make decisions and lead transmission of the message that change is necessary at their home institution or throughout higher education system until implementation of the change is completed in one or more universities and the change itself become ‘‘new knowledge’’ that can be input into the system and influence future change processes. This study hence suggests a central repository and knowledge experts as key in KM initiatives. It indicates the importance of communities of practice in KM and in this case highlights a formalized CoP. CoPs may be formalized or informalized. The formalized CoPs are much more desired and should be given space in an academic community. Informalized have members with the same interest and are enthusiastic to share their knowledge among each other willingly. They are critical in sharing of tacit knowledge in KM.

Cranfield and Taylor (2008) conducted a case study on seven higher education institutions in UK on knowledge management and higher education. Two of the institutions were classified as primarily teaching universities, while the other 5 are research intensive universities. They used the grounded theory methodology utilizing Stankosky’s knowledge management pillars to enterprise learning – leadership, organization, technology and learning (Stankosky 2005:5) to investigate and understand KM practices and perceptions within higher education institutions, looking at challenges of implementation within the sector. They

contended that universities face various changes and questioned whether those institutions perceived KM as important. Initial participants were selected by the Vice-Chancellor (or Principal as used within some institutions) as a first point of contact. These initial participants were very senior members of staff, who then selected additional members of staff to take part in the case study.

Stankovsky's model on enterprise learning (Stankosky 2005:5) was used to frame semi-structured interview questions which were used. The study found that academics see themselves as self-sufficient units who do not want to be managed in the hard-core business sense. They perceive that their work involves KM posing a challenge to knowledge managers in the sense that these academics have to foresee benefits to be involved in KM. There is the perception of an academic and administrative divide as a cultural hindrance to knowledge sharing. Management structure and leadership was seen as another issue that determines the success of a KM initiative. Some universities perceived that they do not have the luxury of resources to invest in any activities not considered core or critical to the university's mission. They conclude that UK HEIs in particular, do have a significant level of KM activities. The study highlighted challenges of KM implementation but failed to provide strategies that can be used to practice KM. This study brought into the limelight the need for integration of critical success factors discussed in section 2.6 as they can be a major hindrance in the successful implementation of a KM in academia.

Rowley (2000) examined how ready higher education was for knowledge management. She used Davenport's four types of knowledge management (Davenport, De Long and Beers 1997:3) objectives as a lens through which to view higher education institutions: the creation and maintenance of knowledge repositories; improving knowledge access; enhancing knowledge environment and valuing knowledge. Valuing knowledge in this context is concerned with viewing knowledge as an asset.

She finds that universities have been proactive in the areas of knowledge repositories and knowledge access, especially with respect to explicit and public knowledge but noted that universities have a long way from a scenario in which each member of the community has access to the combined knowledge and wisdom of others in the organisation, and has access to that knowledge in a form that is packaged to suit their particular needs. Further extensions in the use of knowledge repositories within organisations will also raise issues of security, and access rights for different categories of staff and students. She asserts that the norms, values and practices associated with knowledge creation, sharing and dissemination in higher education are complex. She concludes by noting that although knowledge based organisations might seem to have the most to gain through knowledge management, effective knowledge management may require significant change in culture and values, organisational structures and reward systems. Culture change she says is likely to be a slow and painful process yet absolutely necessary for effective knowledge management.

A study on knowledge management and knowledge creation in academia was conducted by Tian, Nakamori and Wierzbicki (2009). Their major research question was why and how to use knowledge management methods in order to enhance knowledge creation in academia. The research adopted a case study in combination with doing the surveys. The first survey focused on knowledge management in academia and investigated the current KM situations, special and diverse requirements from researchers. The second survey concentrated on supporting the creative processes of academic research and investigated which aspects of knowledge creation processes should be supported in particular. They found a serious disparity in IT support, lack of cooperation, lack of support in forming ideas, lack of KM framework hence knowledge is scattered. They reported that three subjects have been consistently chosen by respondents as most important for scientific creativity support: Learning and training in how to do experiments; help and guidance from one's supervisor and colleagues and, frequent communication with groups. This study brings to light the importance of

a KM framework and critical success factors for effective knowledge management.

Much of the related study found in literature has concentrated on provision of knowledge management using some aspects of the CSFs of implementation such as knowledge sharing, IT support and culture. Other studies do conduct KM assessment in academia and present the shortcomings. The studies fail to provide an exact approach on which KM in academia should be focused. This study not only highlights the CSFs but will also strive to provide information on the various KM strategies and further suggest a strategy for MIUC that will consider the processes and CSFs of implementation.

2.8 Summary of chapter two

This chapter has reviewed literature on knowledge management in academic institutions. The chapter based its presentations on the objectives and found that:

i. The concept knowledge management varies widely in definition but there is a common consensus about the core processes.
ii. KM in organisations varies from KM in Higher Education Institutions (HEIs) given the complex structures in HEIs.
iii. KM assessment is necessary as it highlights the capability of an organisation to manage knowledge.
iv. KM assessment differs from knowledge audit, gap analysis and knowledge mapping.
v. There are varied strategies to manage knowledge in an organisation and these strategies were highlighted.
vi. Knowledge management strategies have various components which were highlighted.
vii. The critical success factors for KM implementation cannot be overlooked when starting a knowledge management initiative at an organisation.

viii. Various authors in the reviewed studies have taken different paths in analysing KM in academic institutions. Some highlighted the way KM is done while others simply conducted a KM assessment and presented the findings and challenges. There is a gap in the development of a KM strategy for academic institutions.

The next chapter – chapter three – outlines how this study was conducted in order to achieve the set objectives.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

Research methodology is a way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically. In it we examine and explain the various steps that are generally adopted by a researcher in studying his/her research problem along with the logic behind them (LIMAT n.d:8). It is considered as an effective aid towards solving social and economic problems (Phophalia 2010:8). This chapter highlights the various methods that were applied in carrying out the research in order to meet the aim and objectives. It is organised into the following sections: Research approach, population, data collection methods and procedures, data analysis and ethical considerations.

3.2 Research approach

Research is basically the search for any kind of knowledge. During that process, a particular approach has to be adopted depending on what is to be researched. Creswell (2006) asserted the importance of illustrating the research approach as an effective strategy to increase the validity of social research. There are three most common research approaches namely qualitative, quantitative and mixed methods.

3.2.1 Quantitative approach

According to Creswell (2009:4) quantitative research is a means for testing objective theories by examining the relationship among variables which can be measured, typically on instruments, so that numbered data can be analyzed using statistical procedures. Galt (2008) says that quantitative research employs experiments and surveys as strategies of inquiry and collects data on predetermined instruments that yield statistical data. ACET Inc. (2013) stated that, quantitative research approach is an extremely efficient method for gathering information, especially for large groups of people. It is also less expensive as surveys can be dropped off and picked up after survey completion and further

data can be collected online. Its disadvantage is that it generally does not include an explanation of 'why.' A second disadvantage is that respondents are limited to a set of response options and they may not feel that any of the options best describes their experience.

3.2.2 Qualitative approach

Qualitative research on the other hand is a means for exploring and understanding the meaning individual or groups ascribe to a social or human problem. The process of research involves emerging questions and procedures; data typically collected in the participant's setting (Creswell 2009:4). According to Galt (2008), it includes narratives, phenomenologies, ethnographies, grounded theory and case studies as its strategies of inquiry. Data is collected with the intent of developing themes from the data. ACET Inc. (2013) offers its advantage, that, contextual information is gathered when data is collected and respondents are free to answer any way they would like to. Unfortunately, this approach is time consuming as it can take a long time to collect and analyze data.

3.2.3 Mixed methods approach

Creswell (2009:4) states that often the distinction between qualitative and quantitative research is framed in terms of using words (qualitative) rather than numbers (quantitative), or using close-ended questions (quantitative hypotheses) rather than open-ended questions (qualitative interview questions). Elements of both qualitative and quantitative approaches can be incorporated in a study leading us to the third approach known as mixed method research (MMR) approach.

MMR is an empirical research that involves the collection and analysis of both qualitative and quantitative data (Punch 2009:288). It is defined as research in which the investigator collects and analyses data, integrates the findings, and draws inferences using both qualitative and quantitative approaches and methods in a single study or program of inquiry (Punch 2009:298). Quantitative and qualitative approaches are mixed within or across the stages of the evaluation or research process (Traynor n.d.:12). The qualitative and quantitative data are

analyzed separately, and mixing takes place when the findings are interpreted (Harwell n.d.:155). It therefore allows the researcher to compare and relate the results from the different methods applied. Creswell (2006:5) states that its central premise is that the use of quantitative and qualitative approaches in combination provides a better understanding of research problems than either approach alone.

The approach incorporates both qualitative and quantitative elements in such a way that the information complements each other. Using the qualitative approach, evaluators collect in-depth information to answer some questions, and, using a quantitative approach, evaluators collect numerical information for other questions (ACET, Inc. 2013). The rationale behind use of mixed method is to combine the methods in a way that achieves complementary strengths and non-overlapping weaknesses (Punch 2009:290). According to Creswell (2006:9), mixed methods research provides strengths that offset the weaknesses of both quantitative and qualitative research; mixed methods research provides more comprehensive evidence for studying a research problem than either quantitative or qualitative research alone; mixed methods research helps answer questions that cannot be answered by qualitative or quantitative approaches alone. Creswell (2006:10) further says that mixed methods research encourages the use of multiple worldviews or paradigms rather than the typical association of certain paradigms for quantitative researchers and others for qualitative researchers and is "practical" in the sense that the researcher is free to use all methods possible to address a research problem. According to Traynor (n.d.:7), rigorous mixed methods research studies provide the opportunity to efficiently generate greater understanding. It's used when one wants the strength of multiple methods triangulation and for some, and only some, of one's variables are easily quantifiable at a stage of inquiry.

3.2.4 Application of MMR to the study

This study was conducted at Marist International University College. In order to meet the objectives set, a mixed method approach that encompasses use of both qualitative and quantitative methods was applied. The study is a case study (qualitative) and will employ cross-sectional survey (quantitative) as a strategy of inquiry. There are various ways of employing mixed methods in research that broadly includes sequential and concurrent mixed methods.

Creswell (2009:14) discusses the sequential and concurrent mixed methods approaches. In a sequential approach, the researcher seeks to elaborate on or expand on the findings of one method with another method. This may involve beginning with a qualitative approach and follow up with a quantitative approach or vice versa. In a concurrent approach on the other hand, the researcher converges or merges quantitative and qualitative data in order to provide a comprehensive analysis of the research problem. Both forms of data are collected at the same time and then integrated in the interpretation of the overall results.

Creswell (2009:211) further subdivides the two approaches into what he refers to as strategies namely:

i) sequential explanatory strategy which is characterized by the collection and analysis of quantitative data in a first phase of research followed by the collection and analysis of qualitative data in a second phase that builds on the results of the initial quantitative results.

ii) Sequential exploratory strategy which involves a first phase of qualitative data collection and analysis, followed by a second phase of quantitative data collection and analysis that builds on the results of the first qualitative phase.

iii) Sequential transformative strategy which has two distinct data collection phases, one following the other as in the first two strategies. It too has an initial phase (quantitative or qualitative) followed by a second phase (either qualitative or quantitative) that builds on the earlier phase. Unlike the first two, it has a theoretical perspective to guide the study.

iv) Concurrent triangulation strategy is a concurrent mixed model design classified on the basis of purpose of the study. In this design, qualitative and quantitative approaches are used to "confirm, cross-validate, or corroborate findings within a single study"

v) Concurrent embedded strategy of mixed methods research can be identified by its use of one data collection phase, during which both quantitative and qualitative data are collected simultaneously. Unlike the traditional triangulation model, a concurrent embedded approach has a primary method that guides the project and a secondary method that provides a supporting role in the procedures.

vi) Concurrent transformative strategy is an approach in mixed methods that is guided by the researcher's use of a specific theoretical perspective as well as the concurrent collection of both quantitative and qualitative data.

The concurrent triangulation strategy was preferred for this study. According to Creswell (2009:213), in this strategy, the researcher collects both quantitative and qualitative data concurrently and then compares the two databases to determine if there is convergence, differences, or some combination. This strategy was selected as it allowed the researcher to collect both quantitative and qualitative data at the same time (concurrently) hence saved time. Data collected was also easily compared which allowed comparisons. Questions framed targeted collecting both quantitative and qualitative responses in the same research phase. Quantitative consisted of close-ended questions on the questionnaire (see appendix A) that targeted the academic staff. The questionnaire also allowed for some qualitative open-ended questions in which the academic staffs were allowed to provide comments on the various aspects of the KM assessment (see appendix A). Interviews on KM assessment were prepared and used on the members of MIUC management (see appendix B). According to Traynor (n.d.:13), concurrent triangulation strategy allows use of questionnaires during data collection that includes both open-ended (i.e. qualitative) questions *and* closed-ended (i.e. quantitative) questions this therefore made it an appropriate approach for the instrumentation that was selected. Apart from the questionnaire, interviews were

also conducted among the members of MIUC management during the KM assessment.

3.3 Population of the study

Population encompasses the unit of analysis or the entire entity that research results will be applied to. Population is the target group, usually large, about whom we want to develop knowledge, but which we cannot study directly; therefore we sample from that population (Punch 2009:358). The target population for this study was the MIUC teaching staff and the senior members of MIUC management as these are the key knowledge producers and managers. MIUC consists of 109 staff members of which 9 are senior management, 33 are full time teaching staff, and 67 are middle and junior support staff. The senior management staff and teaching staff were the target population for the study. This group was deliberately targeted as they play a major role in the knowledge creation and use at MIUC and therefore was considered instrumental for the purpose of the study. By virtue of knowledge and experience, the members of the MIUC management and teaching staff are strongly believed to be involved in KM activities on a daily basis even though informally. Their input during the process of knowledge management assessment was vital as it was assumed they have a lot to contribute with regard to knowledge management related issues at the college. They are also believed to be able to contribute quality data.

All of the 33 academic staff members were targeted as subjects for the survey. This is supported by some authors from literature such as Mugenda and Mugenda (2003:44), who observe that at other times the target population is so small that selecting a sample would be meaningless. This is also expressed by Morris (n.d), who states that as the population size becomes smaller than 300, one might as well survey everyone in the population. Leedy and Ormrod (2010:213) also say that for smaller populations, say N (sample size) = 100 or fewer, there is little point in sampling; survey the entire population.

3.4 Data collection methods and procedures

This study encompassed use of both primary data and secondary data. According to Mugenda and Mugenda (2003:12), primary data refers to the information a researcher obtains from the field, that is, from the subjects. Primary data was relevant as the researcher was in a position to collect original data regarding knowledge management practices and capabilities directly from the members of MIUC management and the teaching staff. These data were collected using questionnaires and semi structured interviews.

Secondary data sources are neither collected directly by the user or specifically for the user. It involves gathering data that already has been collected by someone else (Kombo and Tromp 2006:100). Secondary data sources were relevant to supplement the data that was collected via primary sources. Data on critical success factors for knowledge management implementation and various knowledge management strategies was sourced from secondary data sources, that is, books and internet sources.

3.4.1 Instrumentation

The research instruments for the study included a questionnaire, interview schedule and secondary data sources.

3.4.1.1 Questionnaire

Questionnaire was the main data collection instrument for this study. A questionnaire is a set of questions designed to extract information relating to a survey. The success of this technique largely depends on the design of the questionnaire since in the case of the respondents filling the information, there is the element of uncertainty in trusting the respondent to fill in the correct information (Nassiuma 2000:16). Each item in the questionnaire is developed to address a specific objective, research question or hypothesis of the study (Mugenda and Mugenda 2003:71) and this enables the researcher to collect relevant data that meets the set objectives.

Questionnaires enable the researcher to use pre-coded answers simplifying the task of analysis; they do not require personal interaction skill from the researcher and the absence of face to face interaction between researcher and participant reduces the effect of the researcher on responses (Robson 2007:81). The disadvantages of using questionnaires include: the response rate may be low; it is not possible to go into topics in depth; raises problem with checking the truthfulness of answers; calls for careful planning and design and meticulous attention to detail at all phases of the research and finally the resulting quantitative data and associated statistical analysis can give an inflated impression of the value of the findings.

A questionnaire was selected as it is a relatively quick and cheap way of obtaining data from the targeted population. According to Mbatha (n.d.:164), it is a very effective and non–experimental quantitative method of obtaining data. It allows one to carefully choose the population and the data is organised and presented systematically and is easier to interpret. Both open-ended (unstructured) and close-ended (structured) questions were used to collect data in the questionnaire that was developed. Creswell (2009:218) refers to use of this combination as concurrent mixed methods approach. The questionnaires were used to collect data about KM at MIUC from the academic staff.

It is often said that surveys can provide answers to the questions: What? Where? When? and How? but it not easy to find out, Why? The main emphasis with a survey questionnaire tends to be on ‘fact finding’ (Wellington and Szczerbinski 2007:95). This study will therefore embrace interviewing as well for the sake of representativeness.

3.4.1.2 Interviews

The heart of the interview technique is one person (the interviewer or researcher) talking to one or more other persons (the interviewees or participants) (Robson 2007:73). According to Wellington and Szczerbinski (2007:81), interviews are often said to reach the parts which other methods cannot reach. It allows a

researcher to investigate and prompt things that we cannot observe. Through interviews, an interviewee's thoughts, values, prejudices, perceptions, views, feelings and perspectives can be probed. Robson (2007:78) gives some disadvantages of using interviews as: difficulty to keep on topic; time consuming especially if one has to travel; good social skills required; require much preparation and piloting; may call for lengthy transcription and analysis and the subjects are likely to be biased. Interview types range from fully structured, semi-structured to unstructured. This study will embrace the semi structured interview but first will briefly discuss fully structured and unstructured interviews.

Fully structured interview is essentially a structured questionnaire where the questions are put by the interviewer, usually face-to-face, who notes the answers. Questions are typically 'closed', in the sense that there is a set of possible alternative answers from which the interviewee has to choose (Robson 2007:73). Wellington and Szczerbinski (2007:84) state that structured interviews are guided by researcher's pre-determined agenda, they are less flexible but may provide easier framework for analysis using either numerical coding or statistical analysis.

In the **unstructured interview**, virtually all the work and thought goes to the interview itself. According to Wellington and Szczerbinski (2007:84), there is some 'control' on both the researcher and the interviewee. It is flexible, guided by the interviewee with an unpredictable direction and it may be difficult to analyse, often analysed by theme and emerging categories. In his view, Robson (2007: 75) says it should be avoided by novice researchers.

Semi-structured interviews

Semi-structured interviews refer to the interviews based on the use of an interview guide. This is a written list of questions or topics that need to be covered during the interview (Orodho 2008:209). The researcher works out in advance not only the overall focus of the interview but also the main areas that is to be covered,

together with the sequence in which the areas are to be covered (Robson 2007:74).

This instrument offers advantages as highlighted by Wellington and Szczerbinski (2007:84) that include the flexibility it offers, gives more control to the interviewer, it is not completely determined and lastly it may be analysed in a thematic way or using more quantitative approaches. As expected it also allowed the researcher to collect rich information on knowledge management at MIUC particularly with regard to management support. The researcher had pre-planned questions before the interviews. Robson (2007:74) suggests starting off with non-threatening, unlikely to be sensitive ones, and ending with an opportunity for interviewees to add things which they feel the researcher may have missed.

3.4.1.3 Secondary data sources

Secondary data was collected from books, online and print journals and internet databases using appropriate search terms. Secondary data was very important for this study as it provided relevant background information that was used during the development of a KM strategy for MIUC. Secondary data were used as supplemental methods providing background information that informed the design of questionnaire and interview schedule. They were also used to provide information on knowledge management strategies and critical success factors of KM implementation.

3.4.2 Data collection procedures

Data was collected from the members of MIUC management and academic staff using semi structured interviews and questionnaire respectively. These survey methods were instrumental in collecting relevant data. The data was cross-sectional, that is, collected from all of the respondents in both categories of participants at one point in time. Personal interviews were conducted with the 9 members of MIUC management to collect qualitative data on KM aspects at MIUC and copies of the questionnaire were personally distributed to the 33 MIUC academic staff. The questionnaire was broken down into themes based on

the objectives. The questionnaire begun with closed ended questions within the themes followed by open-ended questions requiring opinions. The interviewees were interviewed separately one at a time based on their availability that had been pre-determined. The interviewees' allowed use of a recorder during the interviewees.

3.4.3 Validity and reliability of the instruments

Validity is defined as the extent to which the instrument measures what it purports to measure (Miller n.d.:3; Punch 2009:246; Robson 2007:72). Reliability is defined as the extent to which a questionnaire, test, observation or any measurement procedure produces the same results on repeated trials (Miller n.d.:3). The validity and reliability of the instruments used were checked in a number of ways to ensure that the objectives were met.

3.4.3.1 Validity

The validity of the data collection instruments used in the study was enhanced by the fact that questions were derived from the objectives of the study. Each question was checked to determine whether it contributes to the research objectives.

Internal validity concerns the soundness of an investigation (Polgar and Thomas 1997). Internal validity was also ensured by reviewing studies by other researchers in the same field through literature review.

External validity refers to the extent to which the results of an investigation can be generalized to other samples or situations (Polgar and Thomas 1997).The results for this study may only be generalized onto MIUC population. This is because academic institutions are different and hence to have a strategy, their own KM assessment must be conducted so as to determine a workable KM practice. Polgar and Thomas (1997) also say that non-probability methods usually do not ensure a

representative sample but may be appropriate for some studies depending on the study aims.

3.4.3.2 Reliability

The questionnaire was developed and pretested on a sample of the target population. The instruments were first edited before the pilot study was conducted; the editing was done by 3 members of staff from MIUC and 1 fellow student of Information Science. They: pointed out the jargon that had been used and some of it was highlighted; made corrections like for capitalization where necessary; pointed out statements that could be merged and pointed out corrections on wording and phrasing. After corrections were made, the pilot study was conducted.

A pilot study involves trying out all aspects of the data collection on a small-scale (Robson 2007:106). Baker as cited by (Dissertationrecipes.com n.d.) noted that a pilot study is often used to pre-test or try out a research instrument. The purpose of the pilot study was to evaluate the instruments to check their feasibility. It also provided an opportunity to rehearse procedures for data collection by checking how effective the questionnaire and interview guide were to be in the main study. Finally the study enabled the researcher to check possible reactions from the respondents. Comments about the questions in the instruments were invited from the participants. Aim of testing questionnaires is also to minimize measurement error (UNESCAP 2004:2).

Pilot data was collected from a similar target population to that used in the actual study. Baker found that a sample size of 10-20% of the sample size for the actual study is a reasonable number of participants to consider enrolling in a pilot. Having 33 academic staff members to be surveyed and 9 senior management staff to be interviewed, the questionnaire was piloted on 3 academic staff members and the interview was piloted on 1 member of MIUC management. These respondents similarly participated in the main survey willingly. The instruments were administered personally by the researcher.

Conducting a pilot study by pretesting the questionnaire on a small sample of the targeted population helped to test ambiguity, flaws and weaknesses in the set questions. Questions were examined for face validity which Ley (2007:1), says it is concerned with whether a test looks as if it measures what it is supposed to measure. From the questions set which had been validated by deriving them from objectives, the researcher was able to determine that they were reliable. Reliability of the research instrument was also enhanced by having both close ended and open ended questions.

3.5 Methods of data analysis

Data analysis is the approach to de-synthesize data, informational, and/or factual elements to answer research questions. It involves breaking down research issues through utilizing controlled data and factual information (Iman n.d.:2). Data analysis is vital as the researcher can derive answers and conclusions from data collected.

Data transformation analysis was applied for this study. Creswell (2009:218) explains that in concurrent strategies, a researcher may quantify the qualitative data. This involves creating codes and themes qualitatively, then counting the number of times they occur in the text data. This quantification of qualitative data then enables a researcher to compare quantitative results with the qualitative data. Alternatively, an inquirer may qualify quantitative data. Coding from the responses created from the open-ended questions were developed and quantified then compared with the quantified responses from the close-ended questions in the questionnaires administered. The interview responses were also coded and quantified then compared with the questionnaire responses during analysis. Kombo and Tromp (2006:111) state that the core function of the coding process is to create codes and scales from the responses, which can then be summarized and analyzed in various ways. Kombo and Tromp (2006:112) further state that the major challenge associated with coding is the treatment of missing data and hence Kombo and Tromp (2006:113) suggest that the preferred practice for missing

items is to provide special codes indicating why the data was not included. A special code 99 was provided for the missing data during analysis.

The data was analyzed descriptively by the researcher using SPSS statistical package for both the quantitative and qualitative data. Punch (2009:282) says that SPSS is an extremely comprehensive package which can perform highly complex data manipulation and analysis with simple instructions. SPSS is versatile as it can read data in almost any format for instance; numeric, binary and version 6 onwards can read files created using spreadsheet or database software. The part of the research process for which SPSS and data entry can be used consists of seven phases as highlighted by Huizingh (2007:7) as, designing the questionnaire and conducting the interviews; creating a data file; checking the data; transforming the data; analyzing the data; interpreting the results of the analysis and then writing a research report.

3.6 Ethical considerations

Ethics is a matter of commitment to and behaviour guided by certain values (Vogt, Gardner and Haeffele 2012). Some ethical considerations that were met during this study include:

i. The research is intended to have potential benefit to the institution being studied, that is, MIUC.
ii. Written permission was obtained from Deputy Principal, Academics to conduct the study at MIUC and permission was granted (see appendix C and D).
iii. Respondents were not subjected to any physical or mental injury during the study.
iv. The target population was requested to fill in the questionnaire willingly and purpose had been stated clearly at the beginning of the questionnaire.
v. Confidentiality of the respondents was ensured by asking them to fill the questionnaire anonymously.

vi. Exertion of pressure was avoided during the interviews.
vii. Interviewee's confidentiality was observed by not revealing their identities in the result and discussion chapters.
viii. Results of the study will be availed to the respondents and the institution by donating a copy of the dissertation to MIUC library.

3.7 Summary of chapter three

This chapter has presented the various research methods that were applied in carrying out the research in order to meet the aim and objectives. This included the: research approach, population, data collection methods and procedures, data analysis and ethical considerations. The next chapter – chapter four- presents the data collected from the respondents.

CHAPTER FOUR: DATA PRESENTATION AND ANALYSIS

4.1 Introduction

Data analysis can be considered as a process of interpretation, of dealing with the raw data in such ways that messages contained in the data become clear (Robson 2007:115). Gillham (2010:95) stated that research data analysis is an absorbing, demanding process requiring clear, undisturbed time. The process involves one to move from one form of evidence to another, reading, studying and thinking. In particular, the researcher looks for different kinds of evidence bearing on the same issues in the research.

In this chapter, data that was collected using open and close-ended questionnaires as well as semi structured interviews that were used as instrumentation is presented and analyzed. The questionnaires were personally distributed to 33 teaching staff members by the researcher within the month of July 2013. All 33 questionnaires were returned hence a response rate of 100%. The interviews on the other hand were administered to 9 members of MIUC management at a time specified by each of them. The interviewing time ranged from 12 minutes to 26 minutes for the various individuals. Both the instruments took a topical approach consisting of KM processes, KM leadership, KM culture, KM technology and KM measurement. Data is therefore presented based on these topics.

A mixed method data analysis approach referred to by Creswell (2009:218) as data transformation was adopted to analyze data for this study. This form of triangulation was adopted as it allowed the researcher to concurrently compare and combine data collected from different instruments hence in this case, from the questionnaire and interviews used in the study. The quantitative data from the questionnaires were coded and entered into SPSS which was the statistical package that was used to analyze data. The data was then analyzed descriptively. The qualitative data from the questionnaires and interviews were derived and the contents analysed and summarized then they were counted based on how many times they were duplicated. The researcher's intention was to quantify the

qualitative data without losing the weight of the respondent's views with regard to knowledge management.

4.2 Profile of respondents

Demography presents the target population data that could have a bearing on the responses being given. The entire target population was reached with a response rate of 100% being achieved. The characteristics examined in this study included the age, gender, highest qualification, job titles and the departments of the respondents.

4.2.1 Age

The questionnaire respondents were asked to indicate their ages. Figure 4.1 depicts their ages.

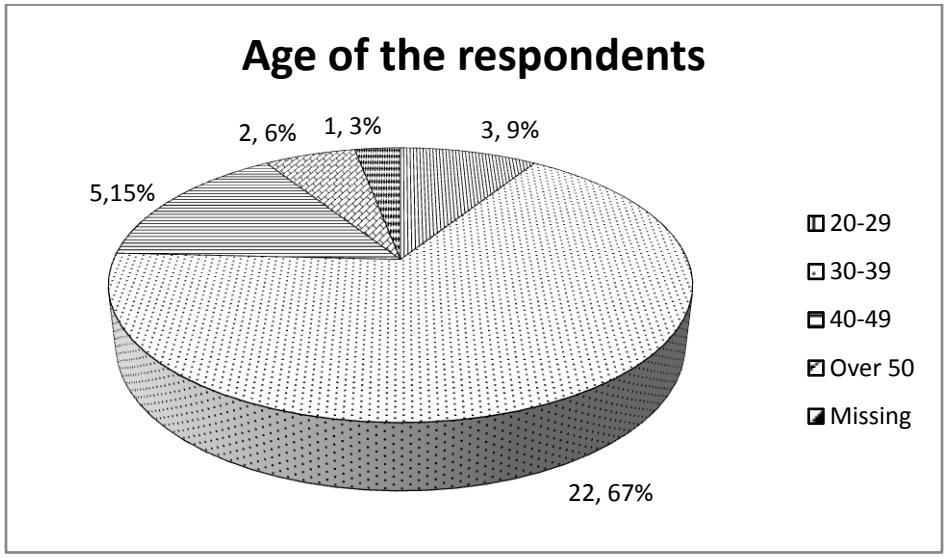

Figure 4.1: Age distribution (N=33)

The results indicate that the highest number of respondents was between the ages of 30-39 with 22 respondents (67%), followed by ages 40-49 with 5 respondents (15%), then ages 20-29 (3, 9%) and finally respondents over age 50 (2, 6%). 1 (3%) respondent did not indicate the age. For the 9 interviewees, their ages ranged from 34 to 65.These results indicate that MIUC has a youthful workforce. It is

believed that the respondents are of appropriate age group to be able to understand the issues revolving knowledge management that were investigated. One of the issues of concern in KM is retiring employees and knowledge retention. It is evident that the majority of the respondents at MIUC are young at ages 30-39 (67%) hence with a proper plan they could be involved in various key aspects of a KM initiative.

4.2.2 Gender

The respondents were asked to indicate their gender. The results are as shown on the figure 4.2 below:

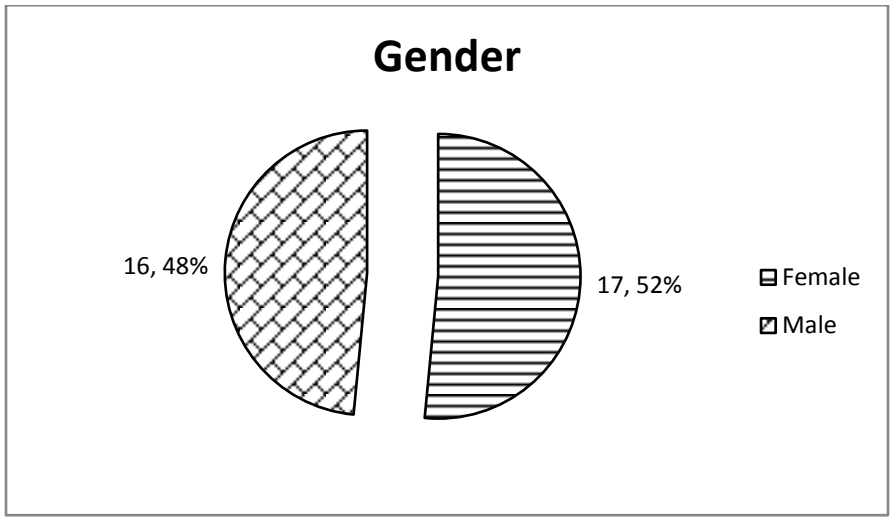

Figure 4.2: Gender distribution (N=33)

Seventeen (52%) of the questionnaire respondents were male while 16 (48%) were female. From the interviews, the majority 7 (78%) were male and only 2 (22%) were female. It is also of interest to this study that the views collected are from both genders. The results suggest an almost balanced gender representation among the teaching staff but the same is not reflected in the higher echelon that is the interviewees. Gender has become an issue of concern in the professional circles in Kenya. This results show that MIUC has paid good gender representation of their full time teaching staff. The higher representation of men at the management levels can be attributed to the college being owned by Marist

Brothers hence it is in their interest to have majority of them in the management hence the low percentage of female managers.

4.2.3 Highest qualifications

Education is a characteristic that can affect one's way of looking at and appreciating knowledge. One of the reasons of selecting the academic staff and members of the MIUC management for the study is because it was believed that they had sufficient qualifications to enable them respond to the questions on KM. The respondents were therefore required to indicate their highest qualifications. There was also provision for other qualification but none of the respondents provided a different qualification from the ones that had been listed. A summary of the responses is as follows.

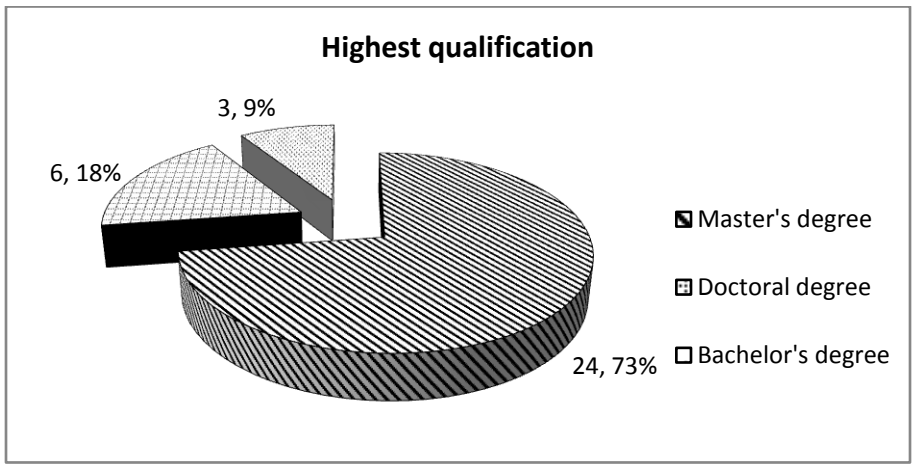

Figure 4.3: Distribution by highest qualification (N=33)

Figure 4.3 illustrates that the majority of the questionnaire respondents 24 (73%) have obtained a Master's degree. Six (18%) have a Doctoral degree and 3 (9%) have a Bachelor's degree. As for the members of MIUC management, the majority 4 (45%) had a Doctoral, followed by 3 (33%) with Master's and 2 (22%) with Bachelor's degrees. It can be concluded from the results that since the respondents had well progressed in their education they should be able to have an understanding of KM and hence provide reliable data on KM issues.

4.2.4 Job titles

The respondents were required to indicate their job titles. Table 4.1 below shows their responses.

Table 4.1: Distribution by job title (N=33)

		Frequency	Percent
Valid	Lecturer	24	73
	Assistant Lecturer	4	12
	Coordinator	1	3
	Tutor	2	6
	Chemistry Technologist	1	3
	Total	32	97
Missing	99	1	3
Total		**33**	**100**

The results indicate that there were 24 (73%) lecturers, 4 (12%) assistant lecturers, 2 (6%) tutors, 1 (3%) coordinator and 1 (3%) chemistry technologist. One (3%) respondent did not indicate the job title. This study examined the job titles of respondents as this may have a bearing on knowledge management. The respondent's responses may be determined by their occupations and considering the nature of this study, the teaching staffs were found appropriate because they are much involved in knowledge production. It is evident from the results that the majority of the respondents are lecturers. For one to be a lecturer at MIUC they must have not only acquired certain qualifications but also been involved in knowledge creation through research and publishing.

Further, interviews were conducted and the members who were interviewed included the Superior, the Deputy Principal in charge of academic affairs, the Deputy Principal in charge of administration, the Quality Assurance Officer, the Finance Officer, the Human Resources Officer, the Registrar, the Dean –Business Department and the Librarian. This group of staff represent key areas of leadership that have a great impact on the success of KM hence their input was imperative for this study.

4.2.5 Departments

The respondents were asked to indicate their departments and the results are reflected in Table 4.2 below.

Table 4.2: Distribution by the department (N=33)

		Frequency	Percent
Valid	Arts and Social Sciences	3	9
	Business	11	34
	Education	10	30
	Languages and Literature	2	6
	Religious Studies	2	6
	Science	1	3
	University Access	4	12
	Total	**33**	**100**

Of the 33 individuals surveyed, the majority 11(34%) of the respondents were from the Business department, followed by Education 10 (30%), University Access 4 (12%), Arts and Social Sciences 3 (9%), Language and Literature 2 (6%), Religious Studies 2 (6%) and lastly Science 1 (3%). The respondent's department was considered to check on the representativeness to the study. The result shows that all departments in MIUC were represented. It also indicates some departments are larger than others in terms of growth. From these results it can be said that MIUC has an advantage of having the departments of Business and Education with the majority of staff members. This is because these departments do substantial production of knowledge in terms of handouts, research publications, business proposals and term papers. This is done not only by teaching staff members but also the students who go through these programs.

4.3 Results of the knowledge management assessment

The assessment of KM can be done by focusing on 5 aspects namely: Process, Leadership, Culture, Technology and Measurement. The KM processes basically entail the creation, capturing, storage, sharing and use of knowledge in an organisation. It therefore becomes of the essence to assess these processes in an

organisation. Most KM definitions across literature embrace these processes which are part and parcel of any KM initiative.

Focus on assessing KM leadership hails from the fact that the entire processes or initiatives of an organisation need approval, direction and support from leaders for their success to be realized. Considering the technicalities in KM initiatives, leadership is crucial.

The aspect of culture needs assessing as it forms the basis of understanding the norms of an organisation which may help in the success or hampering of KM initiatives. Culture is seen as one of the key barriers when it comes to knowledge management and therefore needs attention.

Technology assessment is vital. Technology plays a role in KM as it is an enabler. Technology facilitates knowledge storage and sharing. An organisation that has a good IT infrastructure is advantaged when it comes to KM initiatives.

Finally, KM measurement is crucial as all the initiatives that have been put in place to support KM must be measured to gauge their effectiveness.

The purpose was to establish the current state of affairs at MIUC with regard to knowledge management. A series of questions were asked to try and provide a key to this. The results are presented in the following sub sections.

4.3.1 Knowledge management processes

The academic staffs were provided with statements on knowledge management processes and were asked to select their extent of agreement or disagreement with a provision to give further comments while the members of MIUC management were interviewed on the same. This section presents results from both.

4.3.1.1 Close ended questionnaire results on KM processes

The results are displayed on table 4.3 below and further interpreted thereafter.

Table 4.3: KM process assessment results (N=33)

Statements	**Strongly Agree 1**		**Agree 2**		**Neutral 3**		**Disagree 4**		**Strongly Disagree 5**		**Missing**	
	F	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**
I contribute in the creation of knowledge at MIUC	15	46	11	33	0	0	1	3	5	15	1	3
All employees are involved in contributing ideas for the running and growth of MIUC	3	9	12	37	7	21	3	9	7	21	1	3
I have contributed my own created work to the institutional repository (central knowledge storage)	2	6	11	34	9	27	5	15	5	15	1	3
There are ways to identify knowledge gaps (staff who know more about most things and those who know less) at MIUC	2	6	9	27	15	46	4	12	3	9	0	0
There is a mechanism to capture informal knowledge (outside meetings) from employees	3	9	4	12	9	27	9	27	8	25	0	0
MIUC has means in place to capture experts knowledge while on job	4	12	8	24	10	31	7	21	3	9	1	3
There are systems in place that capture expertise knowledge when exiting employment	2	6	4	12	10	31	9	27	7	21	1	3
There are means of capturing and transferring tacit knowledge (what individual employees know)	3	9	10	31	9	27	7	21	3	9	1	3
Knowledge created at MIUC is well captured and stored in an easy to find location	2	6	9	27	8	24	10	31	4	12	0	0
There is easy access to organizational knowledge created at MIUC	2	6	11	33	11	33	8	25	1	3	0	0
Best practices (efficient cause of action) in the organization are recorded and shared	2	6	11	34	8	24	9	27	1	3	2	6
There is a formal process of transferring best practices and lessons learned	2	6	8	24	12	37	7	21	3	9	1	3
I put into use knowledge created at MIUC	3	9	18	55	5	15	5	15	1	3	1	3
I often consult members of staff from other departments while working	10	30	12	37	3	9	3	9	5	15	0	0

a) The respondents were asked to indicate on a likert scale whether they contribute in the creation of knowledge at MIUC. Knowledge creation is an important process in KM hence found relevant to be assessed. The majority 15 (46%) strongly agreed, followed by 11 (33%) who agreed, 5 (15%) strongly disagreed, 1 (3%) disagreed and 1 (3%) failed to respond. It is expected that the majority of the respondents either strongly agreed or agreed since much of the tasks by academic staff in an academic institution involves knowledge creation.

b) The respondents were asked if all employees are involved in contributing ideas for the running and growth of MIUC. This is relevant as ideas form part of innovation and original thought that are considered relevant for competitive advantage. The majority 12 (37%) agreed with the statement, 7 (21%) were neutral and the same number 7 (21%) strongly disagreed, 3(9%) strongly agreed, 3 (9%) disagreed, while 1 (3%) did not respond. These results show that in as much as the majority agreed to the statement (37%), an equally large number 7 (21%) chose to be neutral and the same number, 7 (21%) strongly disagreed. This tells us that there is possibly not an equal chance for all employees to contribute ideas for the growth of MIUC.

c) The distribution of responses in Table 4.3 shows that the majority 11 (34%) agreed, 9 (27%) were neutral, 5 (15%) disagreed, 5 (15%) strongly disagreed, 2 (6%) strongly agreed, while 1 (3%) did not respond upon being asked if they contributed their own created work into the institutional repository. A central repository with local content is relevant for KM and hence the question aimed at finding out if employees were aware of a central knowledge repository and if there is an endeavor to submit their work. It was interesting to note from these results that not even half of the respondents contributed their work into the institutional repository yet the majority of the academic staff are researching and publishing their work. Nine (27%) also chose to be neutral which could be attributed to either they do not contribute their work or they are not aware of the existence of an institutional repository at MIUC.

d) The respondents were asked if there were ways in existence at MIUC that are used to identify knowledge gaps. The importance of identifying knowledge gaps in KM helps an organisation identify experts and hence be able to find ways of sharing that knowledge with others. Of those who responded to the question, 15 (46%) were neutral, 9 (27%) agreed, 4 (12%) disagreed, 3 (9%) strongly disagreed and 2 (6%) strongly agreed. From the results, it is suspected that the majority of respondents who chose to be neutral do not know whether MIUC identifies knowledge gaps.

e) With respect to whether there were mechanisms to capture informal knowledge (outside meetings) from employees at MIUC, 9 (27%) were neutral, 9 (27%) disagreed, 8 (25%) strongly disagreed, 4 (12%) agreed while 3 (9%) strongly agreed. This question arose from the idea that tacit knowledge can be found in informal settings and how to capture it needs to be considered in KM initiatives. One would assume that if there are mechanisms in place, all employees should be aware of them and hence the response should have been inclined towards agreeing or not agreeing for the majority. The results seem to lean towards the negative indicating a lack of mechanism.

f) The study revealed that 10 (31%) chose to be neutral about MIUC having means in place to capture experts' knowledge while on job, 8 (24%) agreed, 7 (21%) disagreed, 4 (12%) respondents strongly agreed, 3 (9%) strongly disagreed while 1 (3%) did not respond. This question was meant to expose measures taken to capture expertise knowledge as staff carry out their activities on a daily basis. These results suggest that some knowledge is captured at MIUC.

g) Respondents were asked if there were systems in place that captured expertise knowledge when exiting employment. This question was meant to establish if knowledge is absorbed by the organisation from individual employees. Ten (31%) were neutral, 9 (27%) disagreed, 7 (21%) strongly disagreed, 4 (12%) agreed, 2 (6%) strongly agreed, while 1 (3%) did not respond. These results indicate that knowledge is not captured when an employee leaves the organisation.

h) Respondents were asked if there were means of capturing and transferring tacit knowledge (what individual employees know). This question was meant to reveal the extent at which knowledge is captured and transferred which are important processes in KM. Ten (31%) agreed, 9 (27%) were neutral, 7 (21%) disagreed, 3 (9%) strongly agreed, 3 (9%) strongly disagreed while 1 (3%) did not respond. The results imply that while some employees agree that tacit knowledge is captured and transferred, an almost equal number disagree while a whole (27%) seem not to be aware and hence decided to be neutral.

i) The respondents were asked to state if knowledge created at MIUC was well captured and stored in an easy to find location. This was to establish if employees are able to access all knowledge needed from one point. Ten (31%) disagreed, 9 (27%) agreed, 8 (24%) were neutral, 4 (12%) strongly disagreed and 2 (6%) strongly agreed. The responses were spread among the choices and this could be interpreted to mean that some of them are aware of ways in which knowledge is captured and stored while others have no knowledge of the same.

j) When asked if it is easy to access organisational knowledge created at MIUC, 11 (33%) agreed, 11 (33%) were neutral, 8 (25%) disagreed, 2 (6%) strongly agreed while and 1 (3%) strongly disagreed. The aim was to find out if knowledge was easily accessed. These results could mean that some employees are able to access organisational knowledge while others have difficulties in doing so yet in KM all of them should be able to have access and hence there is need to address the issue.

k) There was a shared view by the majority 11 (34%) who agreed that MIUC recorded and shared its best practices. This question was meant to establish if best practices are shared so as others can learn from them and also to help avoid duplication of tasks. Nine (27%) disagreed, 8 (24%) were neutral, 2 (6%) strongly agreed, 1 (3%) strongly disagreed while 2 (6%) did not respond. From the results, there is an indication that not all employees are aware of whether best practices are recorded and shared.

l) Twelve (37%) were neutral, 8 (24%) agreed, 7 (21%) disagreed, 3 (9%) strongly disagreed, 2 (6%) strongly agreed while 1 (3%) did not respond when respondents were asked if there was a formal process of transferring best practices and lessons learned. The need for a formal process to transfer lessons in KM practice is vital hence as assessment on that needed to be conducted. The majority of respondents chose to be neutral which could mean that they may not be aware of the best practices or they do not know if they are transferred.

m) The majority of the respondents 18 (55%) agreed that they put into use knowledge created at MIUC. Knowledge usage is vital as it will be futile to create, share and transfer knowledge and nobody uses it. Five (15%) were neutral, 5 (15%) disagreed, 3 (9%) strongly agreed, 1 (3%) strongly disagreed while 1 (3%) did not respond. The results strongly suggest that the majority use the knowledge created at MIUC even though one would need to establish further what kind of knowledge is being put to use.

n) The results show that 12 (37%) of the respondents agreed that they often consulted members of staff from other departments while working. This question was meant to check the level of collaboration among employees as through collaboration tacit knowledge can be shared. Ten (30%) strongly agreed, 5 (15%) strongly disagreed, 3 (9%) were neutral, and 3 (9%) disagreed. With the majority agreeing to the statement, these results highlight what would be expected in an academic institution where collaboration among the staff members is essential even though everyone needs to be brought on board through KM.

4.3.1.2 Comments on knowledge management processes at MIUC

Respondents were asked to provide further comments on KM processes (creation, capturing, storage, sharing and usage of knowledge) at MIUC. The following general comments were obtained:

i. Lack of a proper and formal knowledge and information management system undermines greatly the creation, storage and retrieval of information.

ii. Democracy should be embraced where employees are involved in decision making regarding contribution of ideas for the running of the college irrespective of the cadre on an employee.
iii. Whilst knowledge is created there is no formal well thought out mechanism for its storage, dissemination and evaluation.
iv. Marist needs to fund research and publication to increase knowledge creation and capturing.
v. My lesson notes (handouts) are available for use by other lecturers.
vi. We share information in MIUC without restriction.
vii. There is no sharing of knowledge between departments.
viii. Most shared knowledge at MIUC is for students.
ix. At MIUC knowledge is from top to bottom and this hinders knowledge sharing.
x. Awareness for sharing knowledge in MIUC needs improvement.
xi. Academic workshops are organised once in a while that enhances knowledge sharing.
xii. Generally knowledge management process in MIUC is up to standard.
xiii. Improve networking efficiency at MIUC which will help boost KM.

From the above comments, it can be seen that the respondents have a wide and varied understanding of KM processes. While some employees appreciate the ongoing processes, others see none of it or very minimal, while others point out hindrances to having effective processes in place. It can be said that there is a lot of KM processes here and there at MIUC but no formal direction as to what is expected from the employees. This raises the need for a KM strategy to be put in place.

4.3.1.3 Interview results on KM processes

Further, interviews were conducted on 9 members of MIUC management with regard to KM processes using a semi structured interview (see appendix B). The interviews had been recorded and general relevant comments were consolidated during analysis and presented below without stating who provided the response to

ensure anonymity. Some respondents provided more than one comment on the various issues queried while others would provide none for some queries. The responses were summarized.

a) The interviewees were asked to state what they thought was the most critical KM process at MIUC. Their views can be summarised as follows:

i. They all have to be there and they are related. Creation defines an academic institution.
ii. Knowledge creation is the most critical in an institution of higher learning because it involves research.
iii. Creation which is basically research is critical for MIUC and also for innovation. It is vital for an academic institution.
iv. Knowledge creation is the most critical as a lot of initiative is required in that area.
v. Capturing is critical because if not, there will be no knowledge to store or use.
vi. Sharing of knowledge is critical because people have tacit knowledge and fear that if they share their position may be threatened.
vii. Storage of information is the most critical especially on registration of student data which is currently scattered.
viii. All of the processes are critical though storage requires more attention for instance on data about vacancies.

There were varied reactions to the question above showing that all KM processes are crucial but the emerging trend as expressed by the majority is that knowledge creation is a critical undertaking in an institution of higher learning.

b) The interviewees were asked if they considered MIUC as innovative and if they did, to explain in what ways. Their responses were as follows:

i. Four respondents chose to rate the innovativeness at MIUC. One of them gave it a 40% YES and 60% NO in terms of innovation and explained that

MIUC is innovative only in critical areas of the college that may require more attention. The second respondent gave it a 60% YES in terms of innovation while the other two respondents gave MIUC a rating of 4 on a Scale of 1-10.

ii. A respondent cited the developments for the past 8 years in terms of expansion and development show that MIUC is innovative. This was supported by another respondent who stated that MIUC has tried in terms of being creative in doing things for example in developments such as the MIUC library and maximizing use of available space at the college.
iii. A respondent said MIUC is rather conservative hence not aggressive in knowledge creation.
iv. Another respondent said MIUC is still young and still in the process of setting up mechanisms for knowledge creation hence it is yet to grow in terms of innovation.

These results indicate that MIUC is still in the process of setting up mechanisms that will fully support innovation. KM will come in handy to support these efforts.

c) Interviewees were queried on some of the ways that MIUC can generate new knowledge. Their suggestions were as follows:-

i. MIUC should come up with a system that can uplift knowledge creation as there is no formal system promoting knowledge creation at the moment.
ii. Since members of staff are already doing their own research initiatives they should be supported to enhance the process. This is supported by a respondent who said that practical funding of research would encourage knowledge creation and another one who said that MIUC should engage more in research area which at the moment does not have much going on.
iii. Through research, not just for publications but also for creating knowledge. Research should help MIUC find out new trends in teaching and learning.

iv. Have policies that guarantee production of knowledge through research. This could be in form of grants, pegging promotions on production of research publications, how non academic staff counts in terms of innovation.
v. The human resources needs to be developed in terms of training staff, encouraging further studies and holding seminars so as to be in line with new developments in the market.
vi. Non teaching staffs need to be brought on board in terms of training and developments.
vii. Maximum utilization of human resource available by beginning a process of understanding every individual's capability.
viii. MIUC should open up to outside world being an institution of higher learning it cannot remain isolated. This is in line with what another respondent suggested that MIUC should have collaborative linkages with other institutions.
ix. Coming up with an idea that has to be supported by management could also be a challenge.

The results indicate that the majority of the respondents believe that much focus should be put in research but should also involve non teaching staff besides the teaching staff in knowledge creation.

d) Interviewees were asked if knowledge can be easily acquired from MIUC employees. According to the general views obtained:

i. Knowledge is broad and hence there is need to define because employees do share on a daily basis.
ii. Depends on the kind of knowledge one is looking for, for instance, is it a specialty or just information.
iii. Individual potentials have not yet been discovered from the staff.
iv. Knowledge can be easily acquired though requires resources to be mobilized.

v. It is easy to acquire knowledge from individual employees but depends on ease of relating with them.
vi. It is fairly difficult as there are no mechanisms in place to tap the knowledge.
vii. MIUC employees are willing to share information but the respondent cited that there is no mechanism for storing their explicit knowledge to be shared.
viii. Most knowledge is verbal and neither recorded nor retained hence difficult to be re-used.
ix. Very difficult, people are reserved to share what they know as knowledge is considered power.
x. It is easy especially since most of the staff members are still progressing in their studies hence knowledge on their various fields is on their finger tips.

These results indicate that knowledge can be acquired from employees but this is dependent upon various factors such as the issue of trust, relationship among employees and leadership.

e) Interviewees were asked if experts are known and if they are easily accessible at MIUC. The responses were as follows.

i. Three of the respondents noted that some experts are known and consulted when there is need or a particular issue to be sorted.
ii. Knowledge from experts is sought during crisis and not ahead of crisis.
iii. The management is aware of who is an expert in what specific area based on interviews that were conducted during employment.
iv. Experts are not known as such maybe because of the amount of workload that does not provide room to discover them.
v. Few experts are known others may be there but not yet discovered.
vi. Subject experts are known.
vii. More focus is on teaching staff than identifying real expertise.
viii. The experts are fairly accessible and known but only to those who have an interest in the particular expertise.

The above results suggest that MIUC has a few experts that are known but has not made a deliberate action to discover other experts. Expertise has been tagged to interview period and professional certification but KM goes beyond that to discover tacit knowledge that is not so obvious.

f) The interviewees were asked if they thought employees were generally trustworthy in receiving and using each other's knowledge. Their general responses entailed:

i. Employees in one's department are trustworthy but not necessarily across departments. This is also viewed by another who said it is there to a certain extent, possibly within the various groupings in the college.
ii. It is there to some extent e.g. during seminars employees trust the knowledge being impacted, between lecturers and students there are also aspects of trust.
iii. Employees are very open in sharing knowledge especially in workshops.
iv. Two of the respondents said there was trust in receiving and using knowledge while a respondent said that there was no trust.

These findings indicate that trusting one's knowledge was dependent upon the relationship within the level of staff member and the setting within which the knowledge is shared mostly formal settings like during workshops.

g) Interviewees were asked to what extent they thought knowledge sharing was encouraged and supported at MIUC. The responses obtained included:

i. Knowledge sharing is encouraged but not so much support is given.
ii. Knowledge sharing is encouraged by management through organising of internal seminars and through workshops during which some knowledge has been shared but not as productive as it should be.
iii. Knowledge sharing is encouraged in various meetings held at the college through which employees are able to participate in decision making.
iv. Two of the respondents felt that knowledge sharing is not encouraged and not supported.

v. A respondent felt that at the policy level it is in order but there is little in practice.
vi. A respondent was not sure but said MIUC is trying although they can do better.
vii. It is not supported to a large extent because there is no official avenue for publishing research findings apart from external journals and no formal research sitting yet.

The findings indicate that research is much encouraged at MIUC but the staff members need to be supported in order to enhance it and to openly share it with colleagues and the institution.

h) Respondents were asked what they thought MIUC could do to enhance knowledge sharing among employees. The general thoughts were that:

i. MIUC should come up with a good system of KM to enhance knowledge sharing and emphasized that with IT infrastructure available it's possible.
ii. MIUC should use departments to share knowledge for instance, business department to help in marketing aspects.
iii. MIUC should tap resources that are available.
iv. MIUC should enhance partnership with other institutions in the country and abroad.
v. MIUC should sensitize employees that knowledge sharing is expansion that is, one gains more.
vi. Working in groups on particular topics and encouraging peer reviews will improve knowledge sharing.
vii. MIUC should be aggressive in opening up to institutions, individuals and other students.
viii. Enhancing academic generosity so that employees are not so uptight with what they have researched on can help. MIUC can facilitate such forums such as: research sittings, small departmental conferences, collegial conference, sponsoring staff to conferences then they report and share with others.

ix. Basic is to have a functional research office headed by someone who is innovative and who has inner motivation for research and not just to keep poorly done students projects.

These results suggest that MIUC should use available resources to link up the staff members and also link up externally to enhance knowledge sharing. They require to create awareness on the relevance of knowledge sharing and to set up functional offices or teams to support the call.

i) Respondents were asked if MIUC has effective processes for gathering, organising and using internal and external knowledge. Responses given were as follows:-

i. Three of the respondents noted that there are no proper systems in place to organise knowledge.
ii. Two of the respondents highlighted the library as serving the purpose with one saying it is available to ensure teaching and learning resources are in place while another said the library is used for the purpose of storing research projects from students and staff.
iii. Dspace software is available to gather all institutional information.
iv. Ordinary ways are available but there is no deliberate effort to do more.
v. MIUC is still far from having effective processes.
vi. MIUC has a lot of work ahead in terms of implementation of what has been gathered. For example, student research stops at supervision level; no one is able to identify the innovative ideas in the projects.

These findings suggest that MIUC has not fully explored the processes for organising knowledge. The respondents had varied ideas of how knowledge is gathered, organised and used. There is need to have a formal process that will be known to all employees.

j) Respondents were asked if MIUC takes feedback from employees and customers. General responses were as follows:

i. MIUC takes feedback from employees for example, during the process of developing programs the various departments are consulted.
ii. MIUC has an open door policy and suggestion box that allows people to give opinions and comments.
iii. It is done through evaluations from students and staffs are also evaluated.
iv. To some small extent but can be explored so as to be significant to the institution.
v. It is done through various reports but mostly informal.
vi. Evaluations are done but it is more subjective hence not so useful.
vii. Sometimes feedback is taken but can be improved.
viii. It is done through staff evaluations, customer satisfaction is yet to be done but there is a lot of verbal feedback from stakeholders.
ix. Some ways are there but whether the feedback is used is yet another issue. If people feel they don't know how the feedback is used they are bound to be dishonest or not to give.

These results suggest that feedback is received to some level but no deliberate action is put in place to ensure the feedback is received and used to the advantage of the organisation.

k) Respondents were asked if they think MIUC learns from past mistakes. The responses that emerged were:

i. MIUC does not really learn from past mistakes but only mostly when there is a crisis.
ii. There is no option but to learn from mistakes.
iii. After evaluation, corrections are done for instance, in registrations and academic concerns.
iv. In some cases, HR issues are learnt from mistakes done in the past and improved on.
v. They do through reviewing decisions made if they don't work out.
vi. Not sure as some same mistakes happen again at times.

vii. They painfully learn and it is a challenging learning processes. Mistakes identified are not repeated.

viii. MIUC learns but conveniently when the learning does not involve funds.

The above views indicate that there are some cases during which MIUC learns from past mistakes but this does not happen all the time consistently.

l) Respondents were asked if MIUC has mechanisms to identify and upgrade best practices (best cause of action). The responses that were obtained were as follows:

i. It does have in some areas such as in marketing, some best practices have been identified.
ii. Three of the respondents cited the quality assurance office. One interviewee stated that there is a quality assurance office that is mandated to identify best practices. Another said that the office of the quality assurance does look into best practices such as performing appraisals in customer care area, performances, interviewing students and sharing with the colleges around. Yet another said that there is a policy on quality assurance that is aimed at doing that though not yet working to the maximum.
iii. MIUC is not yet at the point of identifying best practices.
iv. MIUC does it through encouraging internal personnel to find out what is going on outside and by working with Commission of University Education (CUE); encouraging staff to attend workshops; encouraging free atmosphere for expression that is, no red tapes and constrictive environment.
v. It is average and to some extent. MIUC tends to stick to ideas that work only but the college needs to go ahead and exploit the ideas and new ones as well.

These results suggest that the office of the quality assurance does some aspects of identifying best practices but not to its full potential. It is also evident that there is no formal well known structure to identify best practices.

m) In regards to the question as to whether MIUC has mechanisms for absorbing individual knowledge into organisational knowledge, the responses gathered included:

i. MIUC does not absorb individual knowledge into the organisation.
ii. MIUC does it by incorporating some experts into the management board.
iii. Mechanisms not set, though staffs are given opportunities to develop themselves and grow together with the institution.
iv. Mechanisms can be explored.
v. There are mechanisms in some departments such as, a leader shares with other staff in a department an idea and actions take place based on that.
vi. It is the strength of the institution. The knowledgeable are given chances to share for example, through workshops.
vii. It is done through research and publications and sharing results through the library.
viii. There are no mechanisms, the knowledge remains with the individual. It is not patented.
ix. MIUC is barely at the point of associating an idea with MIUC.

These findings indicate that there are no set mechanisms for absorbing individual knowledge into MIUC knowledge.

n) Respondents were asked if MIUC takes advantage of internal experts to solve organisational problems and challenges. It was found that:

i. The majority, four of the respondents, said MIUC does. One of the respondents explained that it is evident and it must be internal experts to solve internal problems while two of the respondents said it does but to some extent.

ii. One of the respondents pointed out that MIUC rarely takes advantage of internal experts.
iii. The process has been initiated since employees were identified to have a lot of skill aside from what they were employed to do. For instance, cleaners who had catering courses were taken to work in the cafeteria, expert marketers from business department are used, and language experts are used to write up documents.

From the views, it can be said that to some extent MIUC does take advantage of internal experts that are known. There is room to fully discover and utilize the employee's expertise.

o) Interviewees were asked how knowledge is retained upon an employee exiting. It was observed that:

i. Knowledge is not really retained when an employee exits unless the individual makes the effort to share it before leaving.
ii. There is no specific way of retaining knowledge.
iii. It is a challenge as employees leave with their knowledge.
iv. There is a poor succession plan, no clear policy on relationship between team leader and other staff.
v. Very little is done to retain knowledge.
vi. It is challenging as there has to be a process in place that captures that knowledge for instance, through workshops.
vii. Knowledge is not retained as there is no policy in place yet.
viii. Knowledge is rarely documented and rarely passed on hence a new person comes in with a totally different strategy.

These responses clearly indicate that MIUC has not put up strategies to retain knowledge from employees.

4.3.2 Knowledge Management leadership

The respondents were provided with statements on knowledge management leadership and were asked to select their extent of agreement or disagreement. The interviews were also interviewed on the same. The responses from both are presented in this section.

4.3.2.1 Close ended questionnaire results on KM processes

The results are displayed on table 4.4 followed by a brief analysis thereafter.

Table 4.4: KM leadership assessment results (N=33)

Statements	Strongly Agree 1		Agree 2		Neutral 3		Disagree 4		Strongly Disagree 5		Missing	
	F	%	F	%	F	%	F	%	F	%	F	%
The top management links individual knowledge to the processes at MIUC	3	9	17	52	5	15	3	9	5	15	0	0
MIUC is aware of and recognizes the power of intellectual capacity (employees' individual knowledge)	3	9	14	43	5	15	7	21	3	9	1	3
Managing knowledge created at MIUC is key to the organizations strategy	8	24	12	37	5	15	4	12	3	9	1	3
Employees are evaluated for knowledge generation and sharing	5	15	12	37	7	21	4	12	4	12	1	3
Promotions & compensations are done based on individuals contribution to the development of organizational knowledge	3	9	15	46	7	21	5	15	3	9	0	0
There is a clear articulated vision of knowledge agenda and Knowledge Management	1	3	14	43	8	24	6	18	4	12	0	0
MIUC has enthusiastic knowledge champions (employees who push for knowledge creation and sharing)	2	6	14	43	9	27	5	15	3	9	0	0
Management has an effective interaction with customers and employees	0	0	10	30	14	43	5	15	3	9	1	3
Management promotes good teamwork with members drawn from various disciplines	2	6	17	52	8	24	3	9	3	9	0	0
Management has a culture of openness that stimulates innovation and learning	1	3	12	37	11	33	6	18	3	9	0	0
Staff are motivated to create and share knowledge	4	12	11	34	8	24	7	21	3	9	0	0

a) Management support and understanding of KM and ability to link it with processes will go along way into enhancing KM initiatives. Respondents were asked if the top management links individual knowledge to the processes at MIUC. Twenty (61%) of the respondents agreed, of whom 17 (52%) just agreed while 3 (9%) of them strongly agreed. Eight (24%) disagreed, of which 3 (9%) just disagreed and 5 (15%) strongly disagreed while 5 (15%) were neutral. These results suggest that the management somewhat does the linking of knowledge to processes.

b) Respondents were asked if MIUC is aware of and/or recognizes the power of intellectual capacity. Tacit knowledge is critical in KM hence the importance of recognizing where it resides in an organisation cannot be overlooked. Fourteen (43%) agreed with the statement, 7 (21%) disagreed, 5 (15%) were neutral, 3 (9%) strongly agreed, 3 (9%) strongly disagreed while 1 (3%) did not respond. The results indicate that MIUC fairly recognizes the individual's capability but more could be done.

c) With respect to whether managing knowledge at MIUC is key to the organisations strategy, 12 (37%) agreed, 8 (24%) strongly agreed, 5 (15%) were neutral, 4 (12%) disagreed, 3(9%) strongly disagreed while 1 (3%) failed to respond. This question sought to establish if employees find it important that knowledge should be managed as an asset. The majority were affirmative that knowledge is key at MIUC.

d) Respondents were asked if employees are usually evaluated for knowledge generation and sharing. This question highlights the need to evaluate employees on knowledge generation. Twelve (37%) agreed, 7 (21%) were neutral, 5 (15%) strongly agreed, 4 (12%) disagreed, 4 (12%) strongly disagreed and 1 (3%) did not respond. Some were of the view that knowledge generation and sharing is evaluated while some disagreed indicating the need to make the evaluations if available known to all the employees.

e) Only 3 (9%) of the respondents strongly agreed when asked if promotions and compensations are done based on individual's contribution to the development of organisational knowledge. This question aimed at establishing if employees are compensated for knowledge generation as it forms part of motivation. Fifteen (46%) agreed, 7 (21%) were neutral, 5 (21%) disagreed and 3 (9%) strongly disagreed. These results suggest that not all employees are compensated for knowledge generation.

f) For KM to be successful there needs to be a clear vision established and supported by leadership. Respondents were asked if there was a clear articulated vision of knowledge agenda and knowledge management. Fourteen (43%) agreed, 8 (24%) were neutral, 6 (18%) disagreed, 4 (12%) strongly disagreed and 1 (3%) strongly agreed. The disparity in the results indicates that some employees know of some vision while others do not know about it.

g) MIUC has enthusiastic knowledge champions. This statement aimed to check if MIUC has employees who are eager to push for KM processes. Fourteen (43%) agreed, 9 (27%) were neutral, 5 (15%) disagreed, 3 (9%) strongly disagreed and 2 (6%) of the respondents strongly agreed. These findings indicate that some employees are not aware if there are enthusiastic knowledge champions.

h) There is need for interaction not only among employees but also with management so as to enhance KM effectiveness. When asked if the MIUC management has an effective interaction with customers and employees, 14 (43%) were neutral, 10 (30%) agreed, 5 (15%) disagreed, 3 (9%) strongly disagreed while 1 (3%) did not respond. Only 30% were affirmative and this could suggest that more need to be done by the management to interact with employees to be able to access their knowledge with ease.

i) Seventeen (52%) of the respondents agreed that management promotes good teamwork with members drawn from various disciplines. Teamwork led by top leadership is relevant hence the need for its assessment. Eight (24%) were neutral,

3 (9%) disagreed, 3 (9%) strongly disagreed and 2 (6%) strongly agreed. These results tell us that teamwork is not fully promoted.

j) Respondents were asked if the management had a culture of openness that stimulates innovation and learning. This question was meant to get reactions from staff about their levels of interaction with the top leadership. Twelve (37%) agreed, 11 (33%) were neutral, 6 (18%) disagreed, 3 (9%) strongly disagreed while 1 (3%) strongly agreed. There is an indication from the results that the culture of openness needs to be encouraged.

k) Finally on leadership, the respondents were asked if they are motivated to create and share knowledge. 11 (34%) agreed, 8 (24%) were neutral, 7 (21%) disagreed, 4 (12%) strongly agreed and 3 (9%) strongly disagreed. This findings suggest that not all employees are motivated and hence the need to look into that.

4.3.2.2 Comments on KM leadership at MIUC

Respondents were asked to provide any further comments on KM leadership that they could be having and the following were raised:

i. The leadership at MIUC shares knowledge appropriately.
ii. Some KM leadership roles are slightly there but others are yet to be witnessed which calls for improvement.
iii. The leadership is well structured and followed by specific individuals.
iv. In MIUC there is need into getting started in knowledge management.
v. MIUC needs improvement on knowledge champions.
vi. Dissemination of knowledge is weak from leadership.
vii. Management's focus on knowledge is essentially all about academic knowledge leadership with emphasis on the staff to continue with their academic pursuits.
viii. There are staff meetings but most things being discussed are already decided upon.
ix. There should be workshops and seminars on creating and sharing knowledge in its essence.

x. Too formal Christians in leadership and hence it is not easy to know who matters in leadership [top leadership consists majorly of religious brothers guided majorly by religious style of leadership that may not be the norm].
xi. A number of units (leadership) are not practically functional.

The above views from the academic staff display contradicting views with some respondents indicating that the KM leadership is available to some level while others term it as not functional. The results indicate that there is no aggressive and focused leadership for KM to function.

4.3.2.3 Interview results on KM leadership

Section C of the semi-structured interviews (appendix B) provides the questions that the members of MIUC management were queried on about KM leadership. Their summarized responses are provided below.

a) Respondents were asked whether they link knowledge to organisational processes (work flows) and the following is what they had to say:

i. Work flows are ongoing without necessarily providing a formal link of knowledge and the processes.
ii. Through hiring, management pays attention to the knowledge that one can contribute to the job intended hence there is a link.
iii. It does because KM and dissemination is what MIUC is about and the main business.
iv. Two of the respondents said it does the linking but to some extent.
v. It does as after meetings there is usually feedback and way forward.
vi. It does as one researches on what is happening and applies to the tasks at hand.

These findings indicate that there is no comprehensible way that knowledge is linked to organisational processes.

b) Respondents were asked if MIUC recognizes the individual employee's contributions (intellectual capacity) to the growth of MIUC. It was generally noted that:

i. No motivation is provided for individual knowledge apart from verbal congratulations for a good idea.
ii. Employees are offered various responsibilities based on what they can offer.
iii. It is done through promotions when one is good in a particular area.
iv. Effort has been made through the employee of the year award but which is not really practical yet.
v. It is done as more responsibilities are given to the individual with allowances.
vi. It is mostly verbal with a promise to be rewarded in heaven.
vii. It is in terms of willing to tap the knowledge and making the individual to know that MIUC knows you have this but MIUC has to do more in terms of recognizing or facilitating the development of the same knowledge in the individual.

The findings indicate that MIUC does in part recognize individual employees but this is not done in an apparent manner.

c) Respondents were asked if management is able to interact well and learn from employees and if so, do they apply the knowledge they gain from them? General views were given as noted below:

i. Two of the respondents noted that some members of management are able to interact well with employees.
ii. Members of staff are consulted on different issues regarding the organisation.
iii. There is a good interaction with the staff hence the turnover is low.
iv. The interaction is there to some extent.
v. The interaction is on average.

vi. The goodwill is there because employees are free to express themselves to any member of management.
vii. There is interaction but learning from employees is average.

The results indicate that not all members of management freely interact with employees to learn from them. There is minimal interaction and in some cases it is reliant on the staff member approaching the member of management. This indicates a possible rigidity from the members of management with regard to interaction and openness.

d) Respondents were asked if MIUC supports and motivates knowledge creation at MIUC. It was pointed out that:

i. Knowledge creation is not much supported.
ii. Staffs are encouraged to conduct research but due to financial constraints not much can be done in terms of financial support.
iii. There is a policy on research grant that outlines the kind of support staff members can get.
iv. Support is given by allowing staff to participate in conferences, organising internal conferences and also sabbatical is allowed.
v. Support is given to some extent.
vi. Policies are there but implementation has not yet taken off.
vii. MIUC does but not much has been put in the plan.
viii. Encouragement and support is there but employees are not taking advantage of resources availed to them.
ix. MIUC encourages but does not necessarily motivate. Finance is required and proactive linkages with institutions which will be willing to fund the knowledge such as, some institutions pay an individual for every publication, top performing student getting a scholarship.
x. Alternative ways of appreciating knowledge should be initiated.

The findings suggest that MIUC encourages knowledge creation and offers support to some extent. There is no obvious way that the support is being

disbursed. It is seen that some policies are available but there is a challenge with implementation.

e) Respondents were asked if there was a reward system for sharing knowledge. The responses given included:

i. Four of the respondents stated that there is no reward for sharing knowledge.
ii. There is a policy on staff development that is geared towards that.
iii. MIUC makes an effort to acquire scholarships for the staff undertaking PhD programs.
iv. It is done through promotions; financial situation does not allow significant support to be offered.
v. It is weak due to financial constraints.
vi. It is not really there, some form of reward is given for completion of studies but not really for publishing.

The results indicate that there is very minimal support for knowledge creation but not necessarily for sharing knowledge.

4.3.3 Knowledge management culture

KM culture was assessed through a few statements that academic staffs were supposed to indicate their level of agreement or disagreement (Table 4.5). The interviewees were also asked some questions on KM culture (see appendix B). This section presents the data collected on culture.

4.3.3.1 Close ended questionnaire results on KM processes

Table 4.5 presents the results and thereafter follows interpretation.

Table 4.5: KM culture assessment results (N=33)

Statements	Strongly Agree 1		Agree 2		Neutral 3		Disagree 4		Strongly Disagree 5		Missing	
	F	%	F	%	F	%	F	%	F	%	F	%
There is a willingness to collaborate across departmental units within MIUC	5	15	16	49	4	12	6	18	1	3	1	3
Employees generally trust each other	2	6	9	27	14	43	5	15	1	3	2	6
There is a culture of sharing knowledge at MIUC	2	6	11	33	11	33	6	19	1	3	2	6
I feel like a member of a team within MIUC	2	6	15	46	11	33	2	6	2	6	1	3
I discuss work difficulties with colleagues in order to identify potential solutions	4	12	15	46	7	21	4	12	2	6	1	3
MIUC promotes communication among its staff members	3	9	15	46	8	24	5	15	1	3	1	3
Management has close relationship with employees	2	6	15	46	5	15	8	24	2	6	1	3
When I personally disagree with an organization decision/action I feel free to express my opinion	2	6	11	34	9	27	4	12	6	18	1	3
My opinion is valued in organizational matters	1	3	13	40	9	27	6	18	4	12	0	0
I feel like there is a learning culture at MIUC	2	6	16	49	5	15	7	21	3	9	0	0
There are policies/measures which promote learning within MIUC	6	18	13	40	4	12	6	18	4	12	0	0
I take responsibility for my own learning	15	46	14	42	2	6	1	3	1	3	0	0
Trust and openness permeates the organization	2	6	14	43	11	33	4	12	2	6	0	0

a) Respondents were asked if there was a willingness to collaborate across departmental units within MIUC. This question was vital because collaboration enhances organisational learning. Sixteen (49%) agreed, 6 (18%) disagreed, 5 (15%) strongly agreed, 4 (12%) were neutral, 1 (3%) strongly disagreed and 1 (3%) did not respond. The majority affirmed that there was willingness to collaborate across departments.

b) The results illustrated that 14 (43%) of the respondents were neutral, 9 (27%) agreed, 5 (15%) disagreed, 2 (6%) strongly agreed, 2 (6%) did not respond and 1 (3%) strongly disagreed when they were asked if there was a general trust among MIUC employees as trust enhances knowledge sharing. The results indicate that trust is at a minimum level with the majority neither agreeing nor disagreeing.

c) Culture of knowledge sharing forms a basis for learning among employees and hence should be encouraged. The respondents were asked to state if there was a knowledge sharing culture. Eleven (33%) agreed, 11 (33%) were neutral, 6 (19%) disagreed, 2 (6%) strongly agreed, 2 (6%) did not respond and 1 (3%) strongly disagreed. The findings suggest that there is an aspect of knowledge sharing but it is not adequate.

d) Respondents were asked if they felt like members of a team at MIUC. This question sought to establish the sense of belonging among employees as it contributes to knowledge sharing. Fifteen (46%) agreed, 11 (33%) were neutral, 2 (6%) strongly agreed, 2 (6%) disagreed, 2 (6%) strongly disagreed and 1 (3%) did not respond. The results show that some members felt a sense of belonging while others did not.

e) Of the 33 respondents who were asked if they discussed work difficulties with colleagues in order to identify potential solutions, 15 (46%) agreed, 7 (21%) were neutral, 4 (12%) strongly agreed, 4 (12%) disagreed, 2 (6%) strongly disagreed and 1 (3%) did not respond. The majority affirmed that they consulted their colleagues when they had difficulties.

f) Respondents were asked if MIUC has a culture of promoting communication among its staff members. Fifteen (46%) agreed, 8 (24%) were neutral, 5 (15%) disagreed, 3 (9%) strongly agreed, 1 (1%) strongly disagreed while 1 (3%) did not respond. The results indicate that MIUC promotes communication to some level that is not adequate in KM.

g) When asked if the management had a close relationship with the employees that would encourage interaction across various levels of staff, the study revealed that 15 (46%) agreed, 8 (24%) disagreed, 5 (15%) were neutral, 2 (6%) strongly agreed, 2 (6%) strongly disagreed and 1 (3%) did not respond. The results suggest that there is some level of interaction between employees and the management that would allow knowledge sharing although this is not the case with all members of staff.

h) Respondents were asked if they felt free to express their opinions when they do not agree with organisational decisions or actions. Eleven (34%) agreed, 9 (27%) were neutral, 6 (18%) strongly disagreed, 4 (12%) disagreed, 2 (6%) strongly agreed while 1 (3%) failed to respond. Barely half of the respondents were confident that they can freely express their opinion.

i) The results showed that only 1 (3%) of the respondents strongly agreed when asked if they felt their opinions were valued in organisational matters. This is based on the idea that employees are more likely to share more if they felt appreciated. Thirteen (40%) agreed, 9 (27%) were neutral, 6 (18%) disagreed and 4 (12%) strongly disagreed. The results show that some employees felt their opinion was valued but others felt otherwise indicating a possible detachment between leaders and some staff members.

j) It was significant to ask the respondents if they felt there was a learning culture at MIUC. A learning culture involves continuous learning and knowledge sharing hence this question sets to establish if it exists. Sixteen (49%) agreed, 7 (21%) disagreed, 5 (15%) were neutral, 3 (9%) strongly disagreed and 2 (6%) strongly

agreed. These results show that some level of learning culture is available at MIUC but some respondents feel that it is deficient.

k) Respondents were asked if there were policies which helped promote learning within MIUC. Thirteen (40%) agreed, 6 (18%) strongly agreed, 6 (18%) disagreed, 4 (12%) were neutral, while 4 (12%) strongly disagreed. The majority agreed that policies existed but it can be noted that some of the respondents are not aware of the policies.

l) KM is enhanced when employees take up responsibility to learn, create and share knowledge. Respondents were asked if they take responsibility for their own learning. Fifteen (46%) strongly agreed, 14 (42%) agreed, 2 (6%) were neutral, 1 (3%) disagreed and 1 (3%) strongly disagreed. A significant majority of the respondents affirmed that they took their own responsibility to learn.

m) The culture of trust and openness can greatly enhance KM and therefore respondents were asked if trust and openness permeate MIUC. Fourteen (43%) agreed, 11 (33%) were neutral, 4 (12%) disagreed, 2 (6%) strongly agreed and 2 (6%) strongly disagreed. Some employees felt that trust and openness exists at MIUC while others did not hence the need to build it.

4.3.3.2 Comments on knowledge management culture at MIUC

Respondents were provided an opportunity to provide comments on KM culture. The following came up:

i. MIUC needs a change in culture.
ii. There is need for MIUC to improve in knowledge management culture.
iii. Majority of staff take their own initiative for their learning but the management supports few of the employees.
iv. Employees seem eager to learn, strategies to institute learning and formalize it may be rather lacking or too narrowly focused.
v. MIUC has qualified personnel but has weak links when it comes to collaboration.
vi. KM culture is fairly good.

vii. Disgruntled employees are muzzled for fear of reprimand hence unable to share.

viii. The college should put mechanisms where all employees feel part and parcel of the organisation to enhance the common good and not egocentrism/individualism.

ix. The culture should be enhanced; people should be facilitated to acquire knowledge in seminars and/or classes.

x. Culture of openness fairly below average.

The comments above on culture demonstrate that MIUC has some level of KM culture but there is a feeling of bias and a general view that culture has to be improved for KM to succeed.

4.3.3.3 Interview results on KM culture

Section D of the semi-structured interviews (appendix B) shows the questions posed to interviewees about KM culture at MIUC. Below are the summarized responses.

a) Respondents were asked if they thought MIUC employees are willing to collaborate with each other. It was said in their general responses that:

i. The culture of interaction is not wide it is mostly within departments.

ii. Generally the institution makes an effort to encourage employees to work as a team that is, family spirit is stressed.

iii. Employees are willing but challenges are available.

iv. Some are willing to collaborate.

v. Two of respondents said they are willing to collaborate.

vi. People are ready to cooperate once they know they will gain from it.

vii. The problem is the feeling of inability to share rather than the willingness.

viii. The willingness to share is rising because of the increase in the number of experts that are being absorbed by the institution.

The results indicate that there is some willingness to collaborate but this is dependent upon other factors such as what one will gain from the

collaboration and mostly collaboration is contained within departments and level of staff.

b) Respondents were asked if they thought there is ease in interaction and sharing between the management and other employees. It was generally stated that:

i. There is no ease in interaction from a cultural perspective.
ii. There is some level of sharing.
iii. It is there to a limited extent.
iv. It is not very much.
v. There is some little interaction.
vi. To some extent, it's not fully explored.

These views indicate that the level of interaction between the management and employees is very minimal.

c) Interviewees were asked if there was a learning culture at MIUC (people are responsible for their own learning and for helping one another learn). There was a general indication that:

i. Generally a learning culture is minimal.
ii. Most students are not much into reading but instead opt for downloading what is available.
iii. It is there though slow and growing gradually.
iv. It is available to some extent.
v. It is very minimal.
vi. It needs to be fought for and requires a few people who are motivated and hence can push others.
vii. There is a battle to ensure that it takes root, now it is more of teaching and teaching.
viii. It is not there.

The views above suggest that not much has been done to institute a learning culture at MIUC.

d) Respondents were asked if trust and openness permeate the organisation. Some views that emerged included:

i. It is difficult to measure but employees are encouraged to share ideas during meetings.
ii. There is room for improvement, though it is substantially there.
iii. It is barely there.
iv. It is there to a certain degree.
v. It depends on the various employee levels in the organisation.
vi. One is open once and only if they feel trusted and hence they become creative.
vii. It is a battle to have it just like in any other community.
viii. Not so much, it is below average.

The views indicate a need to work on and improve trust and openness at MIUC as at the time of interviewing there was not much of it.

e) Respondents were asked if there were policies to promote learning within MIUC. The views obtained indicated that:

i. Policies are available all over the place but not implemented and not availed to the members.
ii. Policies are available to encourage learning culture but they are not internalized.
iii. There are policies for instance on ICT facilities and library.
iv. Being an education institution you'd expect policies to be in place.
v. Three respondents said there are policies with one explaining that the criteria for promotions is pegged on learning; research grant has been instituted and there is flexibility in allowing employees to pursue education.
vi. They are there but not functional.

There is a general indication that there are various policies that should promote learning at MIUC but they are not being implemented.

4.3.4 Knowledge management technology

Statements on KM technology were provided to the academic staff and interviews were conducted on the same to the members of management. Technology was checked against availability, speed, access and storage capabilities. This section presents the results on technology.

4.3.4.1 Close ended questionnaire results on KM processes

Table 4.6 below shows the results of the survey followed by brief analysis after that.

Table 4.6: KM technology assessment results (N=33)

Statements	Strongly Agree 1		Agree 2		Neutral 3		Disagree 4		Strongly Disagree 5		Missing	
	F	%	F	%	F	%	F	%	F	%	F	%
MIUC has proper ICT infrastructure to support knowledge sharing	7	21	18	55	4	12	2	6	1	3	1	3
ICT infrastructure at MIUC supports high speed access to information using a variety of devices from different locations 24/7	2	6	10	30	6	19	10	30	4	12	1	3
MIUC provides technological facilities which I can use to network/talk with colleagues satisfactory	3	9	18	55	2	6	7	21	2	6	1	3
Technology brings employees closer to one another	7	21	13	40	5	15	6	18	1	3	1	3
MIUC's has an institutional repository (central place for MIUC knowledge) that is accessible to employees	5	15	10	31	8	24	7	21	2	6	1	3
I have access to real-time technology that I can use to create and share knowledge	2	6	15	46	8	24	5	15	2	6	1	3
MIUC has appropriate technologies such as intranets, portals through which I can upload and share content	4	12	15	46	5	15	7	21	2	6	0	0
Technology that promotes collaboration has been availed to me	3	9	12	37	9	27	8	24	1	3	0	0

a) Most respondents 18 (55%) agreed when asked if MIUC has proper ICT infrastructure to support knowledge sharing. Seven (21%) strongly agreed, 4 (12%) were neutral, 2 (6%) disagreed, 1 (3%) strongly disagreed while 1 (3%) did not respond. The majority (76%) affirmed that MIUC has proper infrastructure that can support knowledge sharing.

b) Respondents were asked if ICT infrastructure at MIUC supports high speed access to information using a variety of devices from different locations 24/7. This was to establish if respondents are able to share and collaborate knowledge anytime using ICT. Ten (30%) agreed, 10 (30%) disagreed, 6 (19%) were neutral, 4 (12%) strongly disagreed, 2 (6%) strongly agreed while 1 (3%) did not respond. Barely half of the respondents supported the view that ICT access is available whenever they needed it which could be a barrier to constant collaboration.

c) The study revealed that 18 (55%) of the respondents agreed, 7 (21%) disagreed, 3 (9%) strongly agreed, 2 (6%) were neutral, 2 (6%) strongly disagreed while 1 (3%) did not respond when they were asked if MIUC provides technological facilities which they can use to network/talk with colleagues satisfactory. These findings suggest that MIUC has made an effort to provide the facilities but not all employees are able to realize it yet calling for a need to create awareness.

d) On whether they thought technology helps in bringing employees closer to one another, 13 (40%) agreed, 7 (21%) strongly agreed, 6 (18%) disagreed, 5 (15%) were neutral, 1 (3%) strongly disagreed while 1 (3%) did not respond. The majority agreed that technology has provided a prospect to bring them closer as a team as it enables communication.

e) A central location where all members can contribute and find information is important in KM. Respondents were asked if MIUC has an institutional repository that is accessible to employees. Ten (31%) agreed, 8 (24%) were neutral, 7 (21%) disagreed, 5 (15%) strongly agreed, 2 (6%) strongly disagreed while 1 (3%) did not respond. The results show that not all employees are aware of an institutional repository in place.

f) Respondents were asked if they had access to real-time technology that they can use to create and share knowledge instantly. Fifteen (46%) agreed, 8 (24%) were neutral, 5 (15%) disagreed, 2 (6%) strongly agreed, 2 (6%) strongly disagreed while 1 (3%) did not respond. These results indicate that some employees could have access to real-time technology, others were unsure while others don't.

g) With regard to whether MIUC has appropriate technologies such as intranets and portals through which they can upload and share content, 15 (46%) agreed, 7 (21%) disagreed, 5 (15%) were neutral, 4 (12%) strongly agreed and 2 (6%) strongly disagreed. The results indicate that some employees have access; others are unsure while others do not have access.

h) Respondents were asked if MIUC has availed to them technology that promotes collaboration. Twelve (37%) agreed, 9 (27%) were neutral, 8 (24%) disagreed, 3 (9%) strongly agreed while 1 (3%) strongly disagreed. These results indicate that not all employees are aware or do have technology that promotes sharing.

4.3.4.2 Comments on KM technology at MIUC

Respondents were provided with an opportunity to provide further comments on technology. The general comments provided were:

i. Technology is key to learning at MIUC.
ii. I appreciate the use of internet and presence of a telephone in place.
iii. There is still room to improve the culture to benefit all the employees at large.
iv. Technology is ok but requires frequent monitoring to keep it working.
v. Many other facilities that promote and enhance ICT infrastructure are missing.
vi. MIUC is doing well in the area of technology.
vii. Some offices don't have working computers and an internet connection.
viii. Technological foundations for knowledge have been facilitated.

ix. Staff and students not well trained on technologies such as intranets and portals.
x. MIUC is in the process of being fully ICT compliant, good progress.
xi. Internet is either dead and at most times never working.
xii. ICT facilities available but lack of a management system impedes use of intranet hence staff cannot share necessary knowledge.

These comments suggest that there is a general positive reception of the efforts MIUC has put to set up technological infrastructure but there is room for improvement to make it to be used more efficiently especially with regard to enabling KM.

4.3.4.3 Interview results on KM technology

Interview respondents were also queried about KM Technology at MIUC as expressed on section E of the semi-structured interview (appendix B). Their summarized responses included the following.

a) Interviewees were asked if they thought there was proper ICT infrastructure to support KM processes. Some of the views obtained included:

i. ICT is available but not used sufficiently for example, employees use individual emails to communicate officially yet they should have official communicating tools such as Outlook.
ii. The college has invested heavily on ICT. There is a student ICT lab, staff computers and internet facility is very good being on a fiber optic platform.
iii. There is ICT infrastructure but can be improved even further.
iv. ICT is there but not fully utilized, can be put into good use.
v. ICT is adequate for the moment.
vi. Given the population, there is sufficient ICT. Internet connection is well done, provision of PCs, encouragement of teachers to use PowerPoint, software's and programs like Moodle are available for use.

vii. Infrastructure is available but physical facilitation is needed. Enough computers available but not fully used in promoting KM.

The members of management observed that there is sufficient ICT but there is room for improvement and necessity to prop up use of the facilities.

b) Respondents were asked if there was a central repository for knowledge, with clear responsibilities for coordination and management of its content. Responses that emerged included:

i. There should be a central place to access knowledge; it is not there at the moment.
ii. Heavy investment on the library in terms of learning and teaching resources hence it becomes the central place for knowledge.
iii. There is Dspace software but yet to grow and be used sufficiently.
iv. There is none, HR would be the right office to have all information coordinated.
v. There is none but it is needed.
vi. Not sure but there should be one.
vii. The library is there though there are no departmental libraries.
viii. Not for knowledge generated within the institution, it is scattered. Not sure where one can get a publication of any individual within the institution.

The results show that there were varied views with regard to an institutional repository with some viewing the information sources in the library as the central repository while some suggesting the HR to be the custodian. This indicates that the respondents might not be fully aware of what a central repository is and how to utilize it.

c) Respondents were asked if there was ICT that supports real time interactions and collaborations among the staff members. It was generally observed that:

i. There was none and suggested Facebook and MIUC Website can be made official collaborating tools.
ii. There is Moodle platform on which lecturers and students are encouraged to make use of.
iii. Four of the respondents said no. One observed that it is very dormant, another said it's at the very minimum while one said there was no virtual library at the moment.
iv. Infrastructure is there but how the lecturers interchange through it is yet to be known.
v. It is average, efforts are being made.

The views suggest that real time interactions at MIUC are not well utilized and supported.

d) Respondents were asked if MIUC provides the members of staff with ICT that can be used to upload and share knowledge pertaining to the organisation. Responses noted were as follows:

i. ICT for uploading and sharing knowledge has not been provided.
ii. Free technological tools can be explored and made official.
iii. Computers and internet have been provided in staff offices and staff computer lab.
iv. Each full time has a PC and computer lab is available for external lecturers plus internet access.
v. Facebook and Twitter may form part of the ICT to upload and share knowledge.
vi. It has been provided but employees upload out of willingness.
vii. It is provided to some extent but the staff do not use it for instance Moodle but it comes down to policy because of reluctance so that people can appreciate it.

The results suggest that there is no policy on the use of ICTs, especially to facilitate KM activities.

4.3.5 Knowledge management measurement

Questions were posed to academic staff using questionnaire and the members of management were interviewed (see appendices A and B) with regard to the need to assess KM measurement. The results are presented below.

4.3.5.1 Close ended questionnaire results on KM processes

Table 4.7 shows the results from the academic staff members. Consequently, the results are briefly explained thereafter.

Table 4.7: KM measurement assessment results (N=33)

Statements	Strongly Agree 1		Agree 2		Neutral 3		Disagree 4		Strongly Disagree 5		Missing	
	F	%	F	%	F	%	F	%	F	%	F	%
There are mechanisms at MIUC to link knowledge to organisational objectives	3	9	12	37	9	27	7	21	1	3	1	3
MIUC supports efforts that help increase its knowledge base	2	6	16	49	9	27	5	15	0	0	1	3
There are specific indicators set to check on knowledge output (created)	3	9	9	27	11	34	7	21	2	6	1	3

a) Respondents were asked if MIUC has mechanisms to link knowledge to organisational objectives. 12 (37%) agreed, 9 (27%) were neutral, 7 (21%) disagreed, 3 (9%) strongly agreed, 1 (3%) strongly disagreed while 1 (3%) did not respond. From the results, it can be seen that MIUC has made an effort to link knowledge to objectives but this linkage is unclear to all employees.

b) Respondents were asked if MIUC supports efforts that help increase its knowledge base. Sixteen (49%) agreed, 9 (27%) were neutral, 5 (15%) disagreed, 2 (6%) strongly agreed and 1 (3%) did not respond. The results suggest that not all respondents were of the view that MIUC supports efforts to enlarge its knowledge base.

c) Respondents were asked if there are specific indicators set to check on knowledge output. The majority 11 (34%) were neutral, 9 (27%) agreed, 7 (21%) disagreed, 3 (9%) strongly agreed, 2 (6%) strongly disagreed and 1 (3%) did not respond. The results indicate that the majority were either not aware if there are indicators or probably did not understand.

4.3.5.2 Comments on KM measurement at MIUC

Further comments on measurement were sought from the respondents. Views obtained included:

i. The indicators already set at MIUC are not sufficient.
ii. Too much work on certain category of employees makes them not have time to effectively acquire knowledge.
iii. More measures need to be put into place to improve knowledge management measurement.
iv. Not sure if there are specific indicators set to check on knowledge output (created).
v. The main barometer for knowledge measurement is academic qualification in MIUC.
vi. Staff evaluation is done but can be made better.
vii. MIUC should support efforts that help increase knowledge base.

viii. Linkages need to be established both with industry and other institutes.

ix. College generally fairs badly in self-evaluation as regards its systems.

The responses strongly indicate a lack of measures in place or lack of awareness about indicators available to check on KM.

4.3.5.3. Interview results on KM measurement

Section F of the semi structured interview (see appendix B) indicates the questions that interviewees were asked with regard to KM measurement at MIUC. Their responses were summarized and presented below.

a) Interviewees were asked whether there were mechanisms to link knowledge to organisational objectives at MIUC. They generally reported that:

i. Three of the respondents said there are no mechanisms to link knowledge to organisational objectives.
ii. Evaluations are conducted within units which help to measure if objectives have been met.
iii. MIUC has a strategic plan that is evaluated annually that helps in linking knowledge with objectives.
iv. Knowledge is published and some bring [their publications] to the library, students deposit projects to the library as well and that is part of meeting objectives.
v. There are none because MIUC has basically a skeletal structure of leadership. Very few offices are functional. If they worked, knowledge would translate into policies and hence link up to objectives.

The responses highlight some of the ways MIUC links knowledge to objectives but it is clear that not all interviewees are aware of the linkages.

b) Respondents were asked about some of the indicators that check knowledge output (created) at MIUC. The following were highlighted:

i. Three of the respondents reported that there are no indicators to check on knowledge output.
ii. There is no consistency or way to measure knowledge output.
iii. Customer satisfaction and feedback from staff, students and sponsors.
iv. Because of the [growth] level of the institution, indicators are minimal.
v. Policies are there but practically slow due to other constraints.
vi. No issues of copyright have arisen as of yet. Basically modules have been done for life skills but need to be copyrighted that is, to be made college property.
vii. Other than what MIUC is being assisted with external active academic institutions which declare that someone has fulfilled the requirements of a course, there are no internal mechanisms.

The views show a general concern of lack of indicators to check knowledge output at MIUC.

c) Respondents were asked if there were any performance indicators for the effective use of knowledge at MIUC. Responses given were as follows:

i. Three of the respondents said there are no performance indicators to show knowledge impact.
ii. It is shown through course evaluations.
iii. It is reflected through client satisfaction and good percentage of graduates who start and finish a program.
iv. The progress of the institution indicates effective use of knowledge.
v. MIUC has not looked into that yet.
vi. It is difficult to have unless if checked against those that translate into money. Theoretical knowledge which is very important because that is the software for progress is not being measured by anybody.

The findings indicate that MIUC has no prescribed way of checking on knowledge use effectiveness.

4.4 Summary of chapter four

This chapter has analysed and presented data that was collected through questionnaires and semi structured interviews. The main aim of the study was to conduct a knowledge management assessment at the Marist International University College (MIUC) in order to identify and recommend a suitable strategy for the institution. In order to do this, the instruments were set to take inventory of KM resources and capabilities at the MIUC.

The findings revealed that:

i. There are substantial KM processes at MIUC spread out in the various departments but KM is not undertaken formally.
ii. There is good will from the leadership to support KM initiatives although it was indicated that financial constraints may hinder the efforts. It is important therefore that the leadership get to know the benefits that KM can achieve as there is some cost required especially during start up phase.
iii. There is need for culture change supported by management for KM to work effectively. Culture has been presented as a great barrier to effective KM. The need to harmonize relationships among employees and leadership in order to create an environment that would encourage knowledge sharing is paramount. This calls for employee motivation both in financial and non financial input from the MIUC leadership.
iv. There is a good base for ICT infrastructure in terms of computers available and internet connectivity but much more needs to be done in terms of tools that support KM, training of staff in proper ICT usage and policies that would synchronize proper and standardized use of the ICT to enhance KM. Some staff members also pointed out that they didn't have access to computers and internet and hence this should also be looked into.
v. The area of KM measurement needs review and action. It occurred that there was a general lack of knowledge on knowledge having an impact on the institution's processes and progress. Without properly defined criteria to measure knowledge, KM efforts will be futile.

vi. There are quite a number of policies at the college but not specific to managing knowledge. There is need to relook the policies whilst keeping KM in mind and create functional policies.

The next chapter – chapter five – discusses the results of the study presented in chapter four.

CHAPTER FIVE: DISCUSSION OF FINDINGS

5.1 Introduction

In chapter four, results of the study were analysed, presented and interpreted. This chapter discusses these findings in relation to the literature reviewed and other sources. The amount of data on KM that arose from the instruments was enormous prompting adoption of grounded theory partially to aid in explaining data sets that had not been previously reviewed. The discussion is based on the research questions of the study. This study aimed at conducting a knowledge management assessment at the Marist International University College in order to identify and recommend a suitable strategy for the institution.

The KM assessment was conducted using a questionnaire and interview schedule and the results are presented in the previous chapter. The study also sought to identify various KM strategies and the critical success factors (CSFs) for the implementation of a KM strategy as identified in chapter two. In an attempt to formulate a KM strategy for MIUC, both the strategies reviewed and the CSFs will be considered vis-à-vis the results achieved in the assessment. All the departments in the institution were represented in the survey hence this ensured that views from all disciplines were integrated into the findings. The two major departments business and education had the majority of respondents at 11 (34%) and 10 (30%) respondents respectively.

5.2 Structures and resources available to support KM at the MIUC.

In order to identify the structures and resources available at MIUC, a KM assessment was conducted focusing on the processes, leadership, culture, technology and measurement. Demographic factors of respondents were also checked.

5.2.1 Demographic profile of respondents

Monitoring the age profile, and addressing subsequent shortcomings, of a given sector is important to ensure there is a continual movement between younger

people gaining new skills within an emerging career path, and knowledge transfer at the other end of the age spectrum. This will ensure that the sector has a constant flow of adequately trained professionals who then later pass on their knowledge to new recruits entering the sector, completing the cycle (Tarren 2009). A variety of aspects provide a bearing, that is, age, gender, qualifications, rank and departments from which respondents work.

Academic institutions face retirements and hence require a balance between new recruits and outgoing staff. KM should take care of knowledge transfer within these groups. The majority of MIUC academic staffs were between 30-39 (67%) years of age and the lowest age range was over 50 (6%). The respondents are therefore far from retiring although they could leave the institution based on other factors such as getting another position elsewhere.

MIUC has more male academic staff members 17 (52%) as compared to the female staff 16 (48%). Even though these statistics display an even distribution, it is unlikely to be significant as Ismail and Yusof (2009:2) noted that previous studies reported that gender did not have a significant impact on knowledge sharing. The lowest qualification for these respondents was a Bachelor's degree 3 (9%), then Doctoral degree 3(9%) and the majority had a Master's degree at 24 (73%). Keyes as cited by Ismail and Yusof (2009:2) stated that the lower the education level, the less likely persons would share knowledge. This study purposed to survey the academic staff as it was assumed all of them would have high qualifications as the results indicate and hence be in a position to provide relevant information for the study. It was also discovered that majority of the respondents were still taking courses to move up to the next level of education. These progressions in education will be more vital if MIUC was to implement KM as its employees are gaining more knowledge and if shared will increase the organisation's knowledge base.

The majority of the respondents were lecturer's (24, 73%). Even though according to Ismail and Yusof (2009:2) job position has no significant impact on knowledge sharing behavior, senior employees often act as mentors to junior

employees. In most cases, knowledge sharing often occurs in mentoring relationship. For this to happen though, strategies have to be put in place.

5.2.2 Knowledge management processes

Knowledge management involves a number of processes that govern the creation, dissemination and utilization of knowledge to fulfill organisational objectives (Adhikari 2010:97). One of the aspects that this study set out to determine at MIUC was KM processes. In general, the assessment looked into the creation, identification, capturing, transfer, accessibility, sharing, storage and usage of knowledge at MIUC.

A questionnaire matrix (see appendix A) was used to ask respondents about the various KM processes and the study revealed a major disparity in the responses given. While some agreed about the existence of some processes others felt the lack of the same. This could be attributed to the lack of a KM strategy in place that can be used to make the processes work in favor of MIUC hence be recognizable to all. As a respondent commented, "lack of a proper and formal knowledge and information management system undermines greatly the creation, storage and retrieval of information" (4.3.1.2 i). This view is well reflected in the responses acquired. (Adhikari 2010:101) on the other hand believes that focus in universities is on recycling old knowledge rather than generating new knowledge thus the lack of formalising the processes. The findings supported what Dalkir (2011:65) and Loh et al. (2003:9) (see chapter 2 section 2.2.1) said that KM processes do exist naturally in a university setting as MIUC was found to have significant KM processes as established in Table 4.3.

a) Knowledge Creation

Dorri and Talebnejod as cited by Siadat et al. (2012:846) expressed that one of the most important missions of universities today is knowledge creation. Marks (n.d.:2) emphasised this by saying that the concept of knowledge creation should be a self-evident function of a university. Marks (n.d.:4) further stated that it is only after knowledge creation that it can be reproduced through education and

training and translated into applications in the worlds of government, commerce, policy, medicine and health, as well as in changing social mores and political preferences. The survey showed that the majority of MIUC academic staff (79%) indicated that they do create knowledge (4.3.1.1 a) even though it was not determined in this study the exact knowledge that is being created. It would be difficult for MIUC to have a reflection of this created knowledge as despite the stated high percentage, only 39% claimed to have contributed their work into the institutional repository (4.3.1.1c). The implication in this case is that a lot of the created knowledge cannot be easily accounted for nor is it easily accessible for use perhaps because it is in publication that have not been made available at MIUC. Limited access to ICT for some of the employees may also have posed a hindrance to sharing and accessing their publications via institutional repository. Knowledge at MIUC is predominantly created for research as it is generally a requirement for one to advance professionally. This can be attributed to the lack of a common goal with regard to knowledge creation at MIUC.

The study further revealed that not all employees at MIUC are involved in contributing ideas for the running and growth of MIUC (4.3.1.1b). According to Siadat et al. (2012:850), "the organisational level, employees' participation in organisational decision making is the sign of the existence of appropriate social capital. Social capital includes those relations among people that facilitate interactions." Interactions enhance knowledge creation and innovation in the long run hence it is crucial that all employees get a chance to contribute ideas. In order to improve this, an avenue should be provided. Unlike the scientific knowledge that academics produce as an obligation, the contribution of ideas presents to an organisation the opportunity to capture tacit knowledge which is much desirable. A respondent mentioned that "democracy should be embraced where employees are involved in decision making regarding contribution of ideas for the running of the college irrespective of the cadre [on] an employee" (4.3.1.2ii). MIUC has a major role to play in encouraging and supporting all its employees to create knowledge. It is not only research which is majorly conducted by the academic staff that needs support but also readiness for MIUC to allow the flow of ideas.

Snowden (2002:5) noted that in the third generation [of knowledge management] we grow beyond managing knowledge as a thing to also managing knowledge as a flow. This is not to mean that knowledge should not be looked at as a thing as was the case in the second generation. Snowden (2002:6) suggests that properly understood, knowledge is paradoxically both a *thing* and a *flow*.

While interviewing members of MIUC management, they also brought out the relevance of knowledge creation at an academic institution by the majority (44%) mentioning it as the most critical KM process (4.3.1.3a). This relevance was brought out with statements such as: "creation defines an academic institution" and that the process "requires a lot of initiative" (4.3.1.3ai, iv). Through knowledge creation, we find innovation which may enhance competitive advantage. An interviewee emphasized this by saying that, "knowledge creation involves research which is vital for innovation" (4.3.1.3aiii). Generally, the members of management found MIUC not to be as innovative as it should be. It was cited that MIUC is "conservative" and "still at its foundation stage hence still setting up mechanisms to support innovation" (4.3.1.3b). Much of the innovation that was highlighted was linked to the growth and development of the buildings; programs and student population (refer 4.3.1.3b) but not necessarily to the knowledge output. Hence MIUC can be said to have concentrated on product innovation and not process innovation which encompasses knowledge and consequently essential in KM.

The leaders suggested various ways that knowledge can be generated at MIUC (4.3.1.3c). It stood out that MIUC requires policies that will enhance research production that includes supporting the employees including non academic staff members who "need to be brought on board in terms of training and developments" and also "collaborative linkages with external institutions should be enhanced." The need for relations is therefore needed during knowledge creation. (Siadat et al. 2012:865) on the other hand stated that using educational group techniques such as team work and group projects and also increasing group learning in the framework of work processes at university can both empower trust

networks and make knowledge creation. An academic staff commented that "marist needs to fund research and publication to increase knowledge creation and capturing" (4.3.1.2 iv). This is echoed by some leaders who suggested research grants, rewards and promotions, training of staff and holding seminars as a way to encourage knowledge creation (4.3.1.3c ii,iv,v).

An employee commented that "whilst knowledge is created there is no formal well thought out mechanism for its storage, dissemination and evaluation" (4.3.1.2 iii). Knowledge creation goes with capturing. The lack of mechanisms to capture knowledge leads to loss of it. This could also drive a wrong message to the academic staff hence encourage the self creation and keeping of one's own knowledge. The need for a KM strategy to help enhance this hence becomes imperative.

b) Knowledge Identification

Perez-Montoro (2004:2) finds that in order to identify knowledge in an organisation one has to first define the real knowledge which contributes to the achievements of organisations' goals. Perez-Montoro (2004:5) further says that it makes no sense to talk about managing if we do not acutely know what we are managing. This sentiment is shared by Morrissey (2005:6), who stated that a firm must first identify which knowledge and information is most critical to the success of the firm. Without identification of knowledge then there is basically no knowledge to be managed.

MIUC is flooded with a lot of data, information and knowledge hence to make good use of its intellectual capacity calls for identification of relevant knowledge. This study therefore needed to find out if significant knowledge is identified at MIUC as part of the KM processes. The majority of staff (46%) seemed not to know if significant knowledge is identified at MIUC (4.3.1.1d). Identification of significant knowledge ought to be a formal and open activity known to all employees. This can help everyone at MIUC to be more aware of knowledge sources and hence easier to access and use that knowledge.

Upon interviewing members of MIUC management, it was pointed out that: "individual potentials have not yet been discovered from the staff" (4.3.1.3diii) and that "few experts especially subject experts are known but effort has not been made to identify other tacit knowledge that MIUC has from employees" (4.3.1.3e). These views hold up what was expressed by the academic staff about lack of identification of knowledge and expertise. Nevertheless, 33% of the employees (4.3.1.1d) and 33% of the MIUC management (4.3.1.3e) approved that knowledge is identified although the study found that the current identification of expertise at MIUC was too formal, that is, "identifying subject academic staff experts while sharing in workshops and identification that is done through interviewing process during employment" (4.3.1.3e). These methods maybe insufficient to identify real knowledge as KM emphasizes on capturing tacit knowledge which should be recognised through interactions and collaborations. Furthermore, it is likely that only those employees who are bold with expressing what they know are the ones who get to be known. Not much has been done to purposely identify real expertise from both academic and non teaching staff.

In line with that, it was also noted in the study that the quality assurance office was highly cited by MIUC management as being the office in charge of identifying expertise. They pointed out that this is done through appraisals, interviews and establishing of policies (4.3.1.3l). Generally, it was realized that MIUC makes good use of the few internal experts who are already known but it was also found that not all expertise have been identified (4.3.1.3n). Wijnhoven (2003:195) mentioned that people do not express (represent) how they do the job, and may also not be successful in explaining their success. It is therefore difficult to identify knowledge through a one off activity like interviewing.

Some of the methods that can be used to identify knowledge include the knowledge gap analysis (see 2.3.2) and knowledge mapping (see 2.3.3). A knowledge gap analysis enables an organisation to check what knowledge is needed and what is available. Knowledge mapping on the other hand enables an organisation to identify who has and where knowledge is in the organisation

(Ebener et al. 2006:640). Knowledge mapping also has the potential to increase the involvement of the key stakeholders in the process, enabling them to influence it and therefore to ensure more effective outcomes. According to Ebener et al. (2006:636) it helps us to understand how knowledge flows and where the assets and the gaps are. Hellstrom and Husted (2004:166) argued that knowledge mapping may provide a fruitful solution to the problem of how to manage and co-ordinate the increasingly complex environments of academic departments.

c) Knowledge Capturing

One of the first steps in designing a knowledge capture initiative is figuring out which employees possess knowledge that would be impossible or very difficult to replace should they retire, move on, or are absent for a long period (Hylko 2005). Knowledge capturing hence goes in hand with knowledge identification. An interviewee pointed out that "capturing knowledge is a critical process because if not, there will be no knowledge to store or use" (4.3.1.3a, v).

Looking at the levels of agreement and disagreement about knowledge capturing, the results seem to indicate a general lack of awareness among the academic staff about knowledge capturing activities at MIUC. The majority (52%) felt that mechanisms have not been put in place to capture informal knowledge (see 4.3.1.1e) which has been found by various authors to be valuable. Knowledge can be captured while employees are working and also when they are leaving employment. Capturing expert's knowledge while on job received inconsistent responses with the majority, 31% selecting neutral (4.3.1.1f). The study established that it was not easy to capture knowledge without certain conditions some of which were raised by respondents (4.3.1.1d) as: "knowledge can be easily acquired though requires resources to be mobilized", "it is easy to acquire knowledge from individual employees but depends on ease of relating with them" and "it is fairly difficult as there are no mechanisms in place to tap the knowledge". These clearly indicate that there is insufficient motivation to enhance knowledge capturing. Employees also look at what gain they will get by giving

their knowledge hence MIUC is challenged in capturing knowledge and has to put mechanisms to encourage knowledge sharing.

Capturing expertise knowledge while they are exiting is also of importance as it's vital to retain their knowledge. There was an indication of uncertainty with only 18% of the academic staff affirming that there are systems to capture expertise knowledge while exiting (4.3.1.1g). Adhikari (2010:97) stated that the aim of knowledge retention strategy is to maintain the knowledge base of the organisation. This knowledge is vital to the present performance of the organisation and so it must be maintained. Some members of MIUC management were of the view that "MIUC has no mechanisms for absorbing individual knowledge into organisational knowledge" and that there are "no strategies for retaining knowledge from an employee who is leaving" (4.3.1.3m). This implies that vital knowledge is lost at this point.

d) Knowledge Transfer

An important process of knowledge management in organisational settings is the transfer of knowledge to locations where it is needed and can be used (Alavi and Leidner 2009:39). Ozga (2007:63) found that knowledge transfer (KT) is the emergent 'third sector' of higher education activity—alongside research and teaching. In an academic institution there is need to transfer ideas and best practices not only within the institute but also ideas found in research should be transferred to the outside world (economy) and to students as expressed by Louidor et al. (2008:1409) when they stated that transfer of knowledge includes the dissemination of new research to society and imparting knowledge to students that will prepare them for their chosen career path.

This study found that MIUC does not have sufficient methods of transferring knowledge (4.3.1.1h) and this could be detected by the varied responses that were given by the academic staff. A majority of the academic staffs (37%) were neutral and a further (30%) seemed not to agree that there was a formal process of transferring best practices (4.3.1.1l). These findings could imply that knowledge

created is not transferred for use. Ozga (2007:66) states that KT requires the consolidation of, and agreement about what constitutes knowledge-before knowledge can be transferred or applied to a problem.

Knowledge transfer faces challenges as expressed by various authors as cited by Jacobson et al. (2004:249) who found that the value placed on traditional academic output, in combination with the limited number of hours in a day, causes knowledge transfer to be ranked low on the priority scales of individuals and academic units. This means that majority of academicians and/or organisations place more emphasis in knowledge production and not necessarily transfer of the knowledge created. This could be a challenge that MIUC also faces. The danger then is that knowledge remains with the creators and possibly in silos.

The promotion and organisation of KT may be a key policy development in aligning higher education more closely with the knowledge economy (Ozga 2007:63). According to Jacobson et al. (2004:251), to facilitate this new kind of work, universities must make structural and organisational changes that promote three kinds of activities: communication between the producers of knowledge and the users of knowledge, brokering and negotiation of knowledge transfer arrangements and the delivery of knowledge. Jacobson et al. (2004:256) finds that KT is a mutual, reciprocal process. Users and user organisations as well face internal, structural barriers to their engagement in knowledge transfer thus they too should be examined and, where necessary, transformed.

e) Knowledge Access

The process of knowledge access should be made easy as it is crucial for individuals to access knowledge created. In an academic institution there is explicit and tacit knowledge. Explicit knowledge becomes easier to access as it is documented. Tacit knowledge places a challenge in terms of access. As Ruggles (1998:85) expressed, while repositories and their affiliated search and access tools are useful for finding nuggets of corporate wisdom that have been codified, there

is a great deal of corporate knowledge that remains uncodified. As such, it is also extremely useful to be able to find expertise still embedded securely in the mind of the expert.

MIUC employees indicated that organisational knowledge is not easily accessible to all (4.3.1.1j) as only 39% of the respondents affirmed that it was easy to access knowledge. With difficulty in accessing knowledge comes difficulty in usage and hence possibility of duplication of tasks and lack of growth of organisational knowledge base. As much as technology should be available to enable access to documented knowledge, there should also be platforms to allow direct interactions among employees in an organisation to enhance access to uncodified knowledge, for instance through communities of practice.

f) Knowledge Sharing

Lee as cited by Ismail and Yusof (2009:1) defined knowledge sharing as a deliberate act that makes knowledge reusable by other people through knowledge transfer. In an institution of higher learning, knowledge is broadly shared albeit at MIUC it is not through formal means as was discovered in this study. Cheng et al. (n.d:322) states that effective knowledge sharing is essential for the organisation to benefit from the knowledge its employees have generated. Kumaraswamy and Chitale (2011:309) found that effective knowledge sharing enhances individual learning. Knowledge sharing therefore has benefits for both the individuals and the organisation at large.

According to Kumaraswamy and Chitale (2011:310), the only way to enable sharing of knowledge is by bringing people together through collaboration. Therefore developing individual and team competency through collaboration is the key to effective knowledge sharing. Communities of practice (CoPs) are one of the ways through which collaborations can be enhanced in an institution of higher learning. The study by Shoham and Perry (2008) (see chapter 2 section 2.7) for example indicated how CoPs can play a pivotal role in enhancing collaboration in universities. This study revealed that the majority of the

respondents (67%) were of the agreement that they consult with other staff from various departments while working (4.3.1.1n). Some of the questionnaire respondents mentioned in the comments that "i put my lesson notes (handouts) available for use by other lecturers" (4.3.1.2v), "we share information in MIUC without restriction" and "academic workshops are organised once in a while that enhance knowledge sharing." (4.3.1.2). These views show that employees have various ways which they consider to be the means of sharing knowledge but none of these ways have been formalized and/or made consistent to enhance collaboration at MIUC.

From the above comments we as well realize the need to define the knowledge to be shared in KM. Is it the handouts, information shared daily on the corridors or research shared in workshops among others? This was also pointed out by some members of MIUC management who said "Knowledge is broad and hence there is need to define because employees do share on a daily basis" (4.3.1.3di). It was also reflected in another comment when interviewees were asked whether it was easy to share knowledge, one pointed out that it "depends on the kind of knowledge one is looking for, for instance, is it a specialty or just information" (4.3.1.3dii). It is clear that an academic institution handles a lot of data, information and knowledge on a daily basis and hence the need to distinguish which is relevant for KM. It then becomes easier to point out the particular knowledge to be collaborated at MIUC.

The results also show that both explicit and tacit knowledge are referred for sharing. According to Cheng et al. (n.d:314), there are two ways of knowledge sharing, that is, closed-network sharing (person-to-person sharing) and open-network sharing (sharing through a central open repository). In the closed sharing model, individual has the freedom to decide the mode of sharing and choose partners to share his or her knowledge. This type of interaction allows more personal touch and more directed sharing is expected. Many factors would explain the success of the sharing activity in this model, including personal relationship and trust. While discussing knowledge access (see 5.2.2e), it was established that

knowledge can be accessed that is stored in systems and through interactions which is the same as the methods of sharing as described here by Cheng.

Some of the respondents were not in agreement about knowledge being shared at MIUC as reflected in what they said: “there is no sharing of knowledge between departments”; “most shared knowledge at MIUC is for students” and “at MIUC knowledge is from top to bottom and this hinders knowledge sharing” (see 4.3.1.2ix). These same sentiments were echoed by members of management in their comments: “sharing of knowledge is critical because people have tacit knowledge and fear that if they share their position may be threatened” (4.3.1.3avi) and that it is “very difficult, people are reserved to share what they know as knowledge is considered power” (4.3.1.3dix). We can therefore establish that sharing of knowledge faces obstacles. Cheng et al. (n.d:313) confirms this by saying that knowledge is the “power”, holding knowledge is similar to holding the competitive power of the new economy. Antal and Richebe (2009:78) were also of the view that knowledge is often conceived of as a marketable good that can be paid for, stored, and accessed by third parties in a market exchange mode. In this mode, individuals share their knowledge with others only if they see a direct return on their action.

With regard to trust in sharing information, it was found that it was easy for employees to share within the various groupings in the college and trust of knowledge being shared was present during workshops and seminars (4.3.13f). The majority of respondents said that knowledge sharing is very much encouraged through organisation of workshops and even there are policies in place to support but the employees don’t get support to share knowledge (4.3.1.3g). This can be said to be a rigid form of knowledge sharing as it’s all too formal.

These obstacles raise the need to have strategies for sharing knowledge with ease. One of the respondents for instance suggested that “awareness for sharing knowledge in MIUC needs improvement” (4.3.1.2x). Members of the MIUC management also provided suggestions that can help MIUC enhance knowledge

sharing as highlighted in section (4.3.1.3h) and important to note is that KM initiative was mentioned as one of the avenues.

Wen as cited by Mavodza and Ngulube (2012:6) on the other hand observed that an organisational culture for sharing of knowledge and expertise should be established with appropriate rewards and incentives. Those staff members who share their tacit knowledge and experiences through writing, publishing, lecturing, tutoring, or mentoring should be appropriately recognised and rewarded. A study by Cheng et al. (n.d.) supports this as it found that incentive systems and personal expectation are the two key factors in driving academics to engage in knowledge sharing activity.

g) Knowledge Storage

One aspect of knowledge management is the management of the organisation's memory, rather than leaving the re-utilisation of memory to the chance of whom one organisational member happens to know or come in contact with (Alavi and Leidner 1999:35). A study by Shoham and Perry (see Chapter 2 section 2.7) found that it was key in KM to have a central repository. According to Ruggles (1998:84), repositories essentially capture data, information, and knowledge in forms and through processes that enable access throughout the company. Over time, these repositories contribute to the maintenance of the firm's shared intelligence and organisational memory. A view that is shared by Louidor et al. (2008) who said that using a repository will store past knowledge which will improve efficiency in an academic unit.

Critical knowledge must be stored in a location and format which can be easily found and accessed by users (employees or other external stakeholders (Morrissey 2005:6). The academic staff with the majority of 43% disagreeing gave the impression that knowledge created at MIUC is not easily found (4.3.1.1i). A respondent mentioned that 'Dspace software is available to gather all institutional information' (4.3.1.3i, iii) and from these results it appears that there is a high level of unawareness about the repository.

Some respondents pointed out the relevance of storage at MIUC by stating that storage of data like registration of student data which is currently scattered is critical. Data about vacancies was also found crucial (4.3.1.3a, vii). This indicates the need not only to have academic work stored but also administrative information is of concern to MIUC. Even with this realisation, no mechanisms have been set as it was pointed out "there is no mechanism for storing the explicit knowledge to be shared." (4.3.1.3d, vii).

Cheng et al. (n.d:316) states that it has always been a practice in almost all higher educational institutions to store all relevant documents contributed by in-house resources in the knowledge repository or the database. Storing information is not new in universities, but what is new is to share the available knowledge and to allow members to utilise the information generated within the community. MIUC still has a lot to be done with regard to storing in-house resources.

h) Knowledge Usage

Knowledge is the beginning of action, and action is the end of knowledge; a beginning without an end is futile, and an end without a beginning is absurd (Rosenthal: 2006:247). An important aspect of the knowledge-based theory of the firm is that the source of competitive advantage resides in the application of the knowledge rather than in the knowledge itself (Alavi and Leidner 2009:45).

Morrissey (2005:6) says that even if a firm has successfully collected, stored and organised critical firm knowledge, potential users of such knowledge must be made aware of its existence and encouraged to contribute and use knowledge within the firm's knowledge repository.

This study found that MIUC has not put to use knowledge that has been gathered, for instance, "student research stops at supervision level, no one is able to identify the innovative ideas in the projects" (4.3.1.3i, vi). From the survey, it was found that 64% of the teaching staff acknowledged that they put to use knowledge created at MIUC (4.3.1.1m). In the previous discussions it was revealed that much of the created work at MIUC is not well captured and stored hence use of the

knowledge is limited. It is vital that all employees at MIUC make use of available knowledge but this can only happen if the knowledge has been well stored, made easily accessible and with availability of avenues to share tacit knowledge. Morrissey (2005:6) emphasizes that users can drive innovation by building upon knowledge created by colleagues.

A major challenge in knowledge application in organisations is the absence of a collective mind and a central memory (Alavi and Leidner 2009:45). This is not unique to MIUC as reflected in some interviewees responses: "MIUC employees are willing to share information but the respondent cited that there is no mechanism for storing their explicit knowledge to be shared" (4.3.1.3dvii) and that, "most knowledge is verbal and neither recorded nor retained hence difficult to be re-used" (4.3.1.3dviii).

In summary, we find that MIUC has KM processes although there is no strategy guiding efficient flow and use of the processes. It is also evident that all the processes are crucial for KM to work as they all depend on each other to exist hence the processes form a cycle. Attention must therefore be paid to ensure that all processes are feasible.

5.2.3 Knowledge management leadership

Responses to the statements provided to the academic staffs on leadership were inconsistent reflecting a broad outlook on this aspect as can be seen on Table 4.4. This could be taken to mean a lack of knowledge or awareness in this regard. To establish and maintain the surrounding conditions is the task of the management of an organisation (Hussock 2009:33). It is true in every organisation that leaders set the examples for others, therefore it is assumed that leaders have direct impact on how the companies should approach and deal with knowledge management processes as well as practices (Singh 2008:7).

Management support is the most important factor of systematic knowledge management according to Omerzel et al. (2011:114). The importance of leadership was discussed in chapter 2 section 2.6.4 of this study highlighting it as

one of the critical success factors in KM implementation. (Omerzel et. al. 2011:118) finds that the greatest challenge to modern HEIs is to meet the needs of the academic staff who are simultaneously developers, users, and bearers of high level knowledge, and generators and learners of new knowledge. A study done by Martin and Marion (2005) found that the leader has tremendous control over the knowledge-processing environment and the role of leadership has broader influence than the resolution of knowledge gaps. Therefore, leadership plays a pivotal role in KM initiatives and consequently was assessed at MIUC.

The assessment on KM leadership at MIUC realised that there was no formal way of linking knowledge to processes as expressed by some of the interviewees who said that "work flows are ongoing without necessarily providing a formal link of knowledge and the processes" (4.3.2.3ai) and that "it does but to some extent" as said by 2 of the respondents (4.3.2.3aiv). In his study on role of leadership in KM, Singh (2008) concluded that all the dimensions of knowledge management practices have been found to be negatively and significantly related with directive style of leadership but positively and significantly associated with delegating style of leadership. Leaders are therefore expected to infuse the right kind of leadership that can enable clear indication of KM in an organisation. MIUC scarcely has indicators that link knowledge to work flows (4.3.2.3).

For sustained growth of an organisation, the study found that it is important to keep experience and knowledge in organisational memory (see 5.2.2g). Intellectual capital will be destroyed if the organisation fails to store and preserve it (Adhikari 2010:96). With only 52% of the questionnaire respondents agreeing that MIUC recognises intellectual capability, the other academic staffs seem not to be aware (4.3.2.1b). According to respondents, this recognition of intellectual capacity is done in some ways such as through evaluating and promoting individuals or giving them more responsibilities (4.3.2.3b). It is not enough to evaluate and promote without capturing and storing the relevant knowledge. To store that knowledge requires a deliberate realisation of the tacit knowledge existing at MIUC and yet this intellectual capacity has not been entirely

identified. In fact, there was an indication from the leaders that one's knowledge is determined during interviews while recruiting. Jafari et al. (2013:233) found that the individual's appointment in the appropriate positions is important because if the employees are appointed in the appropriate and proper positions, the knowledge may be created conveniently. Although in KM, it is not sufficient to identify knowledge during recruitment as tacit knowledge is acquired through interactions and hence leaders need to find a way of identifying and capturing that.

In the face of a globally expanding and highly competitive knowledge-based economy, the traditional organisations are urgently seeking fundamental insights to help them nurture, harvest and manage the immense potential of their knowledge assets capability to excel at the leading edge of innovation (Adhikari 2010:95). The majority of questionnaire respondents (61%) agreed that knowledge was key to the organisation strategy at MIUC (4.3.2.1c). The rest were unsure or disagreed which indicates the lack of awareness about the relevance of knowledge management at MIUC. It is absolutely necessary for the leadership to apply on this aspect so as the rest of the employees are brought on board. This need was expressed in a comment that stated "in MIUC there is need into getting started in knowledge management" (4.3.2.2iv). The leaders therefore need to respond by allowing KM initiatives to take off and providing support.

It was as well recognised that there was no formal way of evaluating employees for knowledge generation and sharing (4.3.2.1d). Leaders ought to conduct evaluations based on knowledge input from employees and not just academic pursuits as pointed out in this view "management's focus on knowledge is essentially all about academic knowledge leadership with emphasis on the staff to continue with their academic pursuits"(4.3.2.2vii). Support on academic pursuit and getting academic and professional certification is vital for an individual's growth but it lacks the aspect of organisation learning when knowledge is not captured and shared.

The results also suggested there was some compensation but not all employees are compensated for knowledge generation (4.3.2.1e). This in itself can be considered as bias by some employees and hence be a hindrance to knowledge sharing. Omerzel et. al. (2011:114) states that the goal of knowledge management is not knowledge itself, but rather the management of human resources who possess such knowledge. It is therefore imperative that all employees who generate knowledge are considered during promotions and compensations. It is even more effective for the leaders to put in place measures that would encourage knowledge generation and sharing.

Lack of a clear vision for KM could also be established in the results (4.3.2.1f). The leadership has a huge role to ensure a clear vision for KM to succeed. Without a vision, the initiative is doomed to fail. Besides the vision, there is need to have knowledge champions to provide leadership in various KM initiatives. The study found that there could be a few enthusiastic employees but this has not been clearly established (4.3.2.1g). "MIUC needs improvement on knowledge champions" (4.3.2.2v). The MIUC members of management will not be able to run the various tasks but rather should provide support. They should play a role in the identification of knowledge champions. According to Singh (2008:6), the general beliefs of the 1980s and 1990s that organisations need only one knowledge leader to make the process work successfully is erroneous in the context of present day global world order. On the contrary, the thinking is such that the knowledge leadership should be evident throughout the organisation and it should operate at all hierarchical levels.

KM calls for interactions across board. According to Adhikari (2012:98), a large part of KM is simply about facilitating the natural interactions between people. This refers to the groups of individuals with common interests and problems and who are dispersed throughout the organisation. The results in Table 4.4 suggest that this is yet to be achieved at MIUC. The results for instance, indicated that there was minimal interaction between the leaders and employees (4.3.2.2). Majorly, meetings provided the avenue for interactions between employees and

the leaders. “There are staff meetings but most things being discussed are already decided upon” (4.3.2.3viii). Morrissey (2005:12) argues that meetings can only be conducted on an infrequent basis, thus limiting the benefit of frequent interaction. Meetings only take place during scheduled meeting times, rather than during more pressing times when employees may have a greater need for interaction. Dillon (2002:329) adds that in a well-run organisation, all minutes of all meetings would be placed in a managed repository and made accessible to those that need to know the results of the meeting. Meetings are rather too official and it will be paramount for MIUC leaders to find additional informal ways of interacting with employees in order to fully bear fruits of KM. providing an environment that encourages natural interactions would be very ideal.

With regard to teamwork, the majority of the academic staff agreed that there is a significant amount of teamwork being promoted at MIUC (4.3.2.1i) that needs a bit of boost to involve all employees and leaders. Despite this, the results further established that the culture of openness was not fully achieved between leaders and other employees (4.3.2.1j). “Dissemination of knowledge is weak from leadership” (4.3.2.2vi). As teamwork is being promoted, there should be openness among the employees to enhance sharing.

Another aspect of leadership would be providing motivation. The results suggested that not all employees are motivated to create and share knowledge (4.3.2.1k). There was no clear way that MIUC supports its employees to create knowledge. Some policies are said to be available but they are not as functional (4.3.2.3d) and not well adopted. It was also found that there was very minimal support for sharing knowledge (4.3.2.3e). The quality and the quantity of work of an employee are influenced by mainly two important factors: the individual skills and willingness to use them. Therefore it should be in interest of each organisation to encourage both of them especially through motivation (Hussock 2009:32). There should be incentives for commitment for those who have been engaged in teaching activities (Adhikari 2010:102).

Leadership role thus is critical if a higher education institution intends to create a KM initiative. In a study by Kok (2003:2) the drivers for good leadership in knowledge management were highlighted as:

i. Management of organisational knowledge is recognised as being central to the organisational strategy.
ii. The organisation grasps the potential of its knowledge resource and develops strategies for marketing it.
iii. The organisation uses knowledge and learning to support existing core competencies and to create new ones.
iv. Individuals are appointed, evaluated and rewarded on the basis of their contribution to developing organisational knowledge.

The above drivers were addressed in the assessment as knowledge vision, knowledge being key to the organisation, recognition of intellectual capacity, identifying and managing knowledge, promotion of knowledge sharing and usage and, motivation and compensation for employees to share knowledge.

Evidently, the discussion shows that not enough has been done to support KM by MIUC leadership.

5.2.4 Knowledge management culture

Organisational culture is a fundamental factor in knowledge management implementation. Just like KM leadership, it is a critical aspect in the successful implementation of a KM initiative (see 2.6.3). Organisational culture is a set of values, opinions, norms, and perceptions people have in common according to Matin and Kashani (2012:625). Rowley (2000) (see Chapter 2 section 2.7) finds that culture and values of an organisation must be changed for effective KM. Further (Matin and Kashani 2012:625) stated that a fundamental change in organisational culture and behavior is one of the main pillars of knowledge management.

To design, develop, implement and embed a culture of KM in an organisation however is complex and always involves change (Nunn 2013:133). It is noted

widely that one of the major obstacles to successful knowledge management in a corporate setting is the culture of the organisation. Cultures resist change; that is one of their dominant features (Dillon 2002:329). The study looked at the cultural perspectives of MIUC academic staffs and members of MIUC management in regard to the culture of collaboration, trust, sharing, discussing work, communication, freedom of expression, value of their opinions, learning culture, policies and openness.

Collaboration is the formal sharing of ideas, thoughts, and opinions centered on arriving to agreement (Hussock 2009:28). In KM, collaboration enhances organisational learning. The study revealed that a majority (49%) of the questionnaire respondents agreed that there was willingness to collaborate across departments by the academic staff (4.3.3.1a). From interviews, collaboration was said to be found to be contained within departments and the various levels of staff (see 4.3.3.3a) which is in line with what the academic staff highlighted. All employees should not only be willing but be encouraged to develop the culture of collaboration. Collaboration across the various levels should also be enhanced. According to Oliver and Kandandi (2006:14), the senior management should be actively involved in the evangelisation of KM process and convey that knowledge creation and sharing is highly valued in the organisation.

Institutional culture is a crucial aspect for facilitating sharing, learning, and creating knowledge. An open institutional culture is required with incentives to promote integrating individual skills and experiences into institutional knowledge (Adhikari 2010:101). It was noted that “people are ready to cooperate once they know they will gain from it” (4.3.3.3a, vi) hence motivation should be expensed to promote the development of KM culture.

If there is no trust among people in the exchange and sharing of knowledge, they cannot easily acquire and decode knowledge from social sources (Siadat et al. 2012:865). The results on whether there was general trust indicated the majority neither agreeing nor disagreeing (4.3.3.1b). This could be interpreted to mean that

there is unsatisfactory trust. According to Hussock (2009:23), trust should be underlined by following clear and fair rules and policies and that 'incentives for contributing' will be real. Any form of bias can drastically derail the culture of trust.

The study found knowledge sharing culture to be inadequate at MIUC (4.3.3.1c). A culture where employees are encouraged and supported to share and re-use knowledge in general should be created (Omerzel et. al. 2011:113). People may be natural knowledge sharers, but within organisations there are competing motivations between loyalty to the organisation, loyalty to the team, and loyalty to one's career (Hussock 2009:30). These may cause a huge hindrance to knowledge sharing as knowledge has been said to be power. The knowledge people share willingly could not be the most lucrative and hence a need to provide incentives.

With regard to discussing work related issues, the majority (58%) affirmed that they consulted their colleagues when they had difficulties (4.3.3.1e). Discussing enhances collaboration and may be helpful in identifying potential solutions to likely problems arising while at the work place. It should therefore be in the interest of MIUC to establish why not all employees do not share work related issues despite the enhancement of services that could offer and also help reduce duplication of work.

Promotion of communication among the employees was found to be there to some minimal level (4.3.3.1f). As communication between employees contributes to the transfer of knowledge, it is necessary for the organisation to create a culture which encourages communication (Omerzel et. al. 2011:115). Barely half of the respondents were confident that they can freely express their opinions (4.3.3.1h). Without this freedom it is difficult for an organisation to grow as it is argued that tacit knowledge is vital. An example of the barrier to expressing of opinions is by a respondent who said "disgruntled employees are muzzled for fear of reprimand hence unable to share" (4.3.3.2vii). There is need to make employees feel at ease to express ideas and opinions. On the other hand, it is not enough to let employees

feel free to express their opinions but rather they should feel and see that it is valued. The results in section (4.3.3.1i) indicated that a large number of the employees felt that their opinions were not valued at MIUC. This could lead to employees closing up and hence knowledge not shared.

Learning culture was found to be scarce as not all employees agreed to having it at MIUC (4.3.3.1j). "Employees seem eager to learn, strategies to institute learning and formalize it may be rather lacking or too narrowly focused" (4.3.3.2iv). The views given by the management suggested that not much has been done to institute a learning culture at MIUC (4.3.3.3) which corroborates the feelings of the academic staff. It was found though that some staff took initiative for their own learning. There is need to institute a learning culture to enhance the knowledge base of the organisation. The existence of a learning culture was found to be scarce as not all employees agreed that it did exist at MIUC as expressed in section 4.3.3.1k. The majority of the interviewees agreed that "policies were available but they were not functional" (4.3.3.3e). This poses a challenge as without functional policy, employees lack guidelines that will help them develop a learning atmosphere.

A significant majority (88%) of the respondents affirmed that they took on responsibility for their own learning (4.3.3.1l). This response can be expected firstly because it is an academic institution and secondly because academicians may not want to be seen as lazy. This culture of learning is expected to grow from collective individual efforts hence it's important to institute an environment that allows individuals to learn. It was expressed that "the majority of staff take their own initiative for their learning but the management supports few of the employees" (4.3.3.2iii). An aspect of bias and/or the thought of its existence need to be eliminated in order to build this culture. In a study by Oliver and Kandadi (2006:15) it was stated that organisational rewards motivate employees towards knowledge sharing and foster a knowledge culture. In as much as some employees take the initiative to learn, they may not be willing to share the knowledge unless support is given to them.

As for culture of openness, some employees felt that trust and openness exists at MIUC while others did not, hence the need to foster it (4.3.3.1m). It was expressed that "culture of openness is fairly below average" and that "culture should be enhanced" (4.3.3.2). On the other hand, the MIUC members of management expressed that majorly "it depends on the various employee levels in the organisation" (4.3.3.3dv) and that "one is open once and only if they feel trusted and hence they become creative" (4.3.3.3dvi). This means that much has to be done to enhance sharing among all employees regardless of their level.

5.2.5 Knowledge management technology

It is a common myth that KM and IT are conceptually interchangeable. However, KM means much more than IT and it is crucial to view them as mutually exclusive. This is because an organisation does not have to employ IT for it to manage some of its knowledge assets (Egbu and Botterill 2002:125). In fact, Ruggles (1998:86) points out that if technology solves your problem, yours was not a knowledge problem.

Despite these views, technology has been identified as a critical success factor in KM (see 2.6.5) especially with regard to aiding interactions among humans. This can be especially appreciated in organisations that are spread out over in different locations yet in need of the same kind of knowledge. Most authors deem technology to be an enabler in KM. Morrissey (2005:7) finds that information technology has provided new tools to better perform the activity of building knowledge capital. He further emphasises that while recent history demonstrates the importance of information technology to the field, it is important to remember that KM is a business process. Technology is an important enabler of KM, but it is only one such component of an integrated knowledge management system. This view is supported by Adhikari (2010:101) who pointed out that social relations, networking and interaction are the main elements for implementing KM practices at our institutions. Information technology is never a substitute for these elements. Therefore, a 'good fit' between information technology and social relations is required.

Results found in section 4.3.4 generally indicate a good effort made by MIUC in setting up IT infrastructure in terms of computer and internet setup. In chapter 2 section 2.2.2.4 we found that universities generally provide IT infrastructure for its students and staff. According to Morrissey (2005:14), KM technologies include storage tools, search and retrieval tools, collaboration tools and communication tools. The provision of basic computer and internet alone may not be sufficient to enhance collaboration. Respondents were therefore surveyed on IT with regard to what they thought about the IT infrastructure, speed, accessibility, the role IT plays in KM, real time technology and storage.

The results revealed that the majority of the academic staff (76%) affirmed that MIUC has proper infrastructure that can support knowledge sharing (4.3.4.1a) although internet connectivity was indicated by some as a problem. When asked to comment, we had a few comments that suggested other tools beside computers as part of the infrastructure being used to communicate. Some shared that more IT tools are required that can enhance KM as expressed in these statements: "I appreciate the use of internet and presence of telephone in place" and "many other facilities that promote and enhance ICT infrastructure are missing" (4.3.4.2v). This indicates that use of tools like internet and telephone is not enough technology for the staff to collaborate efficiently.

Respondents shared the same sentiments about availability of IT infrastructure but raised a few issues such as: "ICT is available but not used sufficiently for example, employees use individual emails to communicate officially yet they should have official communicating tools such as Outlook", "infrastructure is available but physical facilitation is needed" and "enough computers available but not fully used in promoting KM" (4.3.4.3avii). Basically they are in agreement about the insufficient IT infrastructure to support KM.

Although MIUC has made effort to provide the IT facilities, it was discovered that not all employees are able to realise it yet or they have no access. This is reflected with the responses given in Table 4.6. It was commented that "some offices don't have working computers and internet connection" (4.3.4.2vii). For effective and

faster interactions, all employees should have access to the ICT infrastructure. The lack of ICT tools among some employees could as well impede their motivation of sharing knowledge.

Some employees (52%) indicated having access to real-time technology while others didn't (4.3.4.1f). Real time technology is vital when one needs timely information which is important in an academic institution. While commenting about real time technology, it was said by a member of MIUC management that "infrastructure is there but how the lecturers interchange through it is yet to be known" (4.3.4.3c, iv). This contradiction could arise because of lack of awareness of the infrastructure available for use at MIUC.

The above results indicate the need to have official IT tools well in place and well communicated and trained to all employees so that it is known what is to be used in the KM initiative. These will also mitigate against employees assuming all gadgets in place such as telephone and e-mails are part of KM unless they have been defined to serve a particular purpose in KM.

With regard to speed, it was found that the internet speed was not as sufficient to support collaboration. Section 4.3.4.1b shows that not all respondents support the idea of availability of high speed access. There is need to have sufficient bandwidth so as to hasten knowledge sharing and access via IT.

The majority (61%) acknowledged that technology has provided a prospect to bring them closer as a team as it enables communication (4.3.4.1d). MIUC can therefore take advantage of this realisation to enhance use of IT to enable KM particularly to enhance the culture of trust and openness.

Technology is also supposed to promote collaboration and hence respondents were asked if this has been availed to them. It was found that not all employees were aware if there was technology that promotes collaboration (4.3.4.1h). A respondent pointed out that "ICT facilities are available but lack of a management system impedes use of intranet hence staff cannot share necessary knowledge" (4.3.4.2xii). A member of MIUC management on the other hand pointed out that

"it has been provided but employees upload out of willingness" (4.3.4.3d, vi). It was also noted that "free technological tools can be explored and made official (4.3.4.3d, ii). These suggest a lack of a policy in place to make usage of IT clear.

Finally, technology plays a huge role in storing of content such as institutional repository. The study revealed that not all employees are aware of an institutional repository in place (4.3.4.1e). There was not much knowledge on the availability of a central repository in place as expressed by members of MIUC management with only one citing the availability of Dspace (4.3.4.3b). This could be attributed to lack of awareness as can be seen in this comment: "staff and students not well trained on technologies such as an institutional repository" (4.3.4.2ix).

According to Dessne (2012:21), when IT is integrated to the extent that it is not even considered as a separate tool but rather as a natural dynamic part of the interwoven formal and informal structures – then it has become truly supportive of the structures of which it is also part. This is in line with what Egbu and Botterill (2002:130) suggested that technology alone will not make an organisation a knowledge-creating company. Since knowledge technologies are more likely to be employed in an interactive way by their users, the roles of people in knowledge technologies are vital to their success. Egbu and Botterill (2002:129) further highlighted that IT should be understood less in its capacity to store explicit information and more in its potential to aid collaboration and co-operation between people. Thus, in as much as MIUC has tried to set up some IT infrastructure, more needs to be done in providing KM tools that enhance collaboration and all employees should be made aware and trained on the same.

5.2.6 Knowledge management measurement

A learning organisation is able to harness the collective intelligence of its members to its objectives and commits itself to organisation-wide knowledge sharing (Piccoli, Ahmad and Ives 2000:229). KM has been said to be rewarding but as stated by Resatsch (n.d:3), the business impact of such initiatives often can be hardly quantified or is only indirectly measurable.

It is important for an organisation to measure KM efforts and impact otherwise all efforts may be easily rendered futile. Resatsch (n.d.:8) said that KM initiatives need feedback on how well the Knowledge is utilised within the company and provides valuable contribution to the company success. For these reason, the study involved assessing KM measurement at MIUC.

Respondents were asked whether knowledge and organisational objectives are linked and only a few of them (46%) indicated that they did (4.3.5.1a). It was found that the majority (34%) were neutral about MIUC checking on knowledge output indicating that they are possibly not aware as expressed by some respondents: “not sure if there are specific indicators set to check on knowledge output” (4.3.5.2iii), “the main barometer for knowledge measurement is academic qualification in MIUC” (4.3.5.2v) and “college generally fairs badly in self-evaluation as regards its systems”. These views suggest lack of measures. The interview respondents on the other hand highlighted evaluations of staff and the strategic plan as the measures applied (4.3.5.3a).

The results in general suggest a lack of measures for KM but this should be expected as at the time of study MIUC was not practicing KM initiatives hence any form of linkage between work processes and knowledge is not attached to a formal KM plan.

Table 5.1: Summarized results of the MIUC KM assessment

ASPECT	STRUCTURES/RESOURCES AVAILABLE	SHORTFALLS
KM Process	-Knowledge is created informally. -Employees can contribute ideas given chance. -Availability of a central repository. -Few experts are known. -Minimal mechanisms to capture knowledge. -Tacit knowledge captured and transferred to some extent. -Some knowledge is stored. -Minimal accessibility to knowledge. -A few best practices known. -Available knowledge is used to some extent. -A bit of collaboration across departments.	-Not all employees create knowledge. -No equal chance and avenues for all employees to contribute ideas. -Lack of knowledge about central repository in place. -No identification of knowledge gaps and expertise. -Knowledge not captured when an employee is leaving MIUC. -Formalized measures to capture tacit knowledge are generally lacking. -Lack of a policy to guide knowledge capturing and storage. -Lack of central knowledge access systems. -Best practices not recorded and shared. -Not all knowledge is captured and ready for use. -Measures not sufficient for collaboration.
KM Leadership	-Intellectual capacity available. -Recognition that knowledge is key to MIUC. -Employees generate knowledge. -Knowledge activities are at will. -There could be some enthusiastic champions. -Minimal interactions between management and employees. -Teamwork is encouraged. -Culture of openness with management available to some. -Willingness to support KM by leaders.	-Not much done to recognize all intellectual capacity. -Knowledge not managed as an asset. -No compensations and motivation for knowledge generation. -No clear KM vision. -Knowledge champions not identified. -Distance in relating and making use of employee's ideas. -Teamwork not fully promoted. -Lack of unbiased culture of openness. -Financial constraints to support KM cited.
KM Culture	-Willingness to collaborate across departments. -Minimal trust and openness. -An aspect of knowledge sharing could be identified. -Communication promoted to some level. -Opinions expressed to some extent. -A bit of learning culture. -Employees take up own responsibilities to learn.	-Mechanisms to promote collaboration lacking. -Lack of measures to promote trust and openness. -Knowledge sharing culture not sufficient. -Culture of communication inadequate. -Feeling of opinions not being valued. -Learning culture not sufficient. -Insufficient support to promote learning a learning culture.
KM Technology	-Computers and Internet facility available to majority. -DSpace software available for institutional repository. -Access to Internet is available. -Employees can relate using technology.	-ICT infrastructure available to some but not put into full use. -Majority not aware of the institutional repository. -Internet speed not as sufficient and not easily accessible to all. -Lack of proper ICT infrastructure to enhance real time collaboration, uploading and sharing of content.
KM Measurement	-QA office does evaluations of strategic plan and policies. -Some policies available.	-No formal technique to check KM initiatives. -Policies scattered and not as functional.

5.3 KM strategies available in literature and the critical components of a KM strategy.

During the assessment, it was found that there are various KM activities at MIUC but they lack a strategic angle which asserts what was expressed by Maier and Remus (2003:62) in chapter 2 section 2.3 of this study. This study aimed at recommending a suitable KM strategy for MIUC hence it became necessary to review literature on various strategies available.

In chapter 2 section 2.4, the study highlights some KM strategies that were found in literature. The strategies included: i) Explicit and tacit-oriented with explicit focusing on managing, using and storing knowledge systematically while tacit emphasizes on sharing knowledge through mutual interactions and dialogues. ii) System and human oriented with system involving use of advanced technologies to manipulate explicit knowledge while human emphasizes dialogue attempting to share knowledge informally. iii) Bottom-up, top-down approach which looks at the direction from which knowledge management is initiated and driven from, that is, either from the top management or from employees going up to management. iv) Codification and personalization with codification involving processes of collecting knowledge, storing in databases and making it available in codified form while the latter's objective is to transfer, communicate, and exchange knowledge directly in person to person or via networks v) Dynamic focuses on both reusability through IT and informal knowledge sharing. vi) Process oriented which involves developing each KM project around an organisational process. vii) Passive strategies are environments in which KM practices exist but knowledge is not managed formally as an asset. Chapter 5 section 5.5 of this study identifies a suitable KM strategy from these strategies that is then recommended for MIUC.

Regardless of the strategy to be used, it was relevant to identify the critical components of a KM strategy (see chapter 2 section 2.5). This was done through

reviewing of literature and the following is a summary of what is expected to be included in the MIUC KM strategy:

i. KM vision, business strategy and objectives.
ii. Knowledge mapping and expertise identification.
iii. An inventory of MIUC knowledge management resources and structures derived from the results of the knowledge management assessment that was conducted.
iv. Approach (include activities, Integration of KM processes, Integration of CSFs for effective implementation and timeline).
v. Budget and Cost benefit analysis (hard and soft benefits).
vi. Measurement and Implementation plan.

5.4 KM implementation: critical success factors (CSFs)

The critical success factors of KM were identified from literature and some were added during this study as discussed in chapter 2 section 2.6 in detail. They consist: training; KM processes; organisational culture; leadership; technology; strategy; knowledge infrastructure; KM champions; budget and measurement. It became vital to identify the CSFs as they do have a great impact on the successful implementation of a KM initiative. All efforts of assessing and developing a KM strategy may go to waste if implementation is not done with the CSFs in mind.

In the results and the discussion given in chapters 4 and 5 about the KM assessment done at MIUC, it is evident that the CSFs were not as reliable as required to support a KM initiative at MIUC. Considering that MIUC did not have a KM initiative in place at the time of study, these CSFs should be integrated in the KM strategy to be suggested in section 5.5 below.

5.5 knowledge management strategy suitable for MIUC

To answer the question, this section will outline an overview of the KM strategies and their limitations; the suggested KM strategy for MIUC and formulation of a KM strategy for MIUC.

5.5.1 Overview of the KM strategies and their limitations

This study aimed at identifying and recommending a suitable strategy for MIUC based on a KM assessment. In chapter 2 section 2.4, various strategies were identified and discussed. Based on the KM assessment conducted at MIUC using a questionnaire and an interview schedule the researcher therefore suggests using the system and human oriented strategies. Section 5.5.2 elaborates on the reasons for this choice. Before looking at the suggested strategy, below is an attempt to highlight the limitations of the other strategies in the context of this study that were not suggested for MIUC. Components of the strategies will, however, all be part of the strategy selected.

The explicit and tacit-oriented strategies (see 2.4.1) are narrowly focused on knowledge types (tacit and explicit) which may be a difficult strategy to follow considering the difficulty in sharing these types of knowledge directly in the context of an academic setting like MIUC without involving use of systems.

Bottom-up, top-down approach (see 2.4.3) may not be appropriate for MIUC as bottom-up is initiated by enthusiastic employees who should not be told but rather have the idea come from them in the first place. This is not currently the case at MIUC. It also relies on the management buying the idea and as Shaw and Edwards (2005) indicated, some managers find it hard to allow it. Top down on the other hand is reliant on the members of management initiating the process and imposing it to their subordinate, a scenario that may not be well executed considering the current relations between them and employees which were found to be shaky (refer to chapter 5 section 5.2.3). A KM strategy is going to require a less top down strategy anyway.

Grover and Davenport (2001:8) suggested that in codification and personalization approaches (see chapter 2 section 2.4.4), it is appropriate to focus on one of them at a given time in an organisation. This becomes a limitation especially in an academic institution like MIUC which is said to be more complex in terms of structures and activities than other organisations and more so with a strong religious base in top management. These strategies may therefore not be well

adopted in this context. Further, Pourdarab et al. (2011:61) stated that codification/personalization distinction fits in system/human oriented strategies.

Dynamic KM strategy (see 2.4.5) requires adopting the system and human oriented strategies which is what this study has adopted (see chapter 5 section 5.5.2).

Process-oriented KM strategy (see chapter 2 section 2.4.6) requires an organisation to establish all its processes, mission and objectives and then build a KM project around these business processes. According to Pekarkova (2012:10), process oriented knowledge management approaches predominantly focus on Process Modelling, Process Learning, Process Support, Process Execution or Process Improvement with a focus on one of these processes. According to Maier and Remus (2003:1), the majority of organisations can be described as being a knowledge management starter. In order to improve these KM initiatives and link them to business strategy, they suggest a process-oriented knowledge management approach as a step to bridge the gap between human and technology-oriented KM. MIUC has no KM initiative in place as revealed by the study hence process-orientation which is viewed as a strategy to build on an existing one may not be appropriate for this institution. Maier (2004:108) points out that process orientation can and should be seen as an additional dimension within a bundle of possible dimensions describing a complex KM strategy (other dimensions may include type of knowledge, the target group of employees, the KMS to be used or cultural environment).

Having conducted the assessment, MIUC can be said to be currently practicing the passive strategy (see chapter 2 section 2.4.7) which is basically not doing anything formally with regard to knowledge management initiatives. As such, knowledge is spread out in the organisation with no recognition of its importance to the growth of MIUC.

5.5.2 Suggested KM strategy for MIUC.

Based on the KM assessment conducted at MIUC using questionnaires and interviews, the researcher found that the system and human oriented strategies were appropriate for the following reasons:

i. Among all the aspects assessed (process, leadership, technology, culture and measurement), the study found that MIUC had strength in IT facilities (see chapter 4 section 4.3.4 and summary 4.4 part IV) even though it was revealed that more KM tools, internet and computer accessibility, policies and training are necessary to enhance usage of the systems for KM.
ii. Despite the strength in IT at MIUC, studies have indicated that IT may only be used as an enabler in KM. With this in mind, it becomes necessary to integrate the human resource since knowledge comes from them and especially tacit knowledge is vital for innovation and competitive advantage. Hussock (2009:38) also found that the important thing in KM is putting the human factor in the middle of KM initiatives.
iii. Studies (see chapter 2 section 2.4.2) suggest an 80-20 percent split (system-human respectively or vice versa) as trying to pursue them on the same level (percentage) or one by itself is doomed to fail. The researcher thus suggests human (80%) and system (20%) for MIUC. This means that much focus should be on getting knowledge from the employees and sharing while using enhanced IT infrastructure as an enabler.
iv. System and human oriented strategies naturally encompasses the other strategies: It allows capturing explicit and tacit knowledge; allows adopting bottom and top down approach (through interactions); allows codification (using system) and personalization (human); allows dynamic which is basically the conceptual scope of system and human-oriented KM strategies (Pourdarab et. al. 2011:61) and allows building up to process oriented strategies once it has been established. The difference in the strategies is one of emphasis and process sequencing.

v. The dynamic and process-oriented strategies both put an emphasis on use of system and human oriented strategies hence strengthen the choice of these strategies.

Table 5.2 provides a brief illustration of the above selection.

Table 5.2: Brief analysis of the KM strategies identified in the study and their suitability at MIUC.

KM STRATEGY	BRIEF ANALYSIS ON SELECTION	SUITABILITY AT MIUC
Explicit and tacit-oriented: focuses on tacit and explicit knowledge types	Difficulty in sharing tacit and explicit knowledge directly at MIUC due to shortfalls such as a lack of formalized measures to capture tacit knowledge, lack of measures for collaboration (Table 5.1).	No
Bottom-up, top-down approach: focus is on initiator of KM practices. Either from employees or from top management.	MIUC does not have any formalized KM practices as per the assessment conducted and this is reflected in the shortfalls presented on Table 5.1. Neither the leadership nor the employees have taken the initiative to manage knowledge. This focus therefore does not apply.	No
Codification and personalization: calls for focus of one over the other at any given time.	Difficult to use in an academic institution because of the complex structure presented. Table 5.1 provides a variety of challenges that would require integrated approaches to solve them.	No
Dynamic: calls for adoption of the system and human oriented strategies.	Integrated in the system – human oriented strategies. Literature does not offer much on its focus.	No
Process oriented: focuses on business process.	An advanced strategy that is suggested to be built from a basic one like system and human strategy. Helps bridge the gap in KM presented by already established KM strategies. MIUC has no KM strategy in place.	No
System and human oriented strategies	Allows a combination of the two with a strong focus on one over the other, that is, 80% human and 20% system integration in this case. Strong ICT foundation at MIUC presented on table 5.1. also attracts the adoption of system component. Strong focus on human resources knowledge is emphasized in KM and this strategy encompasses the human aspect. Ease of assimilation of aspects of the other KM strategies presented on this table 5.2.	Yes

5.5.3 Formulating a KM strategy for MIUC

Objective number four (see chapter 1 section 1.5.2.4) required the study to formulate the KM strategy. Farlex (2014) defines 'formulate' as, to reduce to a formula; express in systematic terms or concepts or to devise or invent. Following is therefore an attempt to formulate a system and human strategy for MIUC putting into consideration the summarized results of the MIUC KM assessment (Table 5.1), the critical components of a KM strategy as summarized in chapter 5 section 5.3 and the critical success factors (CSFs) as discussed in chapter 2 section 2.6.

STEP 1: KM vision, business strategy and objectives

The study has revealed a need to define knowledge within the MIUC context hence this step is necessary here. After defining knowledge, MIUC should come up with a knowledge management vision, aim and objectives that will support the business strategy.

STEP 2: Knowledge mapping and expertise identification

Next step is to conduct knowledge mapping (see chapter 2 section 2.3.3 and chapter 5 section 5.2.2b) which is essential to identify expertise and core competencies and their location at MIUC.

STEP 3: Inventory of available knowledge resources

An inventory of MIUC knowledge management resources and structures that support KM should be conducted. Table 5.1 indicates the structures and resources available at MIUC and the shortfalls as per the KM assessment done during the study. MIUC may need to conduct a new KM assessment should it decide to begin a KM initiative. In chapter 2 section 2.3, a distinction was made between knowledge mapping and knowledge assessment.

STEP 4: Approach

The system-human oriented strategy was identified for MIUC with an emphasis on human KM strategy. An action plan with timelines should be developed around the stated objectives in step 1. Based on the KM assessment done and the summarized results (Table 5.1), attention should also be paid on the following:

a) System (ICT Infrastructure) strategy

i. Improve on the available infrastructure to support KM processes by providing suitable KM tools.
ii. Adopt technology-enhanced learning.
iii. Improve internet bandwidth to enhance faster access to information.
iv. Ensure all employees have ease of access to computers.
v. Train employees on efficient use of ICT.
vi. Create and implement an ICT policy that can enhance KM initiative.
vii. Train in the techniques of depositing materials in the institutional repository.

b) Human KM strategy

i. Create and implement a policy that ensures creation, sharing, capturing, storage and use of knowledge.
ii. Provide equal chances for employees to contribute ideas.
iii. Have mechanisms to capture employee's knowledge while employed and when they exit employment.
iv. Provide avenues for tacit knowledge to be shared and captured.
v. Ensure recording and sharing of best practices.
vi. Ensure easy access to organisational knowledge.
vii. Have in place reward structures for knowledge generation and sharing.
viii. Identify knowledge champions.
ix. Leadership to reduce relationship gap by interacting more with employees.
x. Leadership to embrace and support KM activities.
xi. Teamwork should be enhanced.

xii. Institute culture of openness, knowledge sharing and learning.

xiii. Build trust among employees.

xiv. Allocate funds for KM activities.

xv. Train employees to understand KM and its benefits.

Each of these aspects of the strategy requires a set of processes. The most important step to begin with is to set up the KM approach and build the processes over a set period of time as some may take more time than others. For instance, building culture is a longer procedure that is determined by mostly enhancing employee relations and hence it cannot take the same time as training of employees on KM or ICT usage which can take a few days.

STEP 5: Budget and cost benefit analysis (hard and soft benefits)

Financial implications will be experienced in improving the ICT infrastructure to support KM processes, and training employees on KM activities and motivating employees to create and share knowledge. A budget for these items needs to be drawn up. The top management needs to consider the cost benefit analysis (see 2.5 part v).

STEP 6: Implementation and measurement plan

a) Implementation

After completing steps 1- 5, there will be need to implement the plan. Figure (5.1) provides an indication on how to implement the strategy.

It should be noted that the processes outlined in steps 1-6 above should be progressive. The knowledge champions will play a critical role in ensuring the steps are completed effectively. They will however require a lot of support from the top management especially in terms of financial implications needed and any approvals that may be required. The employees will also be required to be ready to support the project for instance when information is needed during knowledge mapping. Another critical role of the knowledge champions will be to ensure that any roles assigned to the leadership or staffs are carried out in a timely manner.

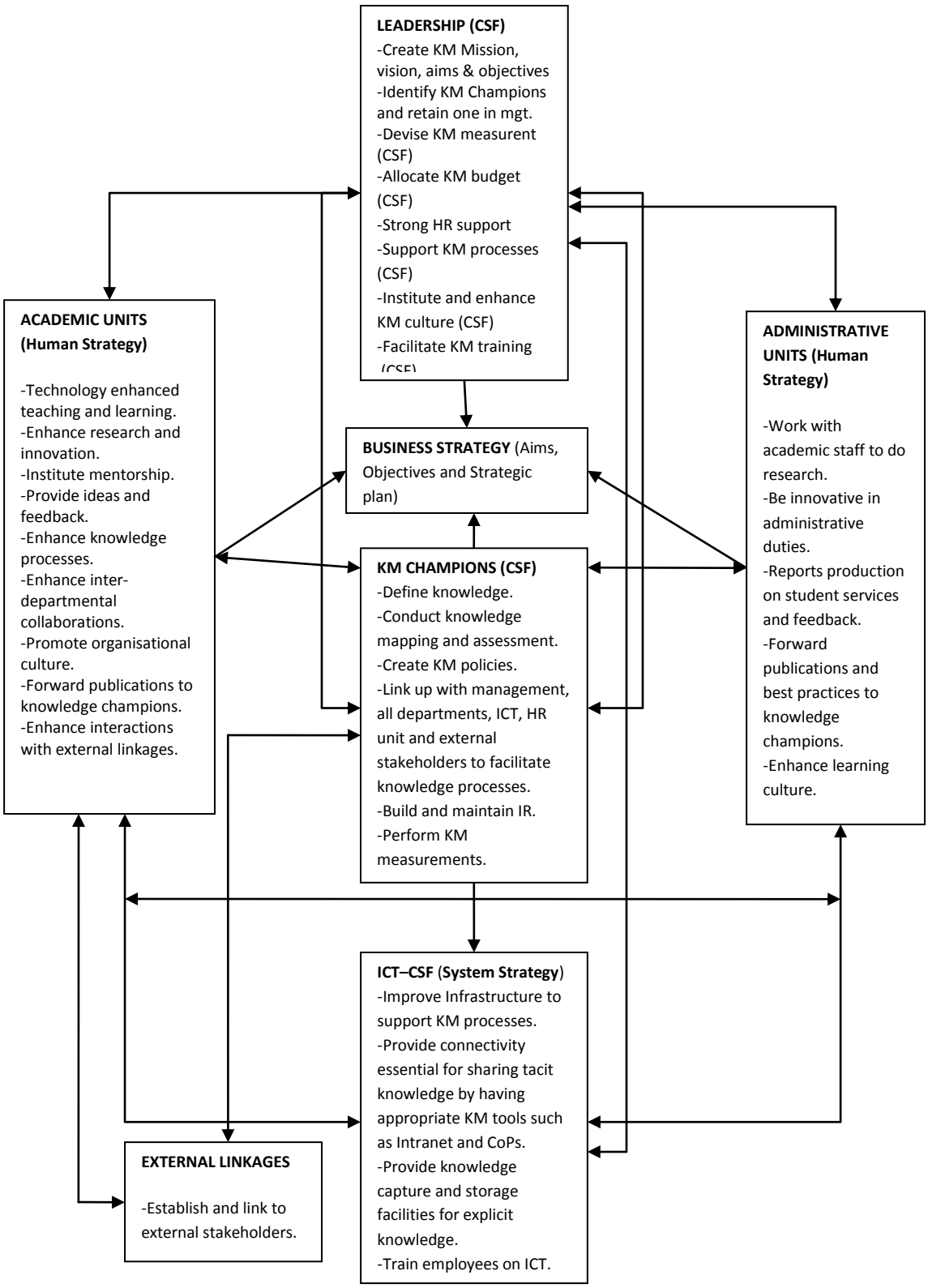

Figure 5.1: Illustration of a system-human KM strategy implementation for MIUC.

This study has established that academic institutions are complex entities as expressed in chapter 2 section 2.2.2. This complication was reflected in the wide and varied responses that were received from respondents in this study. Apart from the responses, some intricate issues that came out included: divisions of employees (teaching and non teaching); availability of both tacit and explicit knowledge to be explored and distance in interaction between management and employees among others. To implement a KM strategy in this setting therefore called for MCDM (Multi Criteria Decision Making) as suggested by Dalkir (2011:316) (chapter 2 section 2.4). In this case, this included: the critical components of a KM strategy (created a basis for the steps used in section 5.5.3 of this chapter), summarized results for KM assessment (Table 5.1 provided action activities) and critical success factors (described as CSF in figure 5.1) were all integrated in the implementation.

The structure in figure 5.1 provides a basis for implementation that may be adopted by MIUC. The diagram illustrates:

i. Business strategy as the focal point and every activity should be linked to it.
ii. The need for top management to be supportive in the endeavor and to be linked to all teams through interactions for communication and feedback.
iii. The need for enthusiastic knowledge champions to drive the KM initiatives with the support of top management.
iv. The study found it was easier for trust to be built among employees at different levels hence the human component of the strategy has been divided into academic and administrative units. This will also ensure that focus is not only on the academic staff.
v. The integration of MIUC KM processes with regard to the shortfalls identified in Table 5.1.
vi. The integration of critical success factors identified as ‘CSF’ in figure 5.1.
vii. Roles and responsibilities of different units which should be identified and specified as illustrated in the diagram.

viii. KM is about networking and interactions as identified with the arrows in the figure 5.1., most of which indicate two-way communication.

b) Measurement

After implementation, it will be necessary to measure KM at MIUC. A period of time should be set during which measurement should be conducted. This can be after every 6 months during the initial stages of implementation and the time can be changed once the initiative stabilizes. This measurement could include:

i. Identifying performance indicators after implementation.
ii. Amount of research output created after implementation.
iii. Checking if customer services (both administrative and academic) have been improved in knowledge usage and dissemination after implementation.
iv. Ability to quickly link best practices to the KM initiative.
v. Checking on whether interactions have improved.
vi. Checking on efficiency of the ICT infrastructure in place in enabling KM.

5.6 Summary of chapter five

This chapter discussed results that were presented in chapter 4. The discussion was organised based on the research questions that were stated in chapter 1. The human-system strategy was identified as the most appropriate for MIUC. Using the strategy, critical aspects of a KM strategy were used to identify steps of implementation. An attempt was then made to link the results from the KM assessment with the critical success factors for a KM. A model was created (Figure 5.1) to aid in the implementation stage.

The next chapter – Chapter Six – presents the summary of findings, the salient conclusions and recommendations of the study.

CHAPTER SIX: SUMMARY, CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

This chapter presents the summary, conclusions and recommendations.

This study introduced KM concept focusing on its history and development to the present society globally and in Africa. It was revealed that since time memorial much of the growth of KM has been in different organisations and not really in academic institutions which have more complex structures. This study hence set out to contribute towards the growth of KM in academic institutions. MIUC was introduced in the contextual setting as the case study for the research.

As a result of knowledge not being managed, MIUC experiences problems like duplication of work as there is no central repository for knowledge, loss of knowledge through expertise leaving the institution without knowledge being captured and over reliance on a few known subject experts as others have not been identified. With these problems in mind, the research presented in this study shows that a KM strategy therefore becomes imperative if MIUC intends to start knowledge management which is an absolutely necessary initiative in the knowledge economy.

The main aim of the study was to conduct a knowledge management assessment at the Marist International University College (MIUC), Nairobi - Kenya in order to identify and recommend a suitable strategy for the institution.

The objectives of the study were:

1. To take an inventory of KM resources and capabilities at the MIUC.
2. To review the various knowledge management strategies available in literature and identify critical components of a knowledge management strategy.
3. To identify the critical success factors for the implementation of a knowledge management strategy.

4. To formulate a suitable KM strategy for the MIUC.

The study employed a mixed methodology approach specifically concurrent triangulation that encompasses qualitative and quantitative approaches that allowed the researcher to collect data from 33 academic staff using a questionnaire and from 9 members of the MIUC management using a semi structured interview schedule. Use of the different research instruments enabled comparison and integration of collected data which strengthened the findings. Both primary and secondary data was collected. Primary data was collected during KM assessment while secondary data on KM strategies and CSFs was sourced from literature. Content analysis was used on qualitative data after which occurrence of various themes was counted quantitatively. Quantitative data was analyzed using SPSS statistical package which enabled descriptive analysis.

6.2 Summary of the findings

To determine what KM structures and resources were available at MIUC, the study employed concurrent triangulation mixed methodology encompassing qualitative and quantitative approaches to conduct a KM assessment on 33 academic staff and 9 members of the MIUC management using a questionnaire and a semi structured interview schedule respectively. These two groups were selected as the researcher believed they are in a position to understand KM and hence provide reliable responses for the study. The KM assessment was found vital because it highlights the state of an organisation with regard to KM. Both of the instruments used were sub divided into 5 KM aspects: Processes, Leadership, Culture, Technology and Measurement. These aspects were derived from Arthur Andersen's Knowledge Management Assessment Tool (see chapter 2 section 2.3.4). The results were presented in chapter 4 and discussed in chapter 5. The general indication was that MIUC has some resources in place and hence should be able to start a KM initiative.

6.2.1 Inventory of KM resources and capabilities at the MIUC

The following summarizes what was established as KM resources and capabilities of MIUC from the KM assessment:

6.2.1.1 Processes

The study revealed that MIUC has considerable KM processes of knowledge creation, identification, capturing, transfer, access, sharing, storage and usage. This could be attributed to the fact that MIUC is an academic institution and hence these activities are anticipated. The lack of a KM strategy hinders consistency in the application of these processes at MIUC hence the study displayed a lack of awareness and/or participation from the respondents in the processes assessed.

6.2.1.2 Leadership

With regard to KM leadership, MIUC was found to have leaders who are willing to support KM initiatives. However, the leaders have not taken the initiative to check the relation between knowledge and work flows hence its impact has not been assessed. Leaders have also not paid attention to identifying the intellectual capacity that MIUC has for both the teaching and non teaching staff members. These impede the implementation of any KM initiatives because leadership is a crucial factor in the success of KM in terms of their approval and support.

6.2.1.3 Culture

KM culture is vital for KM to succeed. Culture was reflected in the way MIUC community relates and how they conduct business, the participation and effort of all employees. MIUC was found to be on average with regard to collaboration, trusting one another, openness, expressing opinions, valuing of opinions and having a learning culture. Thus a KM culture is generally not sufficient at MIUC and needs to be inculcated.

6.2.1.4 Technology

Although MIUC was found to have computers for the majority of staff and has also provided some internet access to its users, this was still insufficient for KM functionality as it was not clear how the availability of the computers and internet were used to leverage intellectual capacity. To use IT as enabler for KM requires the institution to acquire additional proper KM tools such as an intranet that can enhance collaboration. Besides, there was no policy on how the infrastructure can be better accessed and used by all employees to enhance KM activities.

6.2.1.5 Measurement

The final aspect that was assessed was in KM measurement. Measurement enables an institution to check the relevance and benefits of KM initiatives. In general, it was found that MIUC lacks mechanisms to check how its knowledge impacts on its activities.

Overall, the study revealed that MIUC lacks a KM strategy that would enable her leverage on their processes to enhance innovation, reduce work duplication and increase productivity leading to an increased competitive advantage.

6.2.2 KM strategies available in literature

A KM strategy is crucial for an institution looking at managing its knowledge since it provides direction on how to do things to get desired results. This study identified and reviewed the various KM strategies available in literature. This was necessary to aid reaching the aim of this study of identifying a suitable KM strategy for MIUC that would easily take into consideration the available resources that the study identified during KM assessment. The study identified 7 KM strategies from literature namely as:

6.2.2.1 Explicit and tacit-oriented strategies.

These strategies focus on knowledge type's that is, explicit knowledge which can be documented with a focus to manage, use and store a firm's knowledge. Tacit

knowledge on the other hand exists in people's mind and can be shared through mutual interactions and dialogues.

6.2.2.2 System and human oriented strategies.

System orientation focuses on codifying and storing knowledge via IT and attempts to share knowledge formally for re-use. Human orientation on the other hand emphasizes dialogue through social networks and face-face interactions with an attempt to share knowledge informally.

6.2.2.3 Bottom-up, top-down approach.

Bottom-up KM often starts with a small core of interested and active enthusiasts who then pushes the idea to the top management. In a top-down approach, the overall strategic direction of the organisation is used to identify the focus of the knowledge management initiative by the top leaders. This is reflected in a series of activities designed to meet this broad goal.

6.2.2.4 Codification and personalization.

Pourdarab et. al. (2011:61) says that with a codification strategy, knowledge is stored in repositories systematically, while a personalization strategy implies person-to-person communication. Codification strategy is highly structured while personalization is semi structured.

6.2.2.5 Dynamic.

This strategy focuses on both knowledge reusability through information technologies and knowledge sharing through informal discussions among employees (Choi and Jong 2006:4). It relies on adopting both the system and human oriented strategies to manage knowledge.

6.2.2.6 Process oriented.

This encompasses the development of each KM project around an organisational process and mission. It requires an identification of the processes then links to KM practices.

6.2.2.7 Passive strategies.

Organisations that are passive in general do not overtly recognize the importance of knowledge in the organisation hence make no effort to manage the knowledge.

More discussion on the above strategies is provided in chapter 2 section 2.4 of this study. The study found that MIUC does not have a KM strategy in place and thus KM activities are practiced in a casual, dispersed way. MIUC can therefore be termed passive with regard to knowledge management.

6.2.3 Critical components of a KM strategy.

The need to formulate a suitable KM strategy for MIUC called for the study to not only identify the KM strategies but further identify the critical components that a KM strategy should have. Various authors as discussed in chapter 2 section 2.6 outlined different critical aspects that a KM strategy should have. To incorporate these aspects in the formulated KM strategy, the researcher endeavored to summarize the critical aspects particularly to be used for this study as presented in chapter 5 section 5.3 and briefly outlined below:

6.2.3.1 KM vision, business strategy and objectives.

These were found as vital aspects as KM should be developed to enhance the operations of an organisation which are guided by its vision, practices and objectives.

6.2.3.2 Knowledge mapping and expertise identification.

A strategy must map and identify the core knowledge existing in an organisation in order to manage and use it effectively.

6.2.3.3 An inventory of MIUC knowledge management resources and structures derived from the results of the knowledge management assessment that was conducted.

This follows a KM assessment which reveals the resources and structures available in the organisation that can be used to support a KM initiative.

6.2.3.4 Approach (include activities, integration of KM processes, integration of CSFs for effective implementation and timeline).

This entails presentation of the approach selected from the KM strategies that were identified.

6.2.3.5 Budget and Cost benefit analysis (hard and soft benefits).

This aspect highlights any financial implications that will be experienced during formulation and implementation of a KM strategy.

6.2.3.6 Measurement and Implementation plan.

Measurement is critical as it allows for the organisation to check the effectiveness of KM strategy that is implemented hence there needs to be an implementation and measurement plan outlined in the KM strategy.

The above summarized aspects were used in the formulation of a KM strategy for MIUC as they formed the steps (see chapter 5 section 5.5.3).

6.2.4 Critical success factors for the implementation of a knowledge management strategy.

Managing knowledge is complicated. Once an organisation decides to initiate KM, they ought to conduct an assessment to know the exact ability of the organisation to support it. It takes much effort and may be costly to start up a KM initiative. The organisation therefore expects to see results arising from this project. Various authors have identified critical success factors that one needs to consider for successful implementation of KM. These critical success factors (discussed in chapter 2 section 2.6) include:

i. Training of all employees on KM as they hold the knowledge that is to be managed. The more employees get to learn of the advantages of KM not only to the organisation but also its impact on their own lives the more likely they will engage in the initiative.
ii. Knowledge sharing that would build on the knowledge base of the organisation and allow for the capture of tacit knowledge. Other knowledge processes that included identification, capturing, access, storage and use were also found to be vital in KM.
iii. Culture, in this case, organisational culture is cited as one of the biggest barriers to KM success. For KM to succeed there needs to be a culture of trust and openness which can enhance knowledge sharing.
iv. The top management support which is crucial in approval of KM strategies to be implemented, supporting the initiative by providing funds and incentives and also fostering trust and promoting knowledge –sharing culture.
v. Appropriate technology capable of supporting storage of explicit knowledge for re-use and more importantly to link up employees who can then quickly collaborate and share both explicit and tacit knowledge.
vi. KM strategy to provide a direction on how the KM initiative should be carried out. This helps ensure that all activities are coordinated and linked to the organisational objective.
vii. Knowledge infrastructure which refers to having organisational structures and facilities that facilitate knowledge creation and use in an organisation.
viii. KM champions are critical. They should be actively involved in ensuring that assigned roles and responsibilities related to KM are being implemented. They also are the drivers of the knowledge management initiative ensuring it becomes successful.
ix. A KM budget that would take care of employee training, purchase of ICT infrastructure required, rewards and incentives and any other costs have to be set aside by the management.

x. Measurement that would allow the organisation to check on what is working hence informed decisions on how to improve the KM efforts can be made.

Some of these CSFs that is, top management (leadership); technology and culture were aspects that were assessed during KM assessment. This entire study is about developing a strategy which still falls under CSFs. This indicates how complex KM is. Development of a strategy demands attention to be paid to CSFs. This study therefore proposes an integration of CSFs to the formulated system-human strategies explained in figure 5.1 during implementation.

6.2.5 Suitable KM strategy for the MIUC.

Upon reviewing and identifying the KM strategies from literature (chapter 2 section 2.4), identifying the critical success factors for KM implementation (chapter 2 section 2.5) and conducting a KM assessment (presented in chapters 4 and 5), a suitable KM strategy for MIUC was selected. This study found that the system and human oriented strategies (see chapter 2 section 2.4.2) would be appropriate for MIUC. This selection was done because:

i. MIUC was found to have the key resources of human (employees) and system (good base for IT) to enable adopting the strategy.
ii. System and human strategies encompass the other KM strategies.
iii. The dynamic and process-oriented strategies are both based on system and human strategies.
iv. Studies suggest an 80-20 percent split in the use of system-human strategy rather than relying on one over the other.

The above reasons for the selection of system and human strategies have been discussed in chapter 5 section 5.5.2.

MIUC was found to have limited resources in terms of financing a KM strategy as pointed out by some of the members of the MIUC management. It was therefore in the interest of this study to identify an approach that does not call for too much startup capital but rather making more use of the available resources. This is not

to mean that funds will not be required, a budget has to be set to cater for training of employees, ICT infrastructure improvement and a reward system for the employees to encourage knowledge creation and sharing and building of organisational culture.

Having selected the system human strategy, a KM strategy was formulated for MIUC. The strategy encompassed results from KM assessment, critical components of a KM strategy and the critical success factors for KM implementation (see chapter 5 section 5.5.3).

This study has demonstrated that developing a KM strategy for an academic institution is not a simple task. An academic institution like MIUC is a complex organisation given the structures in place. These structures include having different departments with own leadership for academics, having different administration units, having different calibers of employees (support, academic and non academic), strong religious base among others. This nature makes it complicated to coordinate and manage MIUC knowledge. Despite this, the importance of knowledge management at MIUC cannot be ruled out given not only the challenges the institution is facing, but also considering the immense benefits of having a KM initiative in place.

6.3 Conclusions of the study

The study aimed at developing a KM strategy for the MIUC. To achieve the objectives, the study sought to answer the following questions:

i. What structures and resources are available to support knowledge management at the MIUC?
ii. What knowledge management strategies are available in literature and what are the critical components of a knowledge management strategy?
iii. What are the critical success factors for knowledge management implementation?
iv. Which knowledge management strategy would be suitable for managing knowledge at MIUC?

6.3.1 Structures and resources

Objective 1 of the study (refer to chapter 1 section 1.5.2.1) was to take inventory of KM resources and capabilities at the MIUC. When this inventory was taken it was evident in the findings that MIUC has significant levels of KM activities but they were informally practiced. The study concludes that MIUC requires a KM strategy that would provide a perspective in the improvement of the available structures and resources to support the management of knowledge.

6.3.2 KM strategies and critical components

The second objective (chapter 1 section 1.5.2.2) was to review the various knowledge management strategies available in literature and identify critical components of a knowledge management strategy. The study established:

a) Seven types of strategies, namely:
   i. Explicit and tacit-oriented strategies.
   ii. System and human oriented strategies.
   iii. Bottom-up and top-down approach.
   iv. Codification and personalization.
   v. Dynamic strategy.
   vi. Process-oriented strategy.
   vii. Passive strategy.
b) Six critical components of a KM strategy namely:
   i. KM vision, business strategy and objectives.
   ii. Knowledge mapping and expertise identification.
   iii. An inventory of knowledge management resources and structures derived from the results of a knowledge management assessment conducted.
   iv. Approach or KM strategy selected (include KM activities, Integration of KM processes, Integration of CSFs for effective implementation and timeline).
   v. Budget and Cost benefit analysis (hard and soft benefits).
   vi. Measurement and Implementation plan.

6.3.3 Success factors

Objective 1.5.2.3 was to identify the critical success factors for the implementation of a knowledge management strategy from literature which were then integrated in the formulated KM strategy. The study concludes that the success factors are:

i. Training.
ii. Knowledge sharing, identification, capturing, access, storage and use.
iii. Organisational culture.
iv. Management support and leadership.
v. Technology.
vi. Strategy.
vii. Knowledge infrastructure.
viii. KM champions.
ix. Budget.
x. Measurement.

6.3.4 Proposed MIUC KM strategy

Objective 1.5.2.4 was to formulate a suitable KM strategy for the MIUC that would enhance management of knowledge. Having analysed the various strategies that were found in literature, the study concludes that a system- human orientation strategy would be appropriate considering the resources that were found available at MIUC (see figure 5.1) and the flexibility of the strategy as it enabled accommodation of a variety of complex aspects found at MIUC such as having a gap between teaching and non teaching staff.

Having answered the research questions effectively, the study succeeded in meeting the objectives and aim of the study which was to develop a KM strategy for MIUC. This is despite the complex structures presented by MIUC as an academic institution and also the complex nature of developing a KM strategy which required an integration of various crucial aspects (selected KM strategy, KM assessment findings, KM strategy components and CSFs of implementation).

6.4 Recommendations

Based on the findings of the study, it is recommended that MIUC develops and implements the suggested KM strategy (system and human oriented) as identified, discussed and formulated in chapter 5 section 5.5. This strategy was formulated putting into consideration the state of MIUC as realised during KM assessment during the study. Figure 5.1 also illustrates how MIUC can go about implementing the suggested KM strategy.

In order to develop and implement the strategy, attention is called to the following recommendations:

6.4.1 KM at MIUC requires formalizing to ensure there is consistency and coherence in the creation, identification, capturing, access, sharing, storage and usage of MIUC knowledge. This calls for policy creation, implementation and training.

6.4.2 Top leadership need to realise the importance of managing knowledge and hence be in a position to provide support through provision of sufficient resources, structures, offering incentives to employees to encourage knowledge sharing, offer training to employees on KM and its benefits and identifying of intellectual capacity of all cadres of employees.

6.4.3 MIUC should inculcate a knowledge management culture by encouraging knowledge sharing, eliminating biasness while supporting employees, embracing dialogue and sharing of ideas, fostering COPs, valuing opinions and encouraging team work.

6.4.4 With regard to ICT, MIUC should invest in a comprehensive infrastructure that supports KM (improve bandwidth, accessibility, provide KM tools), create awareness of the institutional repository and develop policies on ICT usage to manage knowledge rapidly and more efficiently so as to reap benefits. Staff training is also needed to maximize the use and enable the depositing of items in the repository.

6.4.5 MIUC should set up formal mechanisms to evaluate the KM initiative and its impact on the organisation.

6.4.6 Finally, MIUC should pay attention to the CSFs of implementation while adopting a KM strategy.

Recommendations for future study

The study suggests the following research recommendations where additional investigation may be fruitful:

i. Future research may try to focus on a single aspect out of the 5 that were assessed in this study (KM process, KM leadership, KM culture, KM technology and KM measurement) and expound on it with particular focus in an academic institution.
ii. The study focused on academic staff and members of the MIUC management. Future research can sample non teaching staff and their roles in KM in an academic institution.
iii. Further studies can be conducted on measuring KM in an academic institution. This would be more pertinent if done in an academic institution that already has a formalized KM initiative in place.

6.5 Summary of chapter 6

This chapter has provided a summary of the findings, conclusions based on the findings and recommendations for MIUC. The study achieved to assess knowledge management in an academic institution and designed a model that can aid in implementing KM at MIUC, a complex academic institution with strong religious leadership. This study is a contribution in the promotion of KM in the African, and particularly the East African region.

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APPENDIX A: Questionnaire

Dear respondent,

I am a student at The University of South Africa collecting data that will assist me complete my Masters Dissertation on the topic "Developing a Knowledge Management Strategy for Marist International University College". The research aims to identify Knowledge Management activities and processes at Marist International University College and hence use the information to suggest the best suited Knowledge Management strategy.

Knowledge Management basically involves creation, capturing, storing, sharing and effective use of knowledge.

Your responses will be strictly confidential and data from this research will be reported in the dissertation anonymously.

Thank you very much for your time and support.

Ms ANDUVARE, Everlyn M.

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Section 1: Demographic data

1. Age: ☐ 20-29 ☐ 30-39 ☐ 40-49 ☐ Over 50

2. Gender: ☐ Female ☐ Male

3. Highest qualification: ☐ Bachelors Degree
   ☐ Honours Degree
   ☐ Masters Degree
   ☐ Doctoral Degree

Other----------

4. Job title: ----------

5. Department: ----------

Section 2: Knowledge Management Assessment

A Knowledge Management Assessment involves an analysis and evaluation of the current organizational state of affairs with regard to Knowledge Management. This assessment will focus on 5 aspects namely: Process, Leadership, Culture, Technology and Measurement adopted from Arthur Andersen's KMAT model.

Please read the statements following and indicate with a tick the extent of your agreement or disagreement.

6. Knowledge Management Process

Knowledge Management processes include the creation, capturing, storing, sharing and effective use of knowledge in an organization.

Key: 1 = Strongly Agree 2 = Agree 3 = Neutral 4 = Disagree 5 = Strongly disagree

	Statements	**1**	**2**	**3**	**4**	**5**
6a	I contribute in the creation of knowledge at MIUC					
6b	All employees are involved in contributing ideas for the running and growth of MIUC					
6c	I have contributed my own created work to the institutional repository (central knowledge storage)					
6d	There are ways to identify knowledge gaps (staff who know more about most things and those who know less) at MIUC					
6e	There is a mechanism to capture informal knowledge (outside meetings) from employees					
6f	MIUC has means in place to capture experts knowledge while on job					
6g	There are systems in place that capture expertise knowledge when exiting employment					
6h	There are means of capturing and transferring tacit knowledge (what individual employees know)					
6i	Knowledge created at MIUC is well captured and stored in an easy to find location					
6j	There is easy access to organizational knowledge created at MIUC					
6k	Best practices (efficient cause of action) in the organization are recorded and shared					
6l	There is a formal process of transferring best practices and lessons learned					
6m	I put into use knowledge created at MIUC					
6n	I often consult members of staff from other departments while working					

Please give any other comment with regard to Knowledge Management processes at MIUC i.e. creation, capturing, storage, sharing, application and retention --------
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7. Knowledge Management Leadership

KM leadership plainly refers to the role the leaders in an organization play in supporting Knowledge Management initiatives.

Key: 1 = Strongly Agree 2 = Agree 3 = Neutral 4 = Disagree 5 = Strongly disagree

	Statements	**1**	**2**	**3**	**4**	**5**
7a	The top management links individual knowledge to the processes at MIUC					
7b	MIUC is aware of and recognizes the power of intellectual capacity (employees' individual knowledge)					
7c	Managing knowledge created at MIUC is key to the organizations strategy					
7d	Employees are evaluated for knowledge generation and sharing					
7e	Promotions and compensations are done based on individual's contribution to the development of organizational knowledge					
7f	There is a clear articulated vision of knowledge agenda and Knowledge Management					
7g	MIUC has enthusiastic knowledge champions (employees who push for knowledge creation and sharing)					
7h	Management has an effective interaction with customers and employees					
7i	Management promotes good teamwork with members drawn from various disciplines					
7j	Management has a culture of openness that stimulates innovation and learning					
7k	Staff are motivated to create and share knowledge					

Comments on KM leadership----------

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8. Knowledge Management Culture

Knowledge Management culture refers to the norms/traditions within an organization i.e. an organization's way of doing things. These can hamper the success of KM practices/initiatives

Key: 1 = Strongly Agree 2 = Agree 3 = Neutral 4 = Disagree 5 = Strongly disagree

	Statements	**1**	**2**	**3**	**4**	**5**
8a	There is a willingness to collaborate across departmental units within MIUC					
8b	Employees generally trust each other					
8c	There is a culture of sharing knowledge at MIUC					
8d	I feel like a member of a team within MIUC					
8e	I discuss work difficulties with colleagues in order to identify potential solutions					
8f	MIUC promotes communication among its staff members					
8g	Management has close relationship with employees					
8h	When I personally disagree with an organization decision/action I feel free to express my opinion					
8i	My opinion is valued in organizational matters					
8j	I feel like there is a learning culture at MIUC					
8k	There are policies/measures which promote learning within MIUC					
8l	I take responsibility for my own learning					
8m	Trust and openness permeates the organization					

Comments on KM culture----------

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9. Knowledge Management Technology

KM Technology refers to the technologies that an organisation may use to support Knowledge Management processes

Key: 1 = Strongly Agree 2 = Agree 3 = Neutral 4 = Disagree 5 = Strongly disagree

	Statements	**1**	**2**	**3**	**4**	**5**
9a	MIUC has proper ICT infrastructure to support knowledge sharing					
9b	ICT infrastructure at MIUC supports high speed access to information using a variety of devices from different locations 24/7					
9c	MIUC provides technological facilities which I can use to network/talk with colleagues satisfactory					
9d	Technology brings employees closer to one another					
9e	MIUC's has an institutional repository (central place for MIUC knowledge) that is accessible to employees					
9f	I have access to real-time technology that I can use to create and share knowledge					
9g	MIUC has appropriate technologies such as intranets, portals through which I can upload and share content					
9h	Technology that promotes collaboration has been availed to me					

Comments on KM technology----------

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10. Knowledge Management Measurement

KM Measurement refers to the steps an organization takes to check the effectiveness of Knowledge Management initiatives.

Key: 1 = Strongly Agree 2 = Agree 3 = Neutral 4 = Disagree 5 = Strongly disagree

	Statements	**1**	**2**	**3**	**4**	**5**
10a	There are mechanisms at MIUC to link knowledge to organizational objectives					
10b	MIUC supports efforts that help increase its knowledge base					
10c	There are specific indicators set to check on knowledge output (created)					

Comments on KM measurement----------

APPENDIX B: Interview guide

INTERVIEW GUIDE FOR SENIOR MANAGERS

Section A: Background information

1. Job designation ----------

2. Department ----------

3. Gender ----------

4. Age ----------

5. Highest Level of education ----------

Section B: Knowledge Management Processes

KM processes include the creation, capturing, storing, sharing and effective use of knowledge in an organization.

6. In your opinion, which is the most critical KM process at MIUC?

7. Would you consider MIUC as innovative? If Yes, in what ways?

8. What are some of the ways that MIUC can generate new knowledge?

9. Can knowledge be easily acquired from MIUC employees?

10. Are the experts known and easily accessible at MIUC?

11. Are employees generally trustworthy in receiving and using each other's knowledge?

12. To what extent is knowledge sharing encouraged and supported at MIUC?

13. What do you think MIUC can do to enhance knowledge sharing among employees?

14. Does MIUC have effective processes for gathering, organizing and using internal and external knowledge?

15. Does MIUC take feedback from employees and customers?

16. Does MIUC learn from past mistakes?

17. Does MIUC have mechanisms to identify and upgrade best practices (best cause of action)?

18. Are there mechanisms for absorbing individual knowledge into organizational knowledge?

19. Does MIUC take advantage of internal experts to solve organizational problems and challenges?

20. How is knowledge retained upon an employee exiting?

Section C: Knowledge Management Leadership

KM leadership plainly refers to the role the leaders in an organization play in supporting KM initiatives.

21. Does the management link knowledge to organizational processes (work flows)?

22. Does MIUC recognize the individual employee's contributions (intellectual capacity) to the growth of MIUC?

23. Is management able to interact well and learn from employees? If yes, do you apply the knowledge you gain from them?

24. Does MIUC support and motivate knowledge creation?

25. Is there a reward system for sharing knowledge?

Section D: Knowledge Management Culture

KM culture refers to the norms/traditions within an organization. These can hamper the success of KM practices

26. Do you think MIUC employees are willing to collaborate with each other?

27. Would you say there is ease in interaction and sharing between the management and other employees?

28. Is there a learning culture at MIUC (people are responsible for their own learning and for helping one another learn)?

29. Does trust and openness permeate the organization?

30. Are there policies to promote learning within MIUC?

Section E: Knowledge Management Technology

KM Technology refers to the technologies that a cooperate may use to support KM processes

31. Do you think there is proper ICT infrastructure to support KM processes?

32. Would you say there is a central repository for knowledge, with clear responsibilities for coordination and management of its content?

33. Is there ICT that supports real time interactions and collaborations among the staff members?

34. Has MIUC provided the members of staff with ICT that can be used to upload and share knowledge pertaining to the organization?

Section F: Knowledge Management Measurement

KM Measurement refers to the steps an organization takes to check the effectiveness of KM initiatives.

35. Are there mechanisms to link knowledge to organizational objectives at MIUC?

36. What are some of the indicators that check knowledge output (created) at MIUC?

37. Are there any performance indicators for the effective use of knowledge?

APPENDIX C: Permission letter to collect data at MIUC

P.O. Box 13019 – 00400,

Nairobi.

October 14, 2013.

The Deputy Principal Academics,

Marist International University College,

P.O. Box 24450 -00502,

Karen, Nairobi – Kenya.

Dear Sir,

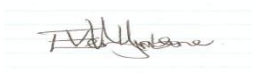
RE: PERMISSION TO COLLECT DATA

I hereby request for permission to collect data for my Masters Dissertation with the topic: Developing a Knowledge Management Strategy for The Marist International University College (MIUC). The main purpose of the study is to conduct a knowledge management assessment at MIUC in order to identify and recommend a suitable strategy for the institution. The target population for the data collection includes the academic and senior staff members.

A questionnaire and semi-structured interviews will be used as the data collection tools. The study will meet the requirements of the Research and Ethics Committee of The University of South Africa (UNISA).

Thanking you in anticipation,

Best regards,



Ms. Anduvare Everlyn M.

APPENDIX D: Approval letter for data collection

MARIST INTERNATIONAL UNIVERSITY COLLEGE (MIUC)
Constituent College of the Catholic University of Eastern Africa
Langata Road P.O. Box 24450- 00502 Karen, Nairobi
Phone 254-020-2012797/020-2012787; Fax 254-020-2389939
Mobile: 0725 292401 / 0739 544 911

FROM THE OFFICE OF THE DEPUTY PRINCIPAL, ACADEMICS

To

Ms Everlyn Anduvare

P.O. Box 13019 – 00400,

Nairobi.

Dear Everlyn,

RE: PERMISSION TO COLLECT DATA IN MIUC

I hereby authorize you to collect data for your research project in the Marist International University College. Please remember the confidential nature of the data collected. I wish you all the best and remain available for any other help you may need from me.

Yours faithfully

Brother Christian Gisamonyo

Deputy Principal, Academics

MARIST INTERNATIONAL UNIVERSITY COLLEGE
DEPUTY PRINCIPAL ACADEMIC
14 OCT 2013
P.O. Box 24450 – 00502, KAREN NAIROBI

E-mail: principal@miuc.ac.ke; Website: www.miuc.ac.ke
Founded in 1986 by the Institute of the Marist Brothers of the Schools