

**TACIT KNOWLEDGE MANAGEMENT IN PUBLIC INSTITUTIONS IN KENYA: A CASE
OF THE KENYA INSTITUTE FOR PUBLIC POLICY RESEARCH AND ANALYSIS
(KIPPRA) NAIROBI**

BY

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DECLARATION

I declare that this study, **Tacit Knowledge Management in Public Institutions in Kenya: A Case of The Kenya Institute For Public Policy Research And Analysis (KIPPRA) Nairobi** is my own work and that all the sources I have used or quoted have been indicated and acknowledged by means of complete references. This dissertation does not incorporate, without acknowledgement, any material previously submitted for a degree or diploma in any university.

Signature

Date

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From the formative stages of this dissertation, to the final draft, I owe it all to my Supervisors Prof. Henry Kemoni and my co-supervisor Prof. Bosire Onyancha. Their sound advice, patience, guidance were invaluable.

I thank those who agreed to be interviewed and to participate in the research process, for, without their insight, time and cooperation, this project would not have been possible.

To my husband, family, friends and colleagues who cheered me on when I almost gave up, I extend my deepest appreciation.

Honor and Glory to God Almighty; my strength, my shield, my all!

DEDICATION

This dissertation is dedicated to my parents. You are my Heroes.

ABSTRACT

Tacit Knowledge is critical in an organization's ability to sustain a long-term competitive advantage. The systematic process for acquiring, organizing, sustaining and renewing tacit knowledge of employees has enabled organizations to survive in a robust economy. This study investigates the management of tacit knowledge at the Kenya Institute for Public Policy Research and Analysis (KIPPRA). The objectives of the study were: to identify the sources and types of knowledge at KIPPRA; identify the enabling resources for tacit knowledge sharing; determine how tacit knowledge can be reused for innovation and competitive advantage; establish the role of management in creating a conducive environment for tacit knowledge; identify the challenges experienced in the management of tacit knowledge; give recommendations and propose a model/framework for tacit knowledge management at KIPPRA.

The study adopted a qualitative research method. Interviews and observation were used as primary data collection methods. The study targeted 60 employees of KIPPRA consisting of Researchers, Young Professionals, Heads of Division, a Knowledge Manager and Administrative staff. Qualitative data collected was organized, categorized and reported in verbatim. Pie charts and tables were used to give a graphical representation of the bio data of respondents.

The study found that: KIPPRA values knowledge as an asset but does not practice tacit knowledge management, both tacit and explicit knowledge exists however, no real effort has gone into the management of tacit knowledge. The study also found that KIPPRA had tacit knowledge sharing, capture, transfer and storage avenues that have not been capitalized on. ICT infrastructure is available however it does not support tacit knowledge sharing. No Communities of Practice exist at KIPPRA but tacit knowledge is reused for innovation, development and competitive advantage. KIPPRA's management has provided a conducive environment for tacit knowledge to thrive but trust, knowledge asymmetry, and hierarchical challenges have hindered tacit knowledge harnessing. No tacit knowledge related incentives are offered at KIPPRA. The study also revealed that employees experienced challenges such as identification and understanding of tacit knowledge, access of tacit knowledge sharing platforms, and access to individuals with specific tacit knowledge, tacit knowledge hoarding, individualism and ICT related challenges in accessing tacit knowledge. Even

thought the necessary elements required to facilitate Tacit Knowledge Management are available, no effort has been made to customize them to harness tacit knowledge.

The study concluded that for KIPPRA to have a competitive advantage it is important that the Knowledge Manager, with the Support of KIPPRA's Management, have concerted efforts for harnessing tacit knowledge. Key recommendations include: establishment of Communities of Practice at KIPPRA that bring together like minded individuals and also enable the building of relationships based on trust among the employees, and investment in ICT mechanisms specific to tacit knowledge management to enhance the harnessing and codification of captured tacit knowledge. Employees should also be trained on the value of tacit knowledge sharing and individualism should be discouraged. The study also recommends the adoption of a proposed framework for managing tacit knowledge at KIPPRA.

Key terms

Kenya; Kenya Institute for Public Policy Research and Analysis (KIPPRA); Knowledge Management; Public Institutions; Tacit Knowledge

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LIST OF ABBREVIATIONS AND ACRONYMS

COP	Communities of Practice
ICT	Information Communications Technology
K4D	Knowledge for Development
KIPPRA	Kenya Institute for Public Policy Research and Analysis
KMAT	Knowledge Management Assessment Tool
KM	Knowledge Management
KMA	Knowledge Management Africa
SECI	Socialization, Externalization, Combination, Internalization
UNISA	University of South Africa

CHAPTER ONE

INTRODUCTION AND BACKGROUND TO THE STUDY

1.1 Conceptual setting

Since Polanyi published his work on tacit knowledge (Polanyi, 1962, 1966), there has been an increasing interest in the field of tacit Knowledge Management (KM) (Nonaka & Takeuchi, 1995; Davenport & Prusak, 1998; Assudani, 2005). While explicit knowledge is emphasized in a myriad of KM programmes, tacit knowledge which is more appropriable in organizations has been neglected (Lee & Nissen, 2010). Consequently, it is almost impossible to characterize tacit knowledge without describing knowledge and KM.

Knowledge has been of decisive importance in mankind's development (World Bank, 2007). Different definitions of knowledge have been cited by scholars and have intrigued the world's greatest thinkers wherein the term knowledge has meant different things to different scholars (Assudani, 2005). There has not been a unanimously agreed upon definition of knowledge at present (Wu *et.al.*, 2011). Theorists have different viewpoints about the definition of knowledge and whether knowledge is information and vice versa (Davenport & Prusak, 1998; Nonaka & Takeuchi, 1995). The terms knowledge and information have been used loosely in organizations and by organizational theorists who have questioned if knowledge is a more encompassing term than information or if they are two distinct concepts. Nonaka and Takeuchi (1995:8) state that knowledge is "something that is not easily visible and expressible... highly personal and hard to formalize making it difficult to communicate or to share with others."

Knowledge, originally identified in the west as a resource (Nonaka & Takeuchi, 1995), has been acknowledged by organizations as a sure source of competitive advantage (Nonaka, 1994) in an economy of uncertainty. Knowledge is an important asset for countries as it provides potential for economic and social development by providing low cost and effective ways for service provision and production of goods, while leading to globalization and competitiveness internationally (World Bank, 2012).

According to Assudani (2005:31), "knowledge is increasingly recognized as being of central importance to organizations in the contemporary knowledge society... a source of economic rent and

as a source of sustained development. Knowledge is both a resource and a process. As a process, knowledge leverages the organizations relationships between possession and creation dimension for innovation and as a resource knowledge is possessed at an individual, collective or inter-organizational level as an input or output resource.” In 1996, the World Bank developed its Knowledge Bank and, by networking with other development agencies, began what the Bank termed as the Knowledge for Development (K4D) programme whose objective is to help client countries make a transition to the knowledge economy by using knowledge as the key engine for economic growth through, for example, enhancing the understanding of KM concepts, tools and practices (World Bank, 2012). The K4D programme facilitates countries to make more effective use of knowledge for overall economic and social development. The program developed identified four main pillars of knowledge that are being put to work to accelerate and deepen the development process of developing economies (World Bank, 2012). The four pillars are economic and institutional regime, education and skills, information and communication infrastructure and innovation systems. World Bank Development Report (1998:130) points out that “knowledge is central to development” in that it transforms the resources we have into things we need and raises the standards of living, health care, education and preserves the environment in the most optimum way possible (World Bank, 1998).

Using the Knowledge Assessment Methodology (KAM), The World Bank also created the Knowledge Economic Index (KEI) that is used as a performance score card for countries in comparison with others in the global knowledge economy in their ability to measure, diffuse and adapt knowledge (World Bank, 2012). The KEI also takes into consideration whether a country’s environment is suitable for knowledge to be used for economic development. This is assessed using a framework that uses four key pillars namely “economic incentive and institutional regime, education and human resources, the innovation system and ICT” (World Bank, 2012).

In Africa, the need for harnessing knowledge to accelerate social and economic development and service delivery was ascertained and thus began the genesis of the Knowledge Management Africa (KMA) Initiative that was established in 2003. KMA was initiated with the objective of facilitating “harnessing of knowledge to improve development outcomes in Africa in the social, economic and cultural spheres” (Knowledge Management Africa, 2007:1). KMA partnered with three key groups namely: knowledge generating institutions, policy makers and knowledge users, to harness and share

Africa's rich knowledge which is useful in the development of appropriate solutions for social and economic challenges that face Africa's constituent countries (Knowledge Management Africa,2007).

In describing knowledge from an ICT perspective, Laudon and Laudon (2012) highlight knowledge in four major dimensions:

- a) *Knowledge as a firm asset*: Knowledge is an intangible asset that is not subject to the law of diminishing returns like physical assets, but instead experiences a networks effect and its value increases as more people share it and its transformation from data to information and finally knowledge requires organizational resources.
- b) *Different forms of knowledge*: Knowledge can be either codified or non-codified and involves know-how, craft, skill and knowing why, not simply when, things happen.
- c) *Knowledge location*: Knowledge is a cognitive event involving mental models and maps of individuals and has a social and individual basis of knowledge. It is also hard to move in a culture and works only in certain situations.
- d) *Knowledge is situational*: Knowledge is related to context and it is conditional to circumstances and therefore knowing when to apply procedure under what circumstances is important.

From the above discussion, it can be concluded that knowledge is a valuable resource that requires to be tapped into. Knowledge consists of facts, beliefs, truths, intuition, judgments and expectations that are accumulated and held over time to handle specific situations and challenges by applying knowledge to interpret information on how to handle the situation at hand. When used properly, knowledge in any organization is an asset without which organizations would lose their competitive advantage (Nonaka & Takeuchi, 1995; Kebede, 2010; Terra & Gordon, 2002).

1.1.1 Types of knowledge

Nonaka and Takeuchi work (1995) defines two distinct types of knowledge, namely tacit and explicit knowledge.

Explicit knowledge

Explicit knowledge can be described as knowledge that is easily coded, transferred and shared within an organization (Nonaka, 1995). It is the knowledge that is objective and rational and can be expressed in words, sentences, numbers and formulas and it includes theoretical approaches, manuals and databases (Nonaka, 1997). It is that knowledge that is captured in some form for others to access (Liyanage *et.al*, 2009, Yates-Mercer & Bawden, 2002). Explicit knowledge resides in many

documented forms such as books, reports, pictures and non book media such as videos and software among others and can be transported and shared without difficulty; it is precise, formally articulated, codified, and documented (Awad & Ghaziri, 2007).

Tacit knowledge

In describing tacit knowledge Polanyi (1966:4) stated that “we know more than we can tell” this was later further described by (Nonaka & Takeuchi, 1995) who identified tacit knowledge as action based and entrenched in practice and therefore it cannot be easily explained, expressed or described with words or symbols. Polanyi (1966) views tacit knowledge as the backdrop against which actions are understood. He invented the term tacit knowledge to describe knowledge that has been embodied, embedded, and is difficult to express (Nonaka, 1994; Davenport and Pursack, 1998; Stenmmark, 2002). Tacit knowledge is therefore seen as highly personal and difficult to formalize and it is based on the experiences and actions of an individual (Nonaka & Takeuchi, 1995).

Tacit knowledge is not well understood or valued in most organizations and more so public institutions, and is consequently neglected in the KM programmes (Lee & Nissen, 2010). These institutions spend much more in managing explicit knowledge that is recognizable, and as such, they lose the competitive advantage for organizational development and growth over other institutes in performance and target delivery. Vahedi and Irani, (2010:445) affirm that “tacit knowledge is practical knowledge that is the key to getting things done, but has sadly been neglected in the past, very often falling victim to the latest management fad.” Valuable tacit knowledge is seen as difficult to be shared in an organization due to its intuitive, versatile and practice based nature.

1.1.2 Knowledge management

The lack of consensus in defining what is meant by knowledge management (KM) explains the major confusion existing in the application of knowledge management in a systematic and holistic manner in institutions (Cong & Pandya, 2003). KM is defined as the systematic process of identifying, capturing and transferring information and knowledge people can use to create, compete and improve (World Bank, 2012). It promotes an integrated approach to identification, capture, evaluation, retrieval and sharing all of organizations information assets which include databases, documents, policies and procedures and previously un-captured expertise and experience in individual workers (Gartner Group, 1996).

KM has also been described as the art of effective use of systems to collect, use and reuse organization’s intangible assets in a positive way in order to achieve organizational goals and

improve the organization's competitive advantage (Davis, 2002). KM in any organization is important because effective KM enables the organization to avoid reinventing the wheel, improves service delivery and safeguards knowledge from loss. This helps in the decision making process for the benefit of the company, it determines what internally held knowledge can be used to benefit an organization by ensuring that this knowledge is easily available to those who need it (Roy, 2002). Development Bank of Southern Africa (2005: ix) states that "KM is just not another business theory, and is much more than IT, content management or portals. KM encompasses the strategic focus, organizational structure, and development of a given organization's work processes and work culture, aimed at fostering knowledge sharing with results that will save money, reduce development times, leverage in-house expertise, and reduce the frustration of constantly having to reinvent the wheel."

KM is best described as the process of creating, validating, presenting, distributing and applying relevant knowledge in a positive way to achieve organizational goals (Jain, 2006). The diversity of KM definitions reflect that KM comes from a wide range of disciplines such as information science, psychology, management science, engineering, information technology, sociology and strategy (Nonaka & Takeuchi, 1995; McAdam & McCreedy, 1999; Terra & Angeloni, 2005; Kebede, 2010; Laudon & Laudon, 2012). All these fields have embraced KM and embedded it in the organizations routines, process and practice.

The goal of KM is to make substantive returns on investment of people, processes and technology uniquely combined to add value to an organization (Awad & Ghaziri, 2007). In the recent years, KM initiatives have been adopted and used by organizations to systematically leverage information and expertise (Abdullah *et.al*, 2005). However, KM is still an uncharted territory in many organizations (Awad & Ghaziri, 2007).

The importance of KM in organizations cannot be overstated and some of the rewards of managing knowledge as cited by Mutula and Wamukoya (2007) include:

- Enhancement of productivity, competitiveness and low cost of operation
- Enables harnessing of aging and exiting staff knowledge in order to preserve institutes knowledge
- Facilitation of capacity building plans
- Knowledge intensive organizations are able to manage knowledge resources effectively
- Improves trust and working relations in an organization

- Innovation and teamwork are enhanced
- Enables organizations to demonstrate accountability in resource management
- Facilitates adaptation to and technology transfer

This study focuses on one particular type of knowledge, tacit knowledge in a public research institution. The study explores tacit knowledge as an intangible asset in a deeper context and investigates the various dynamics that influence tacit knowledge management. The study recommends a model for the research institution that will enable the management of tacit knowledge for competitive advantage and continuity.

1.2 Contextual setting: Kenya Institute for Public Policy Research and Analysis (KIPPRA)

The Kenya Institute for Public Policy Research and Analysis (KIPPRA) is a public research institute whose core business is to advise the government and the public on economic policy issues that affect the Kenyan economy (KIPPRA, 2012a). KIPPRA has over a period of 12 years conducted research and policy analysis in all sectors of the Kenyan economy, provided capacity building for public policy making and implementation, and served as a point of contact for exchange of views on public policy issues affecting Kenya. KIPPRA as an institute has managed to build a reputation for quality public policy research and analysis, accumulated a pool of research resources, and developed macroeconomic and sector models for policy formulation, simulation and forecasting for the Kenyan economy (KIPPRA, 2012a).

Mission

KIPPRA's mission is to provide quality public policy advice to the Government of Kenya and other stakeholders by conducting objective research and through capacity building in order to contribute to the achievement of national development goals (KIPPRA, 2012b).

Vision

The mission of KIPPRA is to be the leading institute in public policy research and analysis; an international centre for excellence.

Structure

KIPPRA is governed by a Board that constitutes 13 members who are appointed by virtue of their integrity, knowledge and experience in matters related to public policy, and understanding of management and social science research procedure (KIPPRA, 2012a). The Executive Director, who is

also the Secretary to the Board of Directors, is responsible for directing the day to day affairs and transactions of the Institute and implementation of the work programme.

The Institute has seven research divisions namely; Macroeconomics, Productive Sector, Social Sector, Infrastructure and Economic Services, Trade and Foreign Policy, Governance and Private Sector Development. The research divisions are supported by KM and Communication, a modern documentation centre which provides access to various government publications, and national and international datasets. The IT section also supports research activities in terms of data management and analysis by availing/implementing the required tools.

Every year in the month of July the institute conducts a Young Professional's programme in which up to ten successful applicants from the public and private sector participate for a period of one year. In the programme the young professionals are trained on public policy, project development and research writing related to economics (KIPPRA, 2012c).

KIPPRA is chosen as an organization of choice because; firstly it is a public institution. Secondly, it is a government think tank which heavily relies on the tacit knowledge of its researchers for advising the government on economic policy development issues, thirdly it has a Young Professional's programme that mentors young and upcoming policy analysts, and finally it has a structured KM unit.

1.3 Statement of the problem

Organizations have a large amount of tacit knowledge, in the form of know-how and best practices, which need to be discovered (O'Dell & Grayson, 1998). Tacit knowledge is embedded in the day to day activities of the organization, in the form of intuition, feelings, insight and personal abilities which are internalized in an individual through experiences and reflections (Joia & Lemos 2010).

Tacit knowledge is not only beneficial to the individuals but also to the institution as a whole if channeled properly, as it is a major source of creating valuable breakthroughs that offer the institution unambiguous competitive advantage where knowledge is shared and passed from an expert to a novice, thus ensuring the institutions growth (Yates-Mercer & Bawden, 2002). However, little or no emphasis has been enforced in the management of tacit knowledge in institutions. Focus has been on explicit knowledge and its management as explicit knowledge is easily and readily available and accessible for all and sundry. This is attributed to the notion that tacit knowledge is complex and therefore not manageable (Sinclair, 2006). From the above background it is clear that in as much as the public institutes are aware of the potential of tacit knowledge and its management, little or no effort has gone into managing this type of knowledge.

It is not surprising therefore to find that despite KIPPRA being in existent for over a decade, no empirical studies have been conducted on tacit KM in the institution. As mentioned above, it should be borne in mind that the institution is home to the top ranking policy makers in the country. In view of this, the study investigated the application and management of tacit knowledge at KIPPRA as a government think tank and a major player in the tacit knowledge business. The study looks into KIPPRA's organizational structures and aspects and how these aspects enhance or hinder the management of tacit knowledge.

1.3.1 Purpose of the study

The purpose of this study was to investigate how KIPPRA manages tacit knowledge as an intangible asset as well as recommend a framework/model for management of tacit knowledge for competitive advantage and development.

1.3.2 Objectives

- a) To establish the sources and types of tacit knowledge at KIPPRA.
- b) To identify enabling resources for sharing tacit knowledge at KIPPRA.
- c) To determine how tacit knowledge can be reused for innovation and competitive advantage at KIPPRA.
- d) To establish the role of management in creating a conducive environment for effective application and management of tacit knowledge at KIPPRA.
- e) To identify the challenges faced in the application and management of tacit knowledge at KIPPRA.
- f) To recommend a framework for effective tacit knowledge application and management.

1.3.3 Research questions

The study was guided by the following questions:

- a) What are the sources and types of tacit knowledge existing at KIPPRA?
- b) Which resources enable sharing of tacit knowledge at KIPPRA?
- c) How can tacit knowledge be reused for innovation and competitive advantage in public research?
- d) What role does the KIPPRA's management play in creating a conducive environment for effective application and management of tacit knowledge?
- e) What are the challenges faced in the application and management of tacit knowledge at KIPPRA?

- f) What kind of framework is effective in tacit knowledge application and management at KIPPRA?

1.4 Significance of the study

The review of literature indicates that focus of scholars (for example, Cheruiyot, Jagongo, & Owino, 2012; Mosoti & Masheka, 2010; Maingi, 2007) in Kenya has been on knowledge management in general and the management of tacit knowledge in Kenyan public institutions is not well covered and articulated. This study reviewed the status of tacit KM in Kenyan public institutions. The research findings of the study have also addressed facts on how tacit knowledge can be managed by the public institutions, whilst identifying the gaps and weaknesses that are encountered in the process. These facts will challenge the economic policy makers to develop policies that can govern the harnessing of tacit knowledge for economic development of the country. The original contribution of this study has added to the exiting literature, informed the knowledge handlers in the public institutions on the challenges of tacit knowledge management, and proposed a model that can be used to enable effective tacit knowledge management to improve organizational performance. The model can also be adapted by information professionals in various organizations to enable them to harness tacit knowledge.

1.5 Scope and delineations of the study

This study focused on the management of tacit knowledge at the Kenya Institute for Public Policy Research and Analysis (KIPPRA) which is a public institution in Kenya. The study did not delve into tacit KM in organizations in the private sector. The study focused on key elements that are crucial for successful tacit knowledge management namely ICT, Organizational culture, management support, and avenues enabling tacit knowledge. Methodologically, the research followed a case study research design. The study was qualitative in nature and the preferred data collection instrument was the guided interview. Observation as a data collection method was also used. The study was also guided by the Wenger *et.al*, 2002 multi-membership learning cycle model. The study's sample was limited to 41 employees at KIPPRA, who included Researchers, Young Professionals, Heads of Divisions and Mentors and selected Administrators. The composition of the selected cadre was based on the organizations core mandate and the nature of work that the selected population executed on a day to day basis that involved the use and application of tacit knowledge. The data collection findings were reported verbatim and charts and tables were used to describe the biographical details of the respondents.

1.6 Definition of key terms

Communities of Practice: These are groups of people who have a shared concern or passion for something they do and learn how to do it better as they interact regularly in their domain of interest (Wenger, 2002).

Data: A set of unorganized and unprocessed discrete facts about events (Awad & Ghaziri, 2007)

Explicit knowledge: Knowledge that is easily identifiable, can be articulated in formal language and can be easily transferred and shared among individuals (Stenmark, 2002).

Information: Information is facts and figures based on reformatted and processed data to arrive at a meaning. It is a combination of data that makes decision making easier (Awad & Ghaziri, 2007)

Information Communication Technology: An umbrella term for communication devices and applications that use technology to deliver knowledge in a timely, accurate and in a more efficient way that can be done by people (Jain, 2006).

Knowledge: Information given meaning and integrated with other contents of understanding, as a mix of fluid experiences, values, contextual information, beliefs and perspectives that provide a structure to evaluate and incorporate new experiences (Davenport & Pursack, 1998).

Knowledge Management (KM): A discipline that promotes an integrated approach to identifying, capturing, evaluating, retrieving and sharing all of an enterprise's information assets. These assets may include databases, documents, policies and procedures and previously un-captured expertise and experience in individual workers (Gartner Group, 1996).

KM enablers: They are mechanisms and functional conditions that are responsible for the success of KM initiative in an organization. They include factors such as leadership, strategy, culture, technology and people (Yang, Marlow, Lu, 2009).

Knowledge sharing mechanisms: Formal and informal mechanisms for sharing interpreting and integrating knowledge embedded in individuals and groups that aid in the performance of project tasks (Boh, 2007).

SECI: An ongoing process of Socialization, Externalization, Combination and Internalization of knowledge (Nonaka & Takeuchi, 1995).

Tacit knowledge: Knowledge that cannot be articulated or easily expressed and is deeply rooted in individual experiences, ideas, values and emotions; it is a knowledge that resides in an intuitive realm (Foos, Schum & Rothenberg, 2006).

1.7 Organization of the dissertation

The dissertation is organized into six chapters:

Chapter one provides the background to the study and research problem. Other themes include the research purpose, objectives and research question, assumption and justification of the study, contextual setting of the study, significance of the study and scope and limitation of the study.

Chapter two presents literature review. The study's theoretical framework that will look into existing literature on knowledge and tacit KM is presented. Other themes include definition of tacit knowledge, types of tacit knowledge, tacit KM, enablers of tacit KM, tacit KM in public institutions, ICT mechanisms for tacit KM, knowledge models and barriers to tacit KM. Review of empirical studies of existing literature on the status of tacit KM in selected countries is also presented.

Chapter three articulates the research methodology. The chapter includes: the study area, target population, sampling procedures and method, data collection procedures and instruments, validity and reliability, ethical considerations and data presentation and analysis.

Chapter four presents the research findings of the study. The data presented conforms to the research objectives as captured in the research instrument. The data presentation themes include the identification of the source of tacit knowledge at KIPPRA, enablers and ICT platforms for capture and transfer of tacit knowledge, how tacit knowledge can be reused for innovation and competitive advantage, the role of the management in tacit knowledge sharing, the various enablers of tacit KM, the ICT platforms used to transfer tacit knowledge and the identification of challenges in tacit KM at KIPPRA.

Chapter five presents the discussions of the findings based on the research objectives and questions. The findings are also compared with the views of existing literature and research done by other scholars.

Chapter six provides a summary of the key findings, conclusions and recommendations and suggestions for further research. A model for application and management of tacit knowledge in KIPPRA is proposed.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews and provides a synthesis of literature relating to tacit knowledge and how it is applied in organizations for competitive advantage, progression and growth. Empirical studies are also reviewed. The chapter also reviews tacit knowledge frameworks and their relevance to the study. The literature review themes derived from the study objectives include: sources and types of knowledge, tacit knowledge sharing and transfer, tacit knowledge reuse for innovation and competitive advantage, management and tacit knowledge and knowledge management models. Identification of the research gaps is presented.

A literature review is significant in any research in that it shares the results of studies that have been undertaken and are closely related to the research being undertaken, therefore avoiding overlaps of literature and provide objectivity. Literature review also provides a framework for establishing the importance of the study by relating it to the larger ongoing dialogues by filling in gaps and benchmarking the results of a study with other findings (Kothari, 2004; Creswell, 2009). Literature review also aids the researcher to acquaint themselves to methodologies, content and conclusions of others research in order to articulate the key research issues relevant to the theory in question. Literature review is important because it also ensures that the researcher will undertake a meaningful study and that the research will not be a duplication of existing works.

2.2 Theoretical framework

A theoretical framework can be described as a logical structure of meaning that guides the development of a study by identifying the key concepts and the relationship among the concepts (Creswell, 2009). Mugenda and Mugenda (1999) explained theory as a defined system that explains a phenomenon by organizing knowledge and isolated findings from different research studies into a powerful explanatory framework. Theory is sometimes used interchangeably with ‘model’ and both terms are seen as explanatory terms. A framework can be described as the main structure that gives form and shape to a research, whilst giving it a logical configuration and supports all variables (Creswell, 2009; Mugenda, 2008).

A theoretical framework is important in this research as it will inform the analytical framework of the study. The theoretical framework connects the researcher to existing knowledge and evaluates the

already existing theoretical assumptions critically. Guided by the hypotheses and the chosen research methods the theoretical framework addresses questions of why and how by identifying the limits of the general assumptions, and giving the researcher pointers to key variables that influence or differ from the phenomenon of interest, hence helps the researcher to make a logical sense of the relationships of the variables that have been deemed relevant to the research problem (Creswell, 2009).

2.3 Knowledge and knowledge management

2.3.1 Epistemology of knowledge

Kurtus (2002) describes epistemology as a branch of philosophy dedicated to the study of the origin, structure, method and validity of human knowledge. Epistemology probes into phenomena related to knowledge as it is not static and therefore the thinking, understanding, perceiving and know-how of the human knowledge arises from reflection and develops through inference and thereby exhibits a definitive structure (Biggam, 2001; Kurtus, 2002; Audi, 2003). The study of knowledge has been debated by the empiricists and objectivists who have described the characteristics of knowledge in different forms (McAdam & McCreedy, 1999; Kurtus, 2002; Hislop, 2013). These schools of thought have strived to answer questions such as what knowledge is, the different types of knowledge, the constitution of knowledge and how knowledge differs from opinion and belief (Biggam, 2001).

Knowledge first identified in the west as a resource (Nonaka & Takeuchi, 1995) has been identified by organizations as a sure source of competitive advantage (Nonaka, 1991) in an economy of uncertainty. Knowledge is an important asset for countries as it provides potential for economic and social development by providing low cost and effective ways for service provision and production of goods while leading to globalization and competitiveness internationally (World Bank, 2012). Assudani (2005:31) adds that “knowledge is increasingly recognized as being of central importance to organizations in the contemporary knowledge society...a source of economic rent and as a source of sustained development.” She also states that knowledge is both a resource and a process in that as a process, it leverages the organizations relationships between possession and creation dimension for innovation, and as a resource, knowledge is possessed at an individual, collective or inter-organizational level as an input or output resource.

Knowledge can be defined as facts, beliefs, truths, intuition, judgments and expectations that are accumulated and held over time to handle specific situations and challenges by applying knowledge to interpret information on how to handle the situation at hand. When used properly, knowledge in

any organization is an asset without which organizations would lose their competitive advantage (Nonaka & Takeuchi, 1995; Kebede, 2010; Terra & Gordon, 2002).

There has not been a unanimous conclusion to the definition of knowledge at present (Wu *et.al*, 2011). Theorists have debated on whether knowledge exists, the types of knowledge and definition of knowledge and whether knowledge is information and vice versa and if knowledge is a more encompassing term than information, or if they are two distinct concepts (Davenport and Prusak, 1998; Nonaka & Takeuchi, 1995). Nonaka and Takeuchi (1995:8) express that knowledge is “something that is not easily visible and expressible... highly personal and hard to formalize making it difficult to communicate or to share with others.” “Knowledge has been of decisive importance in mankind’s development” (World Bank, 2007) and different definitions of knowledge have been cited by scholars and have intrigued the world’s greatest thinkers and the term knowledge has meant different things to different scholars (Assudani, 2005).

2.3.1.1 The Empiricist perspective on knowledge

The empiricists believe that knowledge can only be acquired through experience (Biggam, 2001). The empiricist traditional view also believes that the main instruments of acquiring knowledge are observation and experiments. The main contributors to this theory include philosophers such as Berkely, Hobbes, Bacon and Locke, who was the British empiricism founder (Biggam, 2001). The empiricists also believe that there was innate knowledge based on logical rules and mathematics (Kurtus, 2002). However their definition and approach to knowledge has been flawed as the assumption that knowledge could only be acquired through experience has been challenged since the practicality of what is today’s knowledge, based on history would have to be discounted as the present human race did not experience it.

Truth should be a requirement for knowledge as in the definition (Biggam, 2001; Kurtus, 2002) and questions have been raised about the empiricist view of knowledge, which does not distinguish between truth and falsehood, and as a result, the claim to beliefs and experiences through falsehood that cannot be accepted as knowledge even though they are considered as such (Biggam, 2001; Audi, 2003). The empiricist perspective description of knowledge supports and gives privilege to tacit knowledge which is highly personal and can be acquired through experiences.

2.3.1.2 The objectivist perspective on knowledge

The objectivists regard knowledge as an entity that can exist independently in a codified form such as documents, computer systems and diagrams, but which people can possess (McAdam & McCreedy, 1999). In describing knowledge, the objectivists' perspective ideas are rooted in the philosophy of positivism and assume that the nature of knowledge is objective (Hislop, 2013). The objectivists' theory gives preference to explicit knowledge as Nonaka *et.al.* (2000) suggest that "explicit knowledge is expressed in formal and systematic language and shared in the form of data, scientific formulae" while challenging the objectivist perspective of prioritizing explicit knowledge over tacit knowledge. The objectivist perspective also emphasizes on the codification process of knowledge and assumes that knowledge can take a distinct entity that is detached from people who can understand and use it and therefore needs transmission where the codified knowledge can be passed on from one place to another unmodified (Hislop, 2013).

From the two perspectives of knowledge, it is clear that tacit and explicit knowledge are two distinctive knowledge types with distinctive characteristics.

2.3.2 Knowledge management

Cong and Pandya (2003), state that the Knowledge Management (KM) concept is not new, and organizations have used knowledge management practices in an informal manner. However, they argue that the lack of consensus in defining what is meant by KM has led to major confusion in systematically and holistically using knowledge management. Gartner Group (1996) defined KM as "a discipline that promotes an integrated approach to identifying, capturing, evaluating, retrieving and sharing all of an enterprise's information assets. These assets may include databases, documents, policies and procedures and previously un-captured expertise and experience in individual workers." KM is "the systematic process of identifying, capturing and transferring information and knowledge people can use to create, compete and improve" (World Bank, 2012). KM has also been described as the effective use of systems to collect, use and reuse knowledge within an organization in a positive way in order to achieve organizational goals and improve the organizations competitive advantage (Davis, 2002).

KM has also been described as the art of creating value from an organizations intangible assets or accumulation of assets and using them effectively to gain a competitive advantage (Brooking, 1996), KM in any organization is important because effective KM enables the organization to avoid the

reinventing of the wheel, improves service delivery and safeguards knowledge from loss (Gordon and Smith , 1998). This helps in the decision making process for the benefit of the company, it determines what internally held knowledge can be used to benefits an organization by ensuring this knowledge is easily available to those who need it (Roy, 2002). KM encompasses the strategic focus, organizational structure, and development of a given organization's work processes and work culture; it is aimed at fostering knowledge sharing with results that will save money, reduce development times, leverage in-house expertise, and reduce the frustration of constantly having to reinvent the wheel (Khoza, 2008).

KM is best described as the process of creating, validating, presenting, distributing and applying relevant knowledge in a positive way to achieve organizational goals (Jain, 2006).The diversity of definitions mirrors that KM comes from a wide range of disciplines such as information science, psychology, management science, engineering, information technology, sociology and strategy (Nonaka & Takeuchi, 1995; McAdam & McCreedy, 1999; Terra & Angeloni, 2005; Kebede, 2010; Laudon & Laudon, 2012). All these fields have embraced KM and embedded it in the organizations routines, process and practice. The goal of KM is to produce return on investment of people, processes and technology uniquely combined to add value to an organization (Awad & Ghaziri, 2007). In the recent years KM initiatives have been adopted and used by organizations to systematically leverage information and expertise (Abdullah *et.al*, 2005). However, KM is still an uncharted territory in many organizations (Awad & Ghaziri, 2007).

2.4 Tacit knowledge

In today's world, many organizations are facing the challenge of losing workers through retirement who are subject matter experts and have accumulated years of knowledge and expertise (Whyte & Classen, 2012). The exodus of workers through retirement is leaving a gap that cannot be filled by knowledge from books (Butler, 2010). Organizations are finding it increasingly important to harvest knowledge that is embedded in workers, commonly known as tacit knowledge (Polanyi, 1966). Organizations, though aware of the benefits of managing tacit knowledge are at a loss of how to due to its complex nature that is difficult to express and discern. Tacit knowledge has cognitive dimensions that make it hard to measure, quantify or formalize (Whyte & Classen, 2012).

Scholars have defined tacit knowledge differently (Nonaka & Takeuchi, 1995; Wenger, 2002; Awad & Ghaziri, 2007). Many authors have modified the Polanyi's (1966) definition of tacit knowledge “we know more than we can tell” to achieve desired results according to the different professional

fields (Laudon & Laudon, 2012; Whyte & Classen, 2012). Haldin-Herrgard (2004) observe that these scholars have all agreed that tacit knowledge is highly personal knowledge that is difficult to discern or express and it is based on experience, intuition and beliefs. In his review of scientific literature regarding 149 different concepts used to facilitate the understanding of tacit knowledge 1958-2002, Haldin- Herrgard (2004) found that there was no definitive conclusion on the definition of tacit knowledge. Table 2.1 summarizes tacit knowledge as defined by selected scholars.

Table 2.1: The different definitions of tacit knowledge

Polanyi (1966:4)	"I shall reconsider human knowledge by starting from the fact that we know more than we can tell... most of this knowledge cannot be put into words."
Nonaka and Takeuchi (1995:viii)	"It is personal knowledge embedded in individual experience and involves intangible factors such as personal belief, perspective and the value system"
Wenger, et.al. (2002: 9)	"Often the most valuable. They consist of embodied expertise – a deep understanding of complex, interdependent systems that enables dynamic responses to context-specific problems. This type of knowledge is very difficult for competitors to replicate."
Alwis and Hartman (2008: 134)	"Tacit knowledge is the less familiar, unconventional form of knowledge. It is the knowledge of which we are not conscious. Tacit knowledge is not codified, it is not communicated in a language, it is acquired by sharing experiences, by observation and imitation."
Whyte and Classen (2012:951)	"Tacit knowledge has a personal component which makes it tough to formalize and communicate as it consists of technical expertise, often denoted as know-how, and cognitive dimension that includes schemes, ideas, mental models, beliefs and perspectives"
Gourlay (2002:2)	"a form of knowledge that is highly personal and context specific and deeply rooted in individual experiences, ideas, values and emotions"
Awad and Ghaziri (2007:71)	"It is knowledge embedded in the human mind through experience and jobs."

The above synthesis of tacit knowledge by different scholars acknowledges that tacit knowledge is embedded in people and it is knowledge that is not easy to codify due to its complex nature. Tacit knowledge is knowledge possessed by individuals and communities and can be optimized through the creation of communities of practice that can hold, share and grow tacit knowledge according to Luen and Al-Hawamdeh (2001).

Thus, this study will be informed by Polanyi (1966), Nonaka and Takeuchi (1995) and Wenger (2002) definition of tacit knowledge who embrace tacit knowledge as valuable personal knowledge that cannot be put into words or easily be replicated by competitors.

2.4.1 Sources and types of tacit knowledge

Polanyi (1966) distinguishes between three types of tacit knowledge, first tacit knowledge that is related to perception that is visual and effortless and can be observed directly; secondly, there is the tacit knowledge that is related to emotional responses whereby knowledge acquired affects an individual judgment but cannot be specified; which He stated as “we know more than we can tell.” Thirdly tacit knowledge that is skills based where He states that even though he knew how to ride a bicycle it was difficult to explain how to ride the bicycle and maintain his balance. Therefore according to Polanyi, tacit knowledge is therefore seen as internal in nature and as a type of knowledge that is hard to code and extract. The nature of tacit knowledge consists of attitudes, ideals, mental maps and schemata (Beamer & Varner 2001) and it requires creativity in the discovery, capture, extraction and dissemination efficiently in an organization (Davis, 2002). Nonaka and Takeuchi (1995) further reiterated that tacit knowledge can be segmented into technical and cognitive dimensions. They defined tacit technical dimension as knowledge that “encompasses the kind of informal and hard-to-pin-down skills or crafts captured in the term know-how” and cognitive dimension as tacit knowledge consisting of “schemata, mental models, beliefs and perceptions so ingrained that we take it for granted” (Nonaka & Takeuchi, 1995:8).

2.4.2 Tacit knowledge management

The old adage that knowledge is power has seen scholars divided on whether managed and shared tacit knowledge leads to loss of competitive advantage (Dube & Ngulube, 2012). Several scholars (Leonhard & Sensiper, 1998; Cook & Brown 1999; Tsoukas, 2002; Cavusgil *et.al.*, 2003; Cummings, 2003) belief firmly that it is not possible to codify and transfer tacit knowledge. They largely attribute tacit knowledge to being a valuable and strategic asset that enables the organization to achieve

competitive advantage, and this fact makes many organizations and the individuals unwilling to open up and share the tacit knowledge that they host. Shim and Roth (2008) also emphasize that the nature of tacit knowledge makes it difficult to share because it cannot be well articulated and it is lost in translation due to communication challenges between the processor and the learner of the tacit knowledge. In addition they state that there are many situations that hinder tacit KM largely due to network relationships that are dependent on the closeness of individuals. Nonaka *et.al.* (2000) add to this debate and claim that tacit knowledge cannot be fully transferred into place and when not managed, it leads to loss of crucial knowledge that is beneficial to the organizational development.

The new schools of thought have however disputed this fact and have a strong conviction that tacit knowledge is the main driver of the economy and that the value of tacit knowledge increases when shared (Kamal, Manjit & Gurvinder, 2007; Dube & Ngulube, 2012). Even though tacit knowledge is a complex and multifaceted process (Dube & Ngulube, 2012), it can be harnessed and understood to improve institutional performance, this in turn fixes the inefficiencies such as duplication and wastage of resources among others that delay organizational performance (Bouthillier & Shearer, 2002; Dube & Ngulube, 2012) . These scholars also state that tacit knowledge can be made explicit, if organizations recognize networks of relationships, as a critical resource for the combination and exchange of tacit knowledge to promote innovation and create intellectual capital (Scarborough, 2003). Despite the different thinking, both schools of thought agree that the degree to which this tacit knowledge is codified is debatable in terms of quality over quantity. They also agree that collaborative tools have over time, aided in enabling of management and capitalizing of tacit knowledge which in turn, has led to individuals benefiting from this shared tacit knowledge even though only a fraction. Although tacit knowledge is developed and internalized over a long period of time, it is possible to present it outside the human mind to be of value to others. Desouza and Evaristo (2004:71) affirm this by stating that “the codification process for the richest tacit knowledge in organizations is generally limited to locating someone with the knowledge, pointing the seeker to it, and encouraging them to interact.”

2.4.3 The role of technology in managing tacit knowledge

Face to face mode of communication is no longer considered the primary way of communication therefore it is no longer the principle way of tacit knowledge sharing (Awad & Ghaziri, 2007; Panahi *et.al.*, 2012). Information and communication technologies are transforming the methods that are used to generate, access, retrieve, process and share knowledge and this has led to organizations

investing heavily in technology (Bopape, 2010). In today's economy, technology is considered the most effective way of capturing, storing and disseminating knowledge (Syed-Ikhsan & Rowland 2004). As organizations grow in size and decentralize geographically, it is becoming more and more important to adopt the use of technology to transfer knowledge. Organizations can no longer ignore that fact that technology is important for the creation, capture, storage and transfer of knowledge in order to facilitate the smooth running of operations to meet organizational goals. Jain (2006:54) adds that "technology can guarantee the accurate and timely expression and delivery of knowledge in a more efficient way than can be done by people." Organizations are using mechanisms such as corporate portals, intranet and internet. These technological mechanisms however, do not exist in a vacuum and in setting up of the systems. The management in an organization should consider the implementation of technological mechanisms which are user friendly, centralized, simplistic in formation, flexible and easy to maintain to facilitate the fluid flow of tacit knowledge within and outside the organizations. Though an expensive venture in the initial stages, knowledge mechanisms should be built in accordance with employees needs and organizational processes to make it efficient (Cong & Pandya, 2003; Haruyama, 2009). Technology also provides a safe haven for sharing tacit knowledge, where, individuals can anonymously share their personal thoughts, ideas and perspectives about work related issues and in effect enable people to arrive at new interpretations and ideas that are used for innovation (Panahi *et. al.*, 2012).

2.4.4 Tacit knowledge reuse for innovation and competitive advantage

"Once the importance of tacit knowledge is realized, then one begins to think about innovation in a whole new way. It's not just about putting together diverse bits of data. It is a highly individual process of personal and organizational self-renewal... and that fact fuels innovation," (Nonaka & Takeuchi, 1995:10). In today's business landscape successful companies are those that continually create new knowledge. Knowledge is the new competitive resource that organizations are using to get ahead of their competitors (Awad & Ghaziri, 2007; Riege, 2005). Companies such as Amazon, Yahoo, Google, and Intel which are considered among some of the largest companies today have relatively few tangible assets and their focus is mainly on knowledge assets that include intellectual knowledge and skills that have been accumulated over time and this knowledge is shared, transferred and stored through organizational learning (Herbert, 2000).

The rise of a service economy and global competition has propelled tacit knowledge into the limelight where organizations have accepted tacit knowledge as a strategic competitive factor (Argote &

Ingram 2000). Tacit knowledge in an organization takes the form of individual or collective knowledge (Polanyi, 1966; Nonaka & Takeuchi, 1995; Berman et.al, 2002). Polanyi (1966) classifying the individual knowledge as a skill that is cognitive and technical. Collective knowledge on the other hand is experiential knowledge that is held by a group or team who use this knowledge to perform tasks with accuracy and efficiency together (Berman, et.al, 2002).

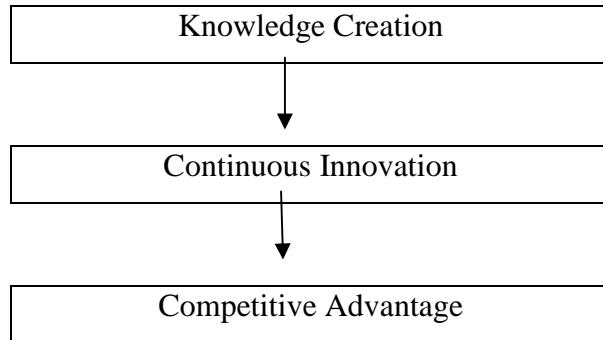
Zucker and Darby (2001:8) add that “Tacit knowledge often requires that one of those already holding that knowledge work with the novice to teach them in a hands-on process” and therefore the management needs to capitalize on the competitive advantage of tacit knowledge by developing an organizational culture where learning communities that share common passions, interests and expertise are established and relationships built in an environment of trust to enable the flow of tacit knowledge within the individuals and or teams where individuals freely share without fear and feel secure and with no fear of losing credit (Smith, 2001).

2.4.5 Tacit knowledge and innovation

Tacit knowledge is a long term learning process that is embodied in the way of thinking that enables perception of ideas and therefore, inspires creativity (Caroli, 2003). Tacit knowledge grows and evolves in an organization that supports and is open to innovation, it is therefore important that the leaders of organizations realize that tacit knowledge is critical in all stages of organizational tasks which lead to innovation and create conditions that enable all employees to verbalize their tacit knowledge (Alwis & Hartmann, 2008). Nonaka and Takeuchi (1995) also credited the success of Japanese companies through innovation to tacit knowledge conversion. If properly harnessed tacit knowledge can be used as a strategic tool for innovation in that it offers a holistic conception that enables individuals to make novel associations and linkages that are diverse in their elements (Johannessen, Olaisen & Olsen, 2011).

Tacit knowledge is a huge source or potential and opportunities that constitute creativity and discovery (Alwis & Hartmann, 2008). There is also the other school of thought where scholars have argued that tacit knowledge dimensions grow obsolete daily and hinder the innovation process (Rebernik & Sirec, 2007) therefore, if not properly managed, can be a huge barrier to innovation and creativity because it is usually part of a long-term learning process that is specific in context, thus serving as a conservative element in relation to innovation (Johannessen *et.al.*, 2001).

Figure: 2.1 Continuous innovation for competitive advantage (Nonaka and Takeuchi, 1995)



2.4.6 The role of management in creating a conducive environment for tacit KM

Harlow (2008:151) states that “tacit knowledge is used in three ways: to find problems; to solve problems; and to predict and anticipate problems.” These factors apply to the leadership in an organization since they are seen as the stewards of the “ship” and floating or sinking of an organization is dependent on their day to day decisions. These leaders affect the work environment and culture of an organization that strikes a balance between trust and control (Savolainen, 2008). They are also tasked with organizing project teams and with individuals that are multi talented for problem solving and innovation. They therefore play a crucial role in the transfer and application of tacit knowledge within an organization. In describing the importance of leadership Savolainen (2008:7) stated that “As leadership plays an important role in creating collaborative relationships, participative management style seems to be essential with individual managers’ commitment and skills.”

The combination of trust and managerial support motivates collaborative actions in organizations. Holste and Fields (2010) add that the engagement of employees frequently in collaborative processes, builds relationships that influence trust which is a critical requirement for tacit knowledge flow among employees in the organization. Therefore, the management role cannot be ignored in establishing and maintaining an environment of trust where tacit knowledge flows freely within the organization. Mahoney (2000:241) summarizes the role of a leader by stating that “ in my view leadership must exist at all levels in an organization, regardless of the size, for it to consider itself a learning organization....there is no excuse for them [leaders] not creating an environment where everyone can participate in this process.”

As trustees of an organization, the management decisions based on the organizational knowledge determine the sinking or floating of an organization. Awad and Ghaziri (2007:475) state that “smart managers focus on organizational learning to ensure operational excellence.” As tacit knowledge is

not tacit and it is acquired through experience, the leadership of an organization is paramount as employees look up to their managers for direction. The support of the management in tacit KM initiative ensures that employees also acknowledge and support the tacit KM initiative.

When it comes to the office environment, the management should ensure that there is an environment of openness and flexibility where different personalities are accepted (Awad & Ghaziri, 2007). This ensures that the employees are able to brainstorm, exchange ideas through discussions and productive debates that enable the organization to come up with innovative and new ways of conducting business. By having such an environment, the management ensures that tacit knowledge is not hoarded and is shared among the coworkers through collaborations and coordination in executing tasks. Management should also ensure that the infrastructure that is necessary for tacit KM is available within the organization. This includes the creation of office spaces that are open and encourage interaction among the employees regardless of hierarchy, availability of meeting rooms where tacit KM is shared between Communities of Practice (CoPs) and among individual staff. There is need for creation of common rooms that can facilitate informal sessions such as tea and lunch breaks which are known to be effective for tacit KM.

The role of ICT technologies can no longer be ignored. However the cost of implementing such technologies has been an uphill task in many organizations. Therefore for the successful execution and implementation of tacit KM ICT platforms is largely dependent on the support of the management. It is important that the leadership in any organizations supports and backs the implementation of proper technologies for tacit KM that are available and ready for use within the organization (Joia & Lemos, 2009; Awad & Ghaziri, 2007). By rallying behind tacit knowledge technologies the management guarantees the future financial support of the tacit KM technologies (Laudon & Laudon, 2012). Incentives based on tacit knowledge sharing should be considered by management when it comes to tacit KM.

2.4.7 The influence of organizational culture in tacit KM

Nonaka and Takeuchi (1995) define an organizational culture as a pattern of basic assumptions that consists of the beliefs and knowledge shared by members of an organization. It is this organizational culture that plays a key role in organizational knowledge creation, as it changes and evolves over time through social interactions. Every organization has a culture that makes it unique and different from the other organizations. This culture made up of rules, policies, regulations and guidelines, gives the

organizations a sense of direction and has a deep impact on the employees of the organization and the relationship among themselves (Management Study Guide: 2013).

Organizational culture is classified into two namely; Strong Organization Culture where the employees adjust well and adhere to the organizational policies and guidelines accept their roles willingly and a new learning experience and try to gain as much as they can (Management Study Guide: 2013). In a weak culture employees do their work out of compulsion and accept their responsibilities out of fear of superiors and harsh policies. Employees distance themselves and they hence treat their organization as a mere source of earning money (Management Study Guide: 2013).

A good organizational culture is one that which reduces the barrier and changes the attitude and behavior of individuals in an organization in order to foster knowledge sharing. Organizational culture “orients the mindset and actions of every employee,” Nonaka and Takeuchi (1995:167) .This is achieved by building an environment of trust as the level of trust has a direct bearing on tacit knowledge sharing as the more the trust the more the individuals will be comfortable to share tacit knowledge. An organizational culture also that is strong will raise awareness on the benefits of tacit knowledge sharing instead of hoarding. Cong and Pandya (2003: 30) add that “while they believe that knowledge is power, they must understand that sharing knowledge is power.”

Tacit knowledge is a people issue and getting the organizational culture that includes individual's values and behavior is the most important, yet the most difficult challenge in enabling tacit knowledge flow (Cong and Pandya:2003). Organizational culture is dependent on people's motives and their ability and readiness to share and use other people's knowledge (Cong & Pandya, 2003; Awad & Ghaziri, 2007).

A strong organizational culture makes it easy to create and nurture Communities of Practice (COP) where employees with similar responsibilities and who recognize the benefits of using tacit knowledge create, share and use tacit knowledge (Wenger *et.al.*, 2002; Cong & Pandya, 2003) based on their skills, abilities and willingness to change the way things are done with the knowledge that there is a risk of failure (Holste & Fields, 2010).

2.5 Knowledge management models

The research reviews the various Knowledge Management models reported in literature, particularly on tacit knowledge namely: Nonaka and Takeuchi Socialization, Externalization, Combination Internalization (SECI) model, Model [1995]; Knowledge Management Assessment Tool (KMAT)

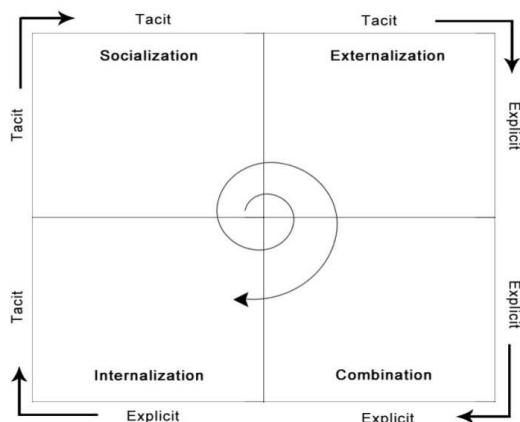
Model [1995], World Bank Knowledge for Development [K4D] framework [1996]; and the Etienne Wenger Communities of Practice [COP] Model [1998] that informs this study.

2.5.1 Nonaka and Takeuchi SECI model

The Nonaka and Takeuchi Socialization, Externalization, Combination Internalization (SECI) model of 1995 was developed with the goal to “formalize a generic model of organizational knowledge creation” (Nonaka & Takeuchi, 1995: ix). They classified knowledge into two categories; namely, explicit and tacit knowledge and took these two types of knowledge as the basic unit of analysis for explaining an organization’s behavior. They studied various Japanese organizations and how they managed to get that competitive edge over the western countries. In the findings, they discovered that the Japanese had a different understanding of knowledge and viewed knowledge as being primarily “tacit” and this knowledge was the key to the difference between the western approach to knowledge and knowledge creation. Nonaka and Takeuchi (1995) also added that while the Western emphasized explicit knowledge, which was readily available, the Japanese stressed on tacit knowledge and also acknowledged that the two were not separate entities but complemented each other as entities by interacting and interchanging with each other. They called this interaction “knowledge conversion” (Nonaka & Takeuchi, 1995).

Knowledge conversion process included four modes of conversion of knowledge; namely, tacit to tacit knowledge (socialization), tacit to explicit knowledge (externalization), explicit to explicit knowledge (combination) and explicit to tacit knowledge (internalization). These four modes form the SECI model that allows the transformation of individual knowledge to collective knowledge via group processes and organizational culture.

Figure: 2.2: The Nonaka and Takeuchi (1995) SECI model



The SECI model is a process model and although detailed, the model's emphasis is on learning and assumes that workers learn within the parameters given by the managers who "create grand concepts that identify common features linking disparate activities or businesses" (Nonaka & Takeuchi, 1995:15). Glisby and Holden (2003) Poell and van der Krogt, (2003) Goulary and Nurse (2005) have criticized the SECI model by stating it does not have a sound empirical grounding, hence questioning its status. They also critique the model in that it is a form of learning whereby assumption is that workers learn within restriction set by their managers. They also state that the SECI model is based on Japanese management cultural practices, thus it is not transferable to other environments. The SECI model also does not address some issues in tacit knowledge such as structures and technology which are vital. The SECI model framework that knowledge originates in individual minds does not address knowledge that arises from collective action such as teamwork and while it acknowledges tacit knowledge, little is said about how it can be managed. Therefore, this limitation makes the SECI model unsuitable as the study's reusable framework.

2.5.2 Knowledge Management Assessment Tool (KMAT) model

The (KMAT) was developed in 1995 by American Productivity & Quality Center and Arthur Andersen to help organizations assess KM in the organization (Dalkir: 2005). It has a simplified scoring system that looks into five main sections of KM namely; leadership, technology, culture, process and measurement. Jager (1999) described the KMAT tool as a collaborative benchmarking tool, designed to help organizations make an initial high-level assessment of how well they manage knowledge. Jager (1999) further adds that the intention of the KMAT is not to do competitive or cooperative benchmarking, but collaborative or internal benchmarking. She further explains that KMAT looks at areas in an organization that need improvement.

The KMAT though comprehensive, fails to address tacit KM in detail and looks at generally five broad areas of an organizational functionality and how they enable knowledge management in general. In leadership, the KMAT tool focuses on strategy and how the organization uses its knowledge assets to reinforce core competencies; technology focuses on systems and how communication flows internally in an organization; culture practices focus on how the organization encourages employees to build knowledge bases that are customer focused; the KM process evaluates and identifies the KM gaps and systematically closes them; and measurement involves the assessment of how an organization evaluates the knowledge capital it holds and what resources are

allocated. Even though it is comprehensive, the KMAT tool looks at KM in general. The questions that are presented in the tool would therefore be most suitable in studies that investigate knowledge management status in an organization. The KMAT as a tool is therefore not suitable for this study which aims to look in depth at tacit KM.

2.5.3 World Bank Knowledge for Development (K4D)

The world Development Report (1998) also points out that “knowledge is needed to transform the resources we have into things we need, and to raise standards of living, improve health conditions, provide better education and preserve the environment, and to do this in the most optimum way possible. All these value addition activities require knowledge.” In view of this, the World Bank in 1996 developed its “knowledge bank” and by networking with other development agencies began the Knowledge for development K4D program. The K4D program objective was to “help client countries make the transition to the Knowledge Economy, which is one that uses knowledge as the key engine for economic growth” (World Bank: 2012).The K4D program was developed to enhance the understanding of the KM concept, tools and practices among professionals in the World Bank client countries (World Bank: 2013). The program is based on four pillars of the economy namely; economic and institutional regime, education and skills, information and communication infrastructure, and information and communications technology (ICT). These four pillars are being put to work to accelerate and deepen the development process of developing economies. The K4D is also being used to help countries to transition to Knowledge Economies (KE) by enhancing KM for KE. As the K4D delves into KM for KE in general, it is not a suitable method for this study as it fails to address tacit knowledge in detail. It looks at only one aspect of tacit KM competitiveness of how the private sector has gotten ahead of the public sector, and hence does not address other critical enablers of tacit KM.

2.5.4 Wenger’s Communities of Practice model

Wenger’s Communities of Practice (COP) is used to inform this study as it encompasses components that are relevant to tacit KM. Wenger, *et.al.* (2002:4-5) defines COP as “ groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis... these people don’t necessarily work together every day, but they meet because they find value in their interactions... they discuss their situations, their aspirations, and their needs... they may create tools, standards, generic designs, manuals and other documents-or they may simply develop a tacit understanding that they share.”

Wenger, *et.al.*, (2002) acknowledges that there is explicit as well as tacit knowledge and also concludes that explicit knowledge however important, is dependent on tacit knowledge to be applied.

This knowledge is not static and sharing tacit knowledge requires interaction and informal learning processes. COP's provide such a platform through activities such as coaching, apprenticeship, storytelling and conversation where knowledge is codified.

COP's are able to deal with a variety of knowledge related issues and if well placed and understood, they are not there to replace teams or business units but are recognized as primary contributors in the short and long-term value of a knowledge economy's success (Wenger, *et.al.*, 2002).

Tacit knowledge is personal knowledge and (Boisot: 1999) quantifies three types of tacit knowledge as; things that although understood cannot be said because they cannot be properly articulated, things that are not said because everyone understands them and takes them for granted and things that are not said because nobody fully understands them. COP's offers a flexible and effective approach for managing complexities of tacit knowledge.

First COP's consist of individuals who are rich in context around their areas of knowledge and therefore when these individuals come together, they enhance knowledge within the group through socialization and as they do so, this knowledge, with time, becomes unspoken and more tacit knowledge is created.

COP's also draw from a deeper and wider pool of expertise that is determined on participation rather than position. The various activities that the COP's are involved in ensure that there is tacit knowledge flow and this knowledge is not locked up in an individual.

Thirdly, collective learning normally takes place in COP's leading to collective group memory (Abell & Oxbrow 2001). In some cases specialists are invited to share with the COP's and it is while sharing that the people start to think creatively about new ways of doing routines

Lastly COP's already exists informally in organizations, thus it is easy to identify and foster and nurture these communities for harnessing an organizational tacit knowledge. The management in an organization can also create an environment that will facilitate materialization of new communities of practice.

Wenger *et.al.* (2002) describes an active COP's as that which has three main levels of participation and has a coordinator who organizes and connects community members. First, is the core group which is a small group that involves members who actively participate in the forums and discussions

as the COP's matures the members of this core group take on the leadership of the COP. Secondly, is the active group which has members who meet regularly but without the intensity or regularity of the core group. Lastly is the peripheral group which has the number of members of the COP's. This group mostly observes the interactions of the active and core members; they rarely participate as they "feel that their observations are not appropriate for the whole or carry no authority" (Wenger *et.al.*, 2002: 56). Outside these three main levels are the outsiders who have an interest in a COP's but are not members. These levels of participation are not static, the boundaries of these levels are fluid and members move from one level to the next depending in interest and expertise (Wenger *et.al.*, 2002).

This degree of participation creates a knowledge process where members are not only participants of the COP's but also operational team members that link COP's capabilities to the knowledge requirements of teams and organizational requirements. Wenger *et.al.* (2002) describes this as the multimembership learning cycle which is used as the model for this study.

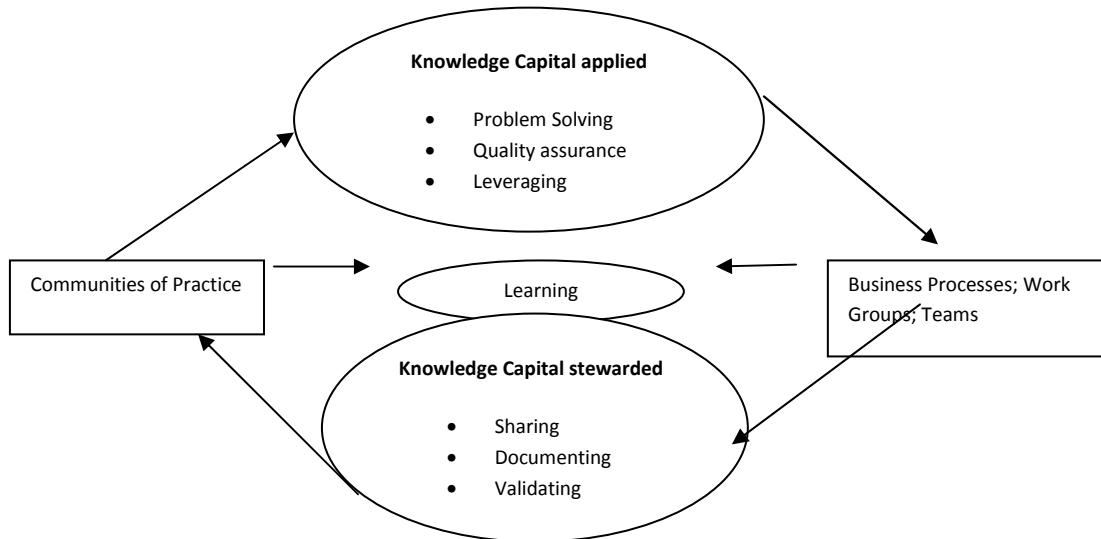
The multimembership learning cycle is a double-knit structure of teams and communities that have multiple reporting relationships to serve different purposes (Wenger *et.al.*, 2002). The multimembership cycle is a learning loop (Figure 2.3) that helps work groups who are also part of COP's to apply their refined skills to invent and solve problems on a day to day basis. This they achieve by bringing the problems to the communities where brainstorming and discussions are held with experts in the field sharing their tacit knowledge within the COP's. Solutions are then integrated and documented after which these members return to their workgroups or teams equipped with expended knowledge and capabilities to solve the problem (Wenger, *et.al.*, 2002; Awad & Ghaziri, 2007). Multimembership COP's provide stability and, with time, becomes the focal point which connect people in different units working on a similar project and provide a home for identity where practitioners connect across geographical and organizational boundaries, and their flexibility enables organizations respond better to the shift in market demands as opposed to the authority structures in organizations that have no COP's (Wenger *et.al.*, 2002).

In this model, practitioners who are part of work groups, business processes or teams are also part of COP's in the organization. By having these dual roles, they are able to apply their individual or collective knowledge through socialization and internalization in discussion forums and other activities. The COP's leverage the authority of managers and employees are free to air their opinions on their expertise without fear, reprimand or intimidation as would be the case in an office hierarchy structure. This enables them to guarantee quality of output as opinions are shared and debated upon

and later, the best option is used to solve challenges that had been presented at the work groups (knowledge capital applied).

In the breadth, tacit knowledge shared is captured, validated and codified using enablers such as technology for future reference. Codification transforms the tacit into explicit, which can be used in future for problem solving and innovation as need arises.

Figure 2.3: The multi-membership cycle (Wenger et.al, 2002: 19)



2.5.4.1 Relevance of Wenger's Communities of Practice model to the present study

The multimembership cycle was ideal for this study as it enabled the researcher to look at application and use of tacit knowledge at KIPPRA since it focuses on tacit knowledge which is individualistic and collective that is centered on learning. Tacit knowledge, which is both individual and collective knowledge (Polanyi, 1966), is shared within a group or team where individuals learn and use it to perform complex tasks, with relatively high level of accuracy using the experiential knowledge gained within the group (Wenger, et.al., 2002). Multimembership cycle also involves the inclusion of professionals regardless of their professional labeling such as managers and supervisors and this creates an environment of trust where knowledge is shared across boundaries without apprehension. This was relevant to the tacit knowledge sharing objective as it would guide on the understanding of the organizational structures that are in place for tacit knowledge sharing and capture.

Secondly, the model uses a combination of different work groups that build COP's and in so doing there is flexibility because the boundaries are fluid where individuals in teams or workgroups can share their challenges in the COP's and experts can give their opinions and suggestion in handling the

challenges. This is ideal because in cases where an organization has employees who are working on a different project and are unaware of employees in a different team with valuable knowledge, they can thus be tapped into the COP's. This will address the creation of an enabling environment where tacit knowledge is shared among the staff willingly. This combination of work groups was relevant to the knowledge sharing objective, where the researcher asked the respondents to define how the employees in the various divisions worked in project execution.

Thirdly, the fluidity of the flow of individuals between work groups and COP's creates a loop that enables tacit knowledge shared to be validated and documented using enablers such as technology for future use, if ever the same challenge is encountered and the teams or work groups have already been dispersed. This factor is important to the study as it will guide in identifying enabling resources for capturing and transferring tacit knowledge and their usefulness in ensuring that this knowledge is managed appropriately. This aspect addresses the ICT platforms use and challenges experienced when using these platforms by the respondents to share tacit knowledge.

Fourthly with the constant change in the business environment, the documented tacit knowledge is fundamental since it is a useful auxiliary for innovation and finding new approaches to dealing with daily tasks to create an organization's competitive edge. This enables the researcher to assess the reuse of tacit knowledge for innovation and competitive advantage. This aspect guided the research in meeting the reuse of tacit knowledge for innovation and competitive advantage objective.

Finally, the multimembership COP's transforms the landscape of an organization as organizational goals and projects change. This is because they provide an identity for practitioners in the group in a constantly changing organization. Wenger *et.al.* (2002:20) summarizes this as follows "in an organization that is constantly changing, employees may not know who their boss is going to be tomorrow, which country they will be sent to, or which team they will join. But they know that they will still belong to their community of colleagues." Therefore, the issue of loss of valuable tacit knowledge by exiting employees or change in the company dynamics which can be a challenge in accessing tacit knowledge will be addressed by this.

2.6 Barriers to tacit KM

Capturing tacit knowledge is not a straight forward routine and requires an extensive time commitment, tools and methods (Awad & Ghaziri, 2007)). Scholars, (Laudon & Laudon, 2012; Holste & Fields, 2010; Joia & Lemos, 2009; Awad & Ghaziri, 2007; Riege, 2005; Tiwana, 2002;

Housel& Bell, 2001) have identified the individual, organizational and technological barriers as major players in the management of tacit knowledge in organizations.

2.6.1 Individual barriers

Tacit knowledge is individualist and an individual's personality, temperament and attitude largely determines the sharing of tacit knowledge within an organization (Awad & Ghaziri, 2007). In some cases individuals shy away from sharing their knowledge at the risk of exposing their knowledge or lack of it. Wenger *et.al.* (2002) identifies "pride of ownership" by an individual of their domain also contributes to knowledge hoarding by an individual as the popular belief knowledge is power lowers the status of knowledge sharing (Tiwana, 2002). Riege (2005) adds factors such as lack of time to identify colleagues and share knowledge, low awareness of the benefits of possessed knowledge to others, poor interpersonal skills, gender, lack of social networking and differences in culture, race and value system as some of the individual barriers to tacit knowledge sharing.

2.6.2 Organizational barriers

Leadership in any organization is tasked with the development of processes and strategies for an organization to succeed in the business environment. They are also tasked with creating an environment that is conducive for innovation by the employees. Leaders however in some organizations are barriers to tacit knowledge sharing because they create bureaucratic and hierarchical organizational structures that are inflexible hence hindering communication, consequently the transfer of knowledge within the organizations (Joia & Lemos, 2009). This trickles down to the employees who develop a corporate culture that does not support knowledge sharing.

It is of paramount significance that trust prevails between relationships and among employees in an organization in order for tacit knowledge to be shared (Awad & Ghaziri 2007; Holste & Fields, 2010). Trust that is mutual and based on cultural values is a prerequisite for tacit transfer. However, in most organizations this is not the case and there is little or no trust among employees, trust is broken where individuals take credit without acknowledging the source of the knowledge. Awad and Ghaziri (2007:25) state that "trust means integrity, consistent communication and proven willingness of the organization to integrate employees into the decision-making processes.

Restructuring and downsizing also leads to loss of valuable tacit knowledge in organizations. Housel and Bell (2001: 5) affirm that "When an organization, private or public, downsizes without provision to preserve and extend necessary intellectual capital can find themselves brain dead after terminations

and layoffs. After all, knowledge resides primarily within human heads; when ‘head count’ is reduced, inevitably the sum of knowledge within the organization is reduced, sometimes critically so.” Valuable tacit knowledge is lost especially when staff members who have been with an organization over a long period and have specialized skills and expertise exit without having their knowledge documented.

Other organizational barriers include; internal competitiveness amongst employees, business units or functional areas, limited company resources that do not cater for or encourage knowledge sharing, lack of recognition and having creative ways of retention of highly skilled and experienced staff, lack of transparency within the organization and a top-down communication and knowledge flow that is restricted in that direction (Riege, 2005; Taylor, 2009)

2.6.3 Technology barriers

Technology has changed the way organizations operate as it has provided means to instant access to information and data over long distances. However, technology does not operate in a vacuum and organizations today are adapting the use of hybrid solutions to facilitate knowledge sharing (Riege, 2005). A hybrid solution refers to the interactions between people and technology in the making of sharing or knowledge within and outside the organization easier and efficient. While there is no doubt that technology is a facilitator of knowledge sharing, it has also been a barrier in some organizations (Laudon & Laudon, 2012). This is due to factors such as integrated ICT systems and processes that are a mismatch with the intended users, heavy reliance on technology by employees that are unrealistic, reluctance by the same employees to use technology due to lack of familiarity, little or no training of employees on ICT systems and processes, ICT systems that are diverse yet not compatible and lack of technical support and maintenance of the said ICT systems (Laudon & Laudon, 2012; Awad & Ghaziri, 2007; Riege, 2005).

2.7 Review of empirical studies

The researcher reviewed selected empirical studies on management of tacit knowledge from United Kingdom, Japan, USA and Canada, Southern Africa and Kenya. Although the studies selected cover KM in general, they have an aspect of tacit KM that is key to this study.

2.7.1 Studies selected from European, American and Asian countries

Sinclair (2006) conducted a study examining the United Kingdom (UK) government National Knowledge Management Project established by the office of the Deputy Prime Minister in 2004 for

the local authorities. The study delved on local authorities in the UK and how they had managed to integrate the Knowledge Management programme rolled out by the Prime Minister's Office in the various local authorities. In his finding, Sinclair (2006) identified the main problem facing majority of the local authorities was that they were looking at systems, tools and techniques of the various solutions which were being implemented in isolation, consequently there was no harmony in terms of operations and there was duplication of effort, hence of money was wasted on this venture.

Sinclair (2006) noted that even though the local authorities had invested heavily in these areas, they were still at a loss of how to fully achieve effective information, data and knowledge sharing and the re-using of knowledge, how to correctly define knowledge so that it has a benefit to the organization and communities, how to develop a culture within the organization that would encourage knowledge sharing within and outside an individual's comfort zone, and finally what systems both human and electronic would need to be put in place in order to ensure creation of efficient flow and distribution of knowledge. The findings of the study also indicated that the principle impeding factors to tacit knowledge sharing were: trust between workers and organizations, and the KM tools and techniques that were in use were unsuccessful in building fundamental blocks in knowledge identification, sharing and reuse.

In his recommendation, Sinclair (2006) advices that the local authorities should first and foremost recognize the knowledge and skills held by workers in the authorities as being central to achieving their target and use the working definition of KM "the creation and subsequent promotion of an environment that encourages knowledge to be created, shared, learnt, enhanced, organized and exploited for the benefit of the organization and its customers." to strengthen the relationships among employees and partners. This can be achieved by developing a KM road map, tacit KM, local intelligence systems and comprehensive performance assessment.

The study covers knowledge management generally even though it recommends that tacit knowledge should be the key focus for the local authorities in order for them to benefit from the systems tools and techniques. Sinclair (2006) does not satisfactorily cover the five key elements that are crucial for successful tacit KM. He does not also discuss COP as a model that would be an asset for knowledge management for such diverse local authorities.

Nonaka and Takeuchi (1995) also examined how the Japanese companies successfully created the dynamics of innovation. This they did by looking at how Japanese create new knowledge by conversion of tacit knowledge to explicit. By analyzing the Honda city example, they established that

tacit knowledge is of little value to the company unless the individual converts it to explicit which allows for it to be shared within the organization, especially in the product development phase. The Honda management formed a development team including engineers and designers that would create a new generation car that was a postwar generation and not conventional.

The management gave the team two instructions “to come up with a product concept fundamentally different from anything the company had ever done before; and second, to make a car that was inexpensive but not cheap” (Nonaka & Takeuchi, 1995:11). The team, by working together and sharing their tacit knowledge, were able to develop a car that was evolutionary and today Honda uses the lesson of the 1970 “know-how” for competitive advantage. This was achieved by the knowledge creation process by the group where tacit knowledge became explicit taking the form of analogies, concepts, hypothesis and finally a model. However the study failed to take account of other important enablers of tacit KM such as leadership and technology that are critical to the success of tacit KM

Cong and Pandya (2003) examined the issues of KM in the public sector in the UK and established that the new economy was not only a challenge, but an opportunity for development and that governments must take advantage by adopting new management tools, techniques and philosophies to adapt to circumstances. They singled out adoption of KM initiatives as an important strategy for dealing with challenges created by the knowledge economy. Their findings stated that an estimated 85% of senior civil servants will leave the government and emphasis was also on the need to harness tacit knowledge carried by these knowledge workers. They stated that “public organizations need to boost their KM initiatives to start retaining knowledge currently in the heads of these employees and that unless this was done; services to the public would suffer. Thus, capturing tacit knowledge and then training staff is important so that it can be passed onto new staff.” (Cong & Pandya 2003:29). This study recommended the development of a KM framework that included people, processes and technology as the three key elements that would simulate and nurture the sharing and use of knowledge. The recommendation also included the raising of awareness of the benefits of KM, developing leaders who foster sharing as role models and building an environment of trust in the public sector. The study however, failed to look at COP as key to innovation and development.

Harlow (2008) examined the effect of tacit knowledge on firm performance. The study was conducted in USA and Canada where 108 sample firms were surveyed, with each firm’s involvement in the measure of the degree of usage of tacitness of the knowledge management method that enabled the unlocking of tacit knowledge towards greater innovations. The research found significant

relationship between the firm's level of tacit knowledge and innovation performance, whereby the results of the study indicated that use of tacit methods had a greater effect on innovation than financial measure. This means that firms whose goal is to innovate should employ a higher degree of tacit method usage than firms whose goal was financial. The study proposed the use of a Tacit Knowledge Index (TKI) as a strategic KM tool that managers would use as a measure of tacit knowledge in their firms, and as a way of increasing the firm's learning and innovation parameters through programmes such as COP.

Fields and Holste (2010) studied 202 professionals and managers in an unnamed international nonprofit organization that supports the work of missionaries working around the world, on the extent of trust and tacit knowledge sharing and use. The findings were that the effect-based trust and cognition-based trust had influence to the extent in which the staff members were willing to share and use tacit knowledge. The effect based trust impacted greatly on the willingness to share tacit knowledge, while cognition-based trust played a major role in the willingness to use tacit knowledge. This implied that the KM effort needs to refine the view of social networks that impact knowledge transfer and management process. The study also concluded that effective management of tacit knowledge is essential for the modern firm, and that increased investment in technology would not translate to better transfer of tacit knowledge as it was up to individuals to decide whether to share tacit knowledge or not. The study recommended further research on trust and tacit knowledge sharing and transfer, impetus for specific knowledge exchange opportunities and tacit KM in other organizations to determine and understand the effects of cultural norms within the organization in tacit knowledge transfer.

2.7.2 Studies from selected African countries

Martins (2010) conducted a study in South Africa on knowledge retention with the aim of identifying the organizational and behavioral factors that could enhance or impede tacit knowledge retention due to massive loss of knowledge loss that organizations are facing on account of layoffs, retirements staff turnover and mergers. Martins (2010) explored the nature of knowledge and contextualized the theory building process that focuses on the appearance and application of knowledge residing in peoples mind. Martins (2010) used quantitative empirical research method for survey in the water supply industry. A questionnaire for survey was used. Respondents included staff of supervisory and middle levels, senior and top management levels, and specialists who have a sound understanding of knowledge retention behaviors in the organization under study.

The findings of the survey indicated that there was a direct relationship between knowledge retention and strategy implementation. The research findings also identified factors at the individual, group and organizational level that influence tacit knowledge retention in the cognitive and constructive level. Martins (2010) recommended a model could assist organizations in determining the extent to which knowledge is retained and where to focus in developing and implementing a knowledge retention strategy. Though comprehensive, the study is narrowed down to one area of tacit KM that focuses mainly on the organizational environment which is under study in this research. The study does not look at other factors which this research studies that influence tacit KM in organizations.

Munzhelele (2012) focused on Knowledge Management and Service Delivery Housing Sector in South Africa and at how the South African government has encountered negative service delivery. The study states that although the department of housing has delivered more than two million houses to its citizen since 1994, there have been significant challenges encountered in managing their data, information, knowledge, people and processes, which can greatly improve the service delivery. Munzhelele (2012) also states that the department of housing has been faced with the challenge of maintaining its assets, namely information, knowledge, information technologies and human resources.

Munzhelele (2012) conducted a survey among officials in the housing sector department who use the existing information systems, project management and do monitoring and evaluation of the sector. In his findings, Munzhelele (2012) concluded that the department has challenges in managing the existing knowledge; namely, information, knowledge, information technology and human resources. In his recommendation Munzhelele (2012) proposed a knowledge management model that would be suitable for the housing sector departments to enhance service delivery. The study although dealing with knowledge management, was specific to the housing sector in South Africa and looked at knowledge management in general. Munzhelele (2012) also did not clearly define the differences of information and knowledge and used the two interchangeably. He further generalized knowledge, and did not focus and critically look at the types of knowledge, especially tacit knowledge which is the focus of this study.

Khoza (2008) researched on the utilization of intranet as a knowledge management tool in South African organizations. The respondents were drawn from 30 different organizations in South Africa with one entry representing each organization. In his findings, Khoza (2008) states that the intranet is under utilized in South African organizations as only 25 of the represented organizations indicated

that they actively used it as a tool for facilitating knowledge management. The research also revealed that the organizations intranet was generic in nature and that the main departments that contribute to the intranet content were IT teams, management, and human resources. Majority of the organizations focused on other means such as emails and meetings for knowledge management.

Khoza (2008) recommended areas of further research on the use of intranet with regards to organization's competitive advantage, long term growth, cost saving turnover among others. Though comprehensive, the study clearly focuses on one aspect that makes knowledge management in organizations possible that is the use of information technology and specifically intranet. The study fails to look at human beings as hosts of knowledge; namely, tacit knowledge and how the organizations can harness such knowledge and codify it for sharing with others for growth, development and competitive advantage. The study also fails to cover aspects such as individual and organizational culture; systems, policies and models that can be used to manage tacit knowledge.

Wamundila (2008) conducted a study to investigate enhancing knowledge retention at the University of Zambia (UNZA). The researcher used mixed research methodology in the case study design and data was collected using interviews and questionnaires. A sample of 205 respondents was surveyed, that included the deans of schools, university librarian, the registrar, deputy registrars and staff development officers. The findings of the study indicate that UNZA lacked knowledge retention practices that could enable operational relevant knowledge retention in the university. Wamundila (2008) recommended a framework that could be considered by the university to develop a knowledge retention policy road map and further proposed that future studies be done to enhance knowledge harnessing and retention, with systematic approaches that addressed aspects such as technology infrastructure, organizational culture and management. The study, though expansive, focused on one area of knowledge retention. This creates a knowledge gap that this study addresses on tacit KM and all the factors and processes that can be used to harness and manage tacit knowledge in an organization. The study also focused on academic staff and did not seek to address knowledge retention of the students of the university, therefore looking at one side of the coin.

Runyenje (2012) conducted a study to investigate how knowledge management could be harnessed at the Aga Khan University Hospital Nairobi, Kenya, to enhance service delivery and propose a best-practice knowledge management framework. The study population purposively selected included doctors, nursing managers and their deputies, and ICT, library, and information and medical records management. The findings of the study established that even though knowledge was managed it was

not harnessed properly for service delivery. Runyenje (2012) recommended that tacit knowledge needs to be tapped, codified, fully digitized for easy sharing, access and preservation and further studies to be carried out on KM frameworks and models.

Kimile (2011) conducted a study to investigate knowledge management practices at Moi University. The case study used qualitative research methodology and was informed by the Author Andersons (1995) Knowledge Management Assessment Tool (KMAT). Data was collected using semi structured interview schedules. The respondents included deans, heads of academic departments and key informants drawn from the top management including senior librarians, ICT and non-teaching staff. Kimile's study established that Moi University lacks integrated knowledge management strategies that enable a knowledge sharing culture, and that the technology available did not adequately address Knowledge Management.

The University also lacked an institutional repository and the existing organizational culture did not encourage knowledge sharing. Kimile (2006) recommended that Moi University develops an Institutional Repository, provides KM technology and tools, formulates a KM strategy and addresses the barriers that impeded KM. Kimile (2006) also recommended further research on the adaption and utilization of COP's as a tool for knowledge sharing. Even though acknowledgement of tacit knowledge as universally the most important untapped asset, the study focuses generally on knowledge management and little is said on how tacit knowledge can be enhanced. The recommendation by Kimile (2006) on the study of COP's is also the focus of this study.

2.8 Literature review gaps

The literature reviewed, suggests that there are gaps in KM and tacit KM in particular. The studies reviewed mostly cover knowledge management in general and look at one or two of the five key elements that are crucial for successful tacit KM in any organization. Sinclair (2006) focuses on knowledge management generally in the UK and Nonaka and Takeuchi (1995) on Japanese companies and how they created the dynamics of innovation. However, they fail to take into account other important enablers of tacit KM such as leadership and technology that are critical to the success of tacit KM.

Cong and Pandya (2003) single out adoption of KM initiatives as an important strategy for dealing with challenges created by the knowledge economy in the public sector in the UK, but fail to look at COP's as key in innovation and development, Harlow (2008) focuses on the effect of tacit knowledge on a firm's performance in selected firms in the USA and Canada. He proposes the use of TKI as a

KM tool to measure tacitness of the firms, and recommend studies on COP's as parameters for increasing innovation to be conducted. Martin (2010) focuses on knowledge retention in South Africa and looks at one element of organizational culture and environment. In Kenya, there is no existing literature on tacit KM in the public sector.

From the above sampled studies, it is clear that there is a literature gap on tacit KM that encompasses the five key elements; namely, organizational culture, technology, leadership, individuals and organizational environment and processes that are crucial for successful tacit KM. This study is based on the Wenger Communities of Practice model and seeks to incorporate the above five key elements into a framework that can be used for the successful management of tacit knowledge at KIPPRA.

2.9 Chapter summary

This chapter has looked at the epistemology of knowledge, knowledge management and the different definitions of tacit knowledge according to various scholars. The chapter covers the key elements for the successful management of tacit knowledge. The researcher has identified and discussed barriers to effective tacit KM. The literature in this chapter has explored the various models that have been identified for knowledge management. A review of existing literature on knowledge management and specifically tacit knowledge in United Kingdom, America, Canada, South Africa and Kenya has been reviewed and a summary of the existing gaps in the already existing knowledge identified. This study was based on the Wenger's 2002 Communities of Practice model that is ideal due to the nature of the organization under study, a research institute. The assumption is that there is a lot of tacit knowledge housed in the institute which needs to be managed for organizational growth and competitive advantage.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

Research methodology is the systematic procedure adopted by researchers to solve a research problem (Welman & Kruger, 2001; Kothari, 2004; UNISA, 2009). Kothari (2004) observes that research methodology maps out the processes, approaches, techniques, procedures and instruments that have been adopted by the researcher to answer the research questions along with the logic behind them. This section deals with; research approach, research method, target population, sampling procedures and methods, sources of data, and data collection methods and procedures.

3.2 Research approach

There are three main research approaches, namely, qualitative approach, quantitative approach and mixed methods research (Creswell, 2009). Quantitative research makes use of controlled experiments and is highly formalized. Variables in question are isolated and divided into groups and the variables in one group are subjected to certain treatment to determine the influence of a given query (Creswell, 2009). Quantitative research does not happen in a natural setting and the controlling of the factors influences the outcome of the results in the experiment (UNISA, 2009; Creswell, 2009). Qualitative approach, on the other hand, is holistic and exploratory in nature (UNISA, 2009). The qualitative approach enables a systematic analysis and observation of subjects in their natural setting. Qualitative research is interpretative in nature and by building patterns, the researcher is able to interpret what they hear and see in the research (Creswell, 2009).

The approach also gives room for flexible variables that may change the objectives along the way; it will also give the research opportunities to record unexpected events, which add to the richness of the research findings and also due to its natural setting, the researcher will be able to observe forms of behavior as and when they occur (Neuman, 2002; Kothari, 2005). On its part, mixed methods research employs a combination of qualitative and quantitative approaches. The approach is suitable where the researcher seeks to elaborate the findings of either the qualitative or quantitative approach (Creswell, 2009).

In this study, the researcher employed the qualitative approach. Qualitative approach allowed the researcher to collect data from the respondents in their comfort zone. By so doing, the researcher

gathered more information and multiple perspectives of the issues were identified from the respondents' points of view. This involved critical analysis of the strategies employed in the utilization and management of tacit knowledge for strategic growth at KIPPRA. The qualitative approach also examined structures and indicators and how they were utilized, explored the strengths and weaknesses and provided an alternative approach for future tacit management in the institute.

3.3 Research method

The research used the case study method of research. A case study method is a form of a qualitative analysis where a researcher takes a single entity or unit and studies it intensively to ascertain the natural history of the unit so as to obtain information for drawing the correct inference (Kothari, 2004; Creswell, 2009). They further argue that a case study looks at the depth rather than the breath of a unit and it is exhaustive and comprehensive. Case studies also probe the contextual realities and differences between what was planned and what actually occurs, focusing on a particular issue, feature or unit of analysis. The case study in this case was the Kenya Institute for Public Policy Research and Analysis Nairobi, Kenya. The researcher chose this case study as a method as it allowed the researcher to comprehensively and critically study the phenomena and challenge the theoretical assumptions of the study by providing a great amount of detail of the institution under study.

3.4 Target population

According to Welman and Kruger (2001) and Kothari (2004), a population is a group of objects, individuals or items from which samples are taken for measurement. This study drew its population from KIPPRA's 60 employees working in research and administration sections. The research population has seven divisions each with one Head of Division, four research staff, and one Young Professional (YP) who attended a rigorous training programme that runs for a year. The rest of the staff include one Executive Director, three accountants, two human resource staff members, one executive secretary, one librarian, one editor, one auditor, one KM and communications manager, two ICT officers, one receptionist and four drivers. KIPPRA also contracts mentors during the various stages of the YP's programme. The target population of the study comprised researchers and young professionals, the Heads of Division and Senior Management and the Knowledge Management Manager.

3.5 Sampling procedures and techniques

Sampling is the technique or act of selecting a representative part or a suitable sample of a population for the purpose of determining the characteristics of a whole population (Welman & Kruger, 2001; Creswell, 2009). The main purpose of sampling is to draw a sample that will accurately portray the targeted larger population.

Two types of sampling can be distinguished, namely probability sampling and non-probability sampling (Creswell, 2009; UNISA, 2009). Probability sampling, which is characterized statistically, is a form of sampling in which every unit in a population has an equal chance of being selected (UNISA, 2009; Welman & Kruger, 2001). In probability sampling the researcher has no control over the randomness of the units of analysis. In non- probability sampling the researcher purposively and deliberately constitutes particular units in the target population as representatives of the whole (Kothari, 2004; Bryman, 2004; UNISA, 2009).

In this study, purposive non- probability sampling was employed. This is sampling that decisively selects information-rich units and cases in a population for in-depth study in order to achieve the desired results. These units are selected by the researcher who is unprejudiced and without partiality so as to obtain results that are reliable. The sampling method was suitable for the study in that the sample population was convenient and inexpensive, and the choice of the sample population was appropriate.

According to Neuman (2000), purposive sampling uses interviewees that best enable the researcher to meet the research objective. By employing purposive sampling, the researcher identified the interviewees who had information that meet the objectives of the study by assessing their characteristics, ingenuity and appropriateness in relation to the study objective. Neuman (2000) observes that purposive sampling is ideal with small samples where a researcher wants to have selected cases that provide information necessary to the study. In this case, emphasis is on getting as much information and data as possible from the people working in knowledge intensive areas of the institution.

The individuals who constituted the targeted population in the current study were selected on the basis that they are vessels/possessors of tacit knowledge in the institute and are crucial and actively involved in the various processes, steps and structures in the application and management of tacit knowledge. Of the 60 KIPPRA staff, the study targeted 41 tacit knowledge possessors. They include, one executive director; one programmes coordinator, ten young professionals who are on a one year

programme that are mentored and guided on developing their policy development skills, 14 researchers of which two are representatives of each of the seven research divisions, seven heads of divisions; two mentors; one knowledge manager; two ICT technicians; one librarian who is tasked with access to information based in the library and finally two persons from the human resource division. The criterion for their selection was based on their role as knowledge facilitators, knowledge workers and key informants. These knowledge possessors were core to the functioning of the institute. They were representatives of the public sector and had knowledge in the various economic and policy development fields, therefore the tacit knowledge they possessed was key to the running of the institute, if harnessed.

The young professionals who are trainees in the institute are taken through a one year programme that involves tutoring and mentorship on policy development. This programme involves the mentors and head of divisions who guide them through the programme, and in the process tacit knowledge is shared among these seasoned policy makers and the young professionals. The young professionals join the institute under a flagship capacity building programme that targets officers in the public and private sectors who undergo rigorous training in public policy analysis and formulation through hands-on training. They actively participate in all the activities of the KIPPRA and write a research paper on a selected policy issue as a requirement for graduation before exiting the institute to return to their organizations (KIPPRA, 2012). The researchers are also significant as they ensure that the core mandate and objectives of the institute are met through research work and the dissemination of their knowledge through published work.

The human resource division is also involved in the recruitment and analyses of the young professional programme and assessment on exit of the young professionals allows the sharing of knowledge that is used to better the programme. The knowledge manager, ICT officers and the librarian are responsible for ensuring that the knowledge structures, processes and technology are in place in order to facilitate the young professional programme throughout the year and finally the executive director is involved in the day to day running of the institute, hence equally responsible for the success of the organization. He is key in the tacit knowledge sharing in the organization by ensuring that the environment and organizational culture combined with structures and processes are suitable for tacit KM within the institute. Table 3.1 provides a tabulation of the respondents.

Table 3.1: Tabulation of the respondents (n=41)

Cadre	Number Involved
Young Professionals	10
Researchers	14
Heads of Division	7
Executive Director	1
Programmes Coordinator	1
Human Resource Officer and Assistant	2
KM and Communications Manager	1
Mentors	2
IT Manager and IT assistant	2
Librarian	1
N =	41

3.7 Data collection methods and procedures

There are three key methods of collecting data; namely, observation, use of questionnaires and interviews (Kothari; 2004; Creswell, 2009). Data collection through observation involves the researcher collecting information without any effort from the respondent. In the observation method the subjective bias is eliminated and information is based on the current activities of the persons being observed (Neuman, 2002; Kothari, 2004; Creswell; 2009). Data collection through the use of questionnaires is where a list of structured questions is presented to the respondents and the respondent is given a time frame to answer the questions and send back a complete form (Kothari, 2004).

Qualitative data was collected from the field through face to face personal and in-depth interviews with the selected sample population. Interviews can be described as data collection that involves oral-verbal stimuli and responses (Kothari, 2004). Interviews are a method of data collection that are personalized whereby a researcher interacts with the respondent and asks questions related to the research. Interviews, depending on the researcher, vary from structured to unstructured. In structured interviews, the researcher is guided by a set of previously compiled questions known as interview schedules and the interview is strictly guided by the questions. In semi-structured interview the researcher can probe for more details in order to clarify vague answers or incomplete responses.

Though considered as an expensive and time consuming process, the benefits of using interviews overshadow the limitations (UNISA, 2009; Kothari, 2004; Welman & Kruger, 2001). Therefore, in this study the researcher used the semi-structured interview. This is because of the advantages described by the above mentioned scholars;

- a) There is flexibility in the structure of questions and they can be revised during the interview process, especially in the semi-structured interviews.
- a) In-depth information can be obtained through probing further.
- b) Incomplete responses are overcome by seeking clarification of questions and responses by both parties during the interview process.
- c) The researcher can observe the respondents gestures and non verbal answers, the respondents' characteristics and environments which add value during data interpretation.
- d) The response rate is greater because of the interaction unlike in the use of questionnaires.
- e) The interview language can also be refined and adopted to be of the respondents' level and as such misinterpretation of questions is avoided.

Each participant was interviewed for at least 45 minutes; all guided by the number of questions in the interview schedules (See appendix 4, 5 and 6). It was considered optimal time that ensured that the interview process did not digress. In-depth interviews were on a one to one basis in which the interviewer explored a topic in considerable depth. Interviews were seen as a data collection technique of choice as they ensure the respondent correctly understands what is asked and follow up on incomplete and non-responsive unanswered questions was clarified. The interviews were semi-structured so as to encourage the interviewee to elaborate on the topic of interest as they saw fit, at the same time guided the interviewer so as not to lose track of the interview process. The researcher took two months (November and December 2013) to collect data. The potential respondents were called and scheduled for appointments on dates of their convenience. A follow up phone call close to the interview date was also made as a reminder and to reconfirm the interview date.

3.7.1 Observation data

Further to conducting interviews, the researcher used observation as a data collection method to complement the data collected under some objectives. The researcher sat in three internal discussion forums that happen every week as an observer. In 2 of the 3 forums, mentors and heads of divisions took the young professionals through a formal training session on public policy. In the last forum, a researcher was presenting a paper on economic development to fellow researchers, the mentors, and heads of division and the young professionals.

The aim of using observation method was to perceive how transfer of tacit knowledge among the researchers from the different levels and fields of expertise was conducted. The researcher had a checklist (see appendix 7) that helped in guiding and having objectivity during the discussion forums. Prior to the start of the session, the researcher informed the coordinators of the sessions that she would sit in the sessions as an observer. The three sessions took an average of 3 hours each with a 15 minute break between presentations.

Creswell (2009) defines observation as a form of data collection protocol that is used by a qualitative researcher for recording and writing down information while observing. The nature of the phenomenon under study in this research is the kind where the researcher had a first-hand experience with the participant, and this will enable the researcher to notice unusual aspects and explore topics that might be uncomfortable to the respondent and record the information as it occurs (UNISA, 2009; Kothari, 2004; Neuman, 2002,Welman & Kruger, 2001). Observation will also provide valuable insight to aspects that would have otherwise gone unnoticed or have been missed in the interview schedule (Creswell, 2009). In this research, observation as a data collection method was especially useful in observing the mentorship process in action between the mentors and the young professionals. It was insightful and priceless to watch the transfer of experience from the mentors to the young professionals during some of the sessions held regularly.

Apart from the biographical information questions, the interview schedules in this study comprised of the following key variables as research constructs:

- Awareness of sources and types of knowledge;
- Awareness and understanding of tacit knowledge;
- Avenues for sharing tacit knowledge;
- Awareness of ICT technologies for tacit knowledge sharing;
- Significance of tacit knowledge reuse for innovation;
- Social variables for tacit KM: organizational culture, structures, and leadership;
- Challenges and recommendations for tacit knowledge application;

3.8 Pilot study

Reliability is the extent to which a measurement instrument produces the same result on repeat trial, while validity is defined as the extent to which the instrument measures what it is purported to

measure (Creswell, 2009; UNISA, 2009). Reliability determines if the results are replicable and validity tests whether or not the means of measurement are accurate and are actually measuring what they were intended to measure. Reliability presumes validity and, as such, if the measure is not reliable, then it cannot be valid. Qualitative validity will be used to ensure the validity of the research findings by ensuring the consistency of the data collection process with all respondents (Creswell, 2009; Kothari, 2004).

The interview schedules were tested for their validity and reliability by conducting a pilot study that would pretest the questions to random respondents that included a former young professional, mentor and head of division to ensure that the questions were relevant and could be easily understood by the sample population during the main data collection process. The interview schedules were shared with the study supervisors who are experts in the field of study to assess the instruments for clarity. Errors were also checked on the interview schedules and discrepancies and biasness eliminated before the interviews were conducted. Reliability was ensured during the pilot testing by making sure that the interview schedules produced consistent and stable results when all factors such as same period of interview and timing were held constant.

The pretest was based on a checklist to logically ensure that all the questions;

- Were concise and simple;
- Did not contain any terminologies, acronyms or jargons that are unfamiliar to the respondents;
- Pointed to the research goals;
- The interview took a minimum of 40 minutes to complete;
- Could be answered by the respondent and were unambiguous;
- Which apply to only some respondents were covered;
- Were not leading or biased;
- Were not double barreled;
- Were exhaustive;
- All Categories were mutually exclusive;
- The respondent was eligible to continue the interview or not using the first 5 questions.

3.9 Data presentation and analysis techniques

Qualitative data for the most part consists of words and observations and no numbers, and like all other data requires analysis and interpretation to bring order and understanding (Taylor-Powell & Renner, 2003). To analyze qualitative data, a researcher first familiarizes him/herself with all the data by reading and rereading the texts to obtain a general sense of the data and also picks out key impressions and notes them. This is then followed by coding of the data into chunks or segments by identifying themes, patterns and emergent categories often based in the language of the respondents (Creswell, 2009) after which connections can be established within and between categories which the researcher uses as layers of analysis. The information is interpreted by bringing it all together by the use of narratives to convey the findings of the analysis as per the research questions.

In this study, data collected was analyzed by coding and grouping the data into segments and categories based on the terms used by the respondents. The data was assessed to identify patterns/themes for analysis. Narratives were used to describe the themes to convey the findings of the analysis. Data of quantitative nature was interpreted using tables, graphs and charts. After data analysis an interpretation and discussion of the results was completed.

3.10 Ethical consideration

Ethical considerations can be defined as the code of conduct that guides the researcher, research process and participants or respondents of the research by ensuring that they are not put in unintended harm (Creswell, 2009, UNISA, 2007, Mugenda & Mugenda, 1999). Ethical considerations anticipate the potential harm and mechanisms are developed to eliminate it (Creswell, 2009; UNISA, 2007). Though the researcher is well intentioned, by interacting with the respondents there is a possibility that the interaction will inadvertently harm them. Ethical considerations were taken into account and the researcher ensured that the following principles were adhered to during the research:

- a. There was an informed consent approved by the institute of choice before the data is collected. This consent was presented to the Executive Director who signed it off on the collection of data. (Appendix 8)
- b. The respondents would not be intimidated or harmed into answering the questions. This the was shared in the consent form given to the respondents to read and sign (Appendix 2)
- c. The researcher introduced and sought consent from the respondents before scheduling an interview. The respondents signed the consent forms before any interview (Appendix 3)

- d. The respondent and institute would not be deceived about the research and its purpose. Letter of Introduction from the University of South Africa and the Lead Supervisor was presented to the Institute before the collection of data (Appendix 9)
- e. Information given by respondents would not be divulged or shared with other respondents during the interview. This was stated in the consent form presented to the respondents (Appendix 2)
- f. A copy of the final report will be shared with the organization on request. This will be done after approval and acceptance of the dissertation by the University of South Africa.
- g. All referenced material shall be acknowledged in the reference section of the research report (see the list of references).

3.11 Chapter summary

This chapter discussed the study's research approach, the targeted population, the sampling procedure of the targeted population. A tabulation of the targeted population has also been given. The chapter also discusses the data sources, the instruments used for data collection namely, interview schedules and observation, and the assessment of the validity and reliability of the data collection instruments through the use of a pilot study and how the data has been presented. The chapter also presents and discusses the ethical considerations that were observed during the data collection process.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 Introduction

This chapter presents the research data collected from the three cadres of respondents at KIPPRA namely: researchers, young professionals and administrators, head of divisions and mentors and the knowledge manager. The questions posed for data collection were in line with the study objectives guided by the interview schedules. Data collected through observation method data is presented.

The chapter commences with a brief overview of the aims and objectives of the study and proceeds to present a biographical description of the study's respondents so as to lay a foundation for the presentation of the descriptive statistics and qualitative data analysis.

Data is presented using themes derived from the order in which research objectives were stated; namely,

- a. Establish the sources and types of tacit knowledge available at KIPPRA.
- b. Enabling resources for capturing and transferring tacit knowledge at KIPPRA.
- c. How tacit knowledge can be reused for innovation and competitive advantage.
- d. Role of management in creating a conducive environment for effective application and management of tacit knowledge.
- e. Challenges faced in the application and management of tacit knowledge.
- f. Recommending a framework for effective tacit knowledge application and management.

4.2 Description of the respondents

Out of the targeted 41 respondents, the researcher was able to successfully interviewed 35 respondents, representing 85.4% interview response rate as summarized in Table 4.1. The remaining 6 (14.6%) respondents were unavailable during the scheduled interview dates and could not reschedule due to official commitments.

Table 4.1 Response rate of respondents

Cadre	Targeted Number	Respondents
Young Professionals	10	9
Researchers	14	14
Heads of Division	7	4
Executive Director	1	0
Programmes Coordinator	1	1
Human Resource Officer and Assistant	2	2
KM and Communications Manager	1	1
Mentors	2	1
IT Manager and IT assistant	2	2
Librarian	1	1
N =	41	35

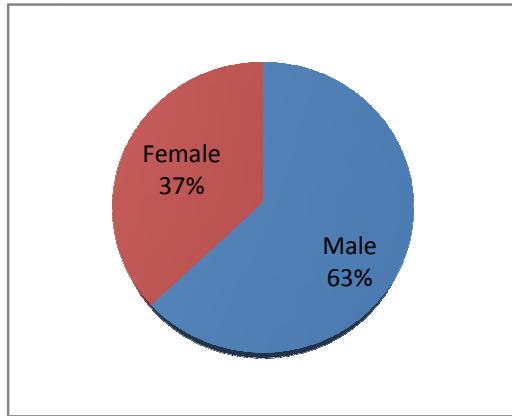
4.3 Biographical description of the respondents

This section provides a bibliographic presentation of the respondents. The data includes gender, highest academic qualification, position, unit and how long they have worked for KIPPRA.

4.3.1 Gender

Figure 4.1 reveals that 13(37%) of the respondents were female, while 22 (63%) were male.

Figure 4.1: Gender illustrations of the respondents (N = 35)



4.3.2 Highest academic qualification

Table 4.2 indicates the respondents highest qualification was PHD. All heads of divisions in the research field have a PHD in economics, while the head of divisions in the non research fields possess a Masters degree. Two respondents who are assistants have a Bachelors degree. All young professionals and researchers have a Masters degree.

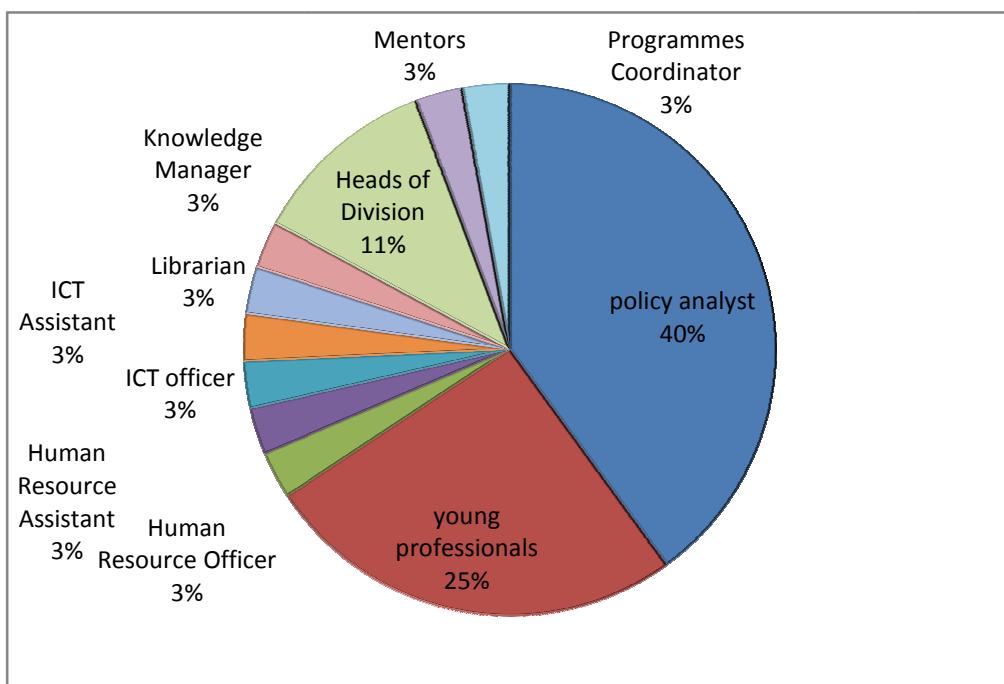
Table 4.2: Highest qualification of the respondents

Highest Academic Qualification	Researchers	Young Professionals	Administrators	Heads of Divisions	Mentors	Knowledge Manager	Total
PHD in Economics	2	0	0	4	1	0	7
PHD in Computer Science	1	0	0	0	0	0	1
Masters in Economics	11	9	0	0	0	0	20
Masters in ICT	0	0	0	1	0	0	1
Masters in Human Resource	0	0	0	1	0	0	1
Masters in Publishing	0	0	0	0	0	1	1
Masters in Communications	0	0	1	1	0	0	2
Bachelor of Human Resource Management	0	0	1	0	0	0	1
Bachelor in Information Technology	0	0	1	0	0	0	1
	14	9	3	7	1	1	35

4.3.3 Job positions of the respondents

The data collected on the current job designations of the respondents indicate that the researchers who are policy analysts are the majority in the group. Another note worthy feature is that KIPPRA has young professionals whose population is almost as large as of the policy analysts. The mentors and heads of division are only 6, therefore, this could be a factor in the ratio of mentors versus the policy analysts and young professionals as the number of the latter can easily overwhelm the former. Figure 4.2 illustrate the various professional positions that the respondents belong to.

Figure 4.2: Positions held by the respondents (N=35)



4.3.4 Number of years worked at KIPPRA

Table 4.3 illustrates that 24 (69%) of the respondents have worked at KIPPRA for less than 4 years, while 7 (20%) have worked between 5 and 9 years. Only 4 (11%) of the respondents have worked for more than 10 years at KIPPRA.

Table 4.3: Number of years worked at KIPPRA

Number of years worked	Researchers, Young professionals, Administrators	Management & Mentors	Knowledge Manager
0-4 years	19	5	
5-9 years	5	2	
10-14 years	0	3	1
Over 15 years	0	0	0

4.4 Sources and types of knowledge

The first objective of the study sought to establish the sources and types of knowledge available in the organization. Respondents' views are expressed below.

4.4.1 Value of knowledge

Question one sourced data on whether KIPPRA valued knowledge as a resource and part of their asset base. Thirty two (91.4%) of the respondents indicated that knowledge was recognized as an asset at KIPPRA, while 3 (8.6%) of the respondents recorded a “No” response. Those who indicated that knowledge is valued as an asset at KIPPRA stated that being a government think-tank and a research institute whose mandate is to produce policy based on knowledge, KIPPRA has invested in training programmes and the creation of a KM and communications division for knowledge growth. When further probed to explain why KIPPRA valued knowledge as a resource, those who recorded a “Yes” had the following typical responses.

“It values knowledge because it produces knowledge itself that informs others. It is the mandate of the institute and the center of knowledge in terms of policy”

“There is a lot of initiative to train people and there is financial support for knowledge acquisition. They have the weekly seminars where the researchers present papers and get comments that enable the researcher to gain a wider perspective of the projects they are working on”

“Their core business is to advise the government of Kenya and they need knowledge for this to happen. It is from knowledge that KIPPRA bases its policies”

“We are here to produce knowledge to gauge policy so we are here to actually create knowledge. Our whole existence is based on creating knowledge”

“They value knowledge because of the number of campaigns made in the orientation of new staff. We rely on evidence based research and dissemination to the government of Kenya and stakeholders”

“Because they have a KM & Comm. division which is tasked with knowledge management”

“There is a knowledge pyramid where knowledge is generated and passed on to our stakeholders. Knowledge is our primary source of trade”

“It is a research institute and the government’s think tank so knowledge is very important and valued”

“Very much so because they recruit the best economists and also have a resource centre that has a collection of knowledge resources whose key outputs is research products drawn from the knowledge creation process”

“They have capacity building programmes such as the young professional programmed where knowledge is passed from experts to the young and upcoming professionals in economics”

The three respondents who recorded a “No” response when asked if KIPPRA valued knowledge as a resource said:

“There is no structure or policy to guide the harnessing of knowledge in the institute so things are done haphazardly mostly”

“I don’t think they value the knowledge housed in KIPPRA”

“With the resources devoted we don’t reflect our sincerity to that effect. Its minimal “there is no budget and when you don’t budget for something you have already failed”

Observation data confirmed the views of the respondents that KIPPRA values knowledge. The researcher observed that KIPPRA had on average two seminars in a week where drafts are presented, discussed and critiqued by the researchers before being submitted to the government or stakeholders. In these sessions, seasoned researchers share tacit knowledge they have by contributing to the policy papers.

4.4.2 Sources of knowledge

Question two on the interview guide asked the respondents to state the sources of knowledge they were aware of and which ones were available at KIPPRA. Respondents cited the following as sources of tacit knowledge;

“Expert knowledge from person to person”

“I think people are the main source of knowledge”

“Researchers, intellectual knowledge, human beings, experience and intuition”

“Mentors, seasoned researchers, respective professionals in different divisions”

The respondents also mentioned explicit sources of knowledge; namely,

“Databases, published documents, internet, books, journals, official and unofficial, wiki links, e-resources, social media”

“Internet, business journals, professional bodies, reference books, media, “observation formal and informal learning”

“Evidential knowledge based on scientific research”

“Social media, library databases, informal and formal meetings, twitter”

An observation in this section indicated that most of the respondents were not aware that human beings are sources of tacit knowledge. The respondents however, are more aware of explicit sources of knowledge.

4.4.3 Type of knowledge

Question three on the Interview Guide required the respondents to identify the types of knowledge that they were aware of. Twelve (34%) cited tacit and explicit knowledge. twenty two (63%) were not able to clearly classify the type of knowledge that they were describing as either tacit or explicit. One (3%) respondent was not even aware that knowledge could be classified into two types. The responses given were as follows;

“Knowledge that is embodied in people and is not common and knowledge that is common and is available in books”

“Knowhow, general knowledge, what you learn from experience”

“Public knowledge, private knowledge”

“Tacit and explicit knowledge”

“The knowledge that I already know and if I don’t know I know where to get it e.g. in books”

“Verbal human knowledge and written knowledge in papers and presentations”

“I don’t know a type of knowledge”

“I don’t know how to answer that clearly, but I would say theoretical and applied knowledge. I however do not claim that this is the end of classifying knowledge”

“Tacit knowledge in the head and explicit that I can easily get”

4.4.4 Understanding of tacit knowledge

Question four of the Interview Guide sought to find out whether respondents understood tacit knowledge. Eighteen (51.4%) out of 35 respondents understood what tacit knowledge was, while 17 (48.6%) did not understand tacit knowledge. Typical responses by respondents on the perception of tacit knowledge are as follows:

“It is the knowledge that you have but you are not aware you have it as it is not also easily visible”

“It is knowledge that is not easily transferable and is acquired mainly through interactions”

“I do not know how to clearly define it, but tacit knowledge is that knowledge that cannot be subjected to evidence or collaborated, e.g. I think dreaming is part or one of the sources of tacit knowledge because if I dream, I do not have the evidence that I dreamt”

“I think tacit knowledge is the skill that people have in them and it helps them to make decisions”

“Tacit knowledge is that knowledge that is inherent and people have it at their fingertips “kuishikuingi, kuonamengi” (the longer you live, the more you see) kind of knowledge”

“It is knowledge in people’s heads and it cannot be easily explained”

“Tacit knowledge is residual knowledge that is retained in human beings”

“It is that knowledge that is spontaneous and intuitive, it is not organized or systematic and it comes from human beings”

4.4.5 Tacit knowledge as core in the attainment of KIPPRA’s objectives

Question five sought to find out if the respondents thought tacit knowledge was core in the attainment of KIPPRA’s objectives. Thirty three (94.3%) of the respondents gave a “Yes” response while 2 (5.7%) gave a “No” response. The respondents who revealed a “Yes” response explained why they thought tacit knowledge was core in the attainment of KIPPRA’s objectives as follows:

“It lies with the researchers and most of the time they produce it within a verbal context and if they leave, they leave with it therefore the organization loses that knowledge”

“It is very central because the exchange of knowledge is the best source of learning according to me”

“It is where initiatives comes from, it is what is in people that is important and moves things in an organization”

“When researchers work with stakeholders they gain insight into issues processes and sources. This learning is gained over time and is key to strengthening policy influence”

“Though people are not aware, they have it unconsciously”

“They consider knowledge as a resource that is key to meeting objectives though I doubt they know its core in any organization”

“The kind of work we do needs the know how to put the materials available together. Therefore tacit knowledge is crucial in this endeavor”

“Some skills are difficult to transfer once an officer gains experience”

“As an institute, we are a think-tank who are supposed to influence issues that affect the nation which means we need to talk and share our tacit knowledge in form of policy”

The respondents who recorded a “No” response also explained their views as follows:

“I don’t think it is core because it has not been recognized as an asset, and the Institute somehow manages to meet its mandate without using tacit knowledge.”

“Tacit knowledge can be used only with explicit knowledge so I don’t think it can stand on its own as core in attaining the objectives.”

4.5 Enabling resources for the capture and transfer of tacit knowledge

Respondents were asked to give their views on knowledge sharing, willingness and transfer among the staff at KIPPRA.

4.5.1 Data from researchers, young professionals and administrators

Data analyzed in this section includes the responses given by researchers, young professionals and administrators using the interview schedule (Appendix 5).

4.5.1.1 Kind of knowledge shared at KIPPRA

Question six sought to find out what kind of knowledge was shared at KIPPRA and responses in this category indicated that even though not all respondents were aware that there are two kinds of knowledge, both tacit and explicit knowledge were shared at KIPPRA.

4.5.1.2 Tacit knowledge sharing

Question seven sought to find out respondents’ willingness in sharing tacit knowledge. Twenty two (88%) of them recorded a “Yes” response that there was willingness in the sharing of tacit knowledge while 3 (22%) recorded a “No” response. One respondent further expounded by stating that;

“Some are willing and some are not and it will still depend on what they want you to know or share with you”

The respondents who recorded a “Yes” response were asked to indicate the forums they used at KIPPRA for tacit knowledge sharing. Their responses are as follows.

“Meetings, emails, discussion forums, reports, roundtables, presentations one on one and trainings”

“Internal review seminars, workgroups and teams, formal and informal interactions, divisional meetings and unit folders”

“Mentorship of the young professionals, one on one basis with supervisor, supervision structure, informal chats and weekly seminars, focus groups, private consultations with experts, one on one with mentors”

“KIPPRA blog, observation (relate to reasoning of individuals and physical environment), informal interactions, supervisor mentorship and consultations”

Question eight sought to establish if respondents experienced challenges in using the mentioned forums for tacit knowledge sharing. 9 (36%) respondents indicated that they did not experience challenges in using the forums for tacit knowledge sharing, while 16 (64%) stated that they experienced challenges. The respondents who recorded a “Yes” were further probed to state why they experienced challenges. Their responses were as follows.

“It will highly depend on the relationship and availability of the person you are getting the knowledge from. It, is also time consuming over and above a busy schedule that we have”

“There are people who have the knowledge that you need but because you are at different levels, they do not understand exactly what you need when expressed also the institute heavy reliance on explicit knowledge sharing has not given room for exploration of tacit knowledge sharing”

“Knowledge asymmetry is a challenge where sections of the population have knowledge that they do not completely transmit. There are others who practice omission and transferring inaccurate and false knowledge.”

“There is no explicit consensus until someone buys into your idea because of suspicion”

“Because of the different views about different things the understanding interpretation and bringing this tacit knowledge into perspective is challenging”

“Sometimes shared documented tacit knowledge is vague and not well articulated and needs clarification yet the avenues for this are not easily accessible”

“There is not enough time to share tacit knowledge and also even though it is not planned knowledge hoarding happens a lot in the institute”

“The conceptualization of an idea within tacit knowledge may not be clearly communicated therefore it is lost in translation”

“Some individuals are more approachable than others making knowledge sharing an uphill task”

“Some people are not expressive so it is hard to tap into their knowledge. The assumption that also some people know it all “kimenyikiajairo” also works against the use of the mentioned avenues for knowledge sharing”

“Sometimes the avenues are too formal and thus I get intimidated when I want to share ideas with the fear of being shut down by the people that I am sharing it with so I would rather keep it to myself”

“Some people are naturally mean with their knowledge and when they discover that you are gaining from them they change their strategy”

“Nature of relationships in the course of work affects these avenues as when you go to discuss with a person, they close up and you lose the tacit knowledge that you would have otherwise gained from immensely”

“The researchers are busy and so am I and I have a lot to accomplish within a short time so it becomes hard to maximize on the avenues available to gain and share knowledge”

In two of the three sessions that the researcher attended as an observer, there was no incident of superiority. The mentors and head of units were free and willing to listen to the ideas of the researchers and young professionals. However in one of the sessions, the mentor came off as having a somewhat egocentric way of thinking that his ideas were cast in stone and should be adapted. In this session, the researcher observed that there was a bit of tension. In this session, compared to the other two, the least number of questions and clarifications were asked.

4.5.1.2 ICTs' use in tacit knowledge sharing

Question Nine section sought to establish if the respondents were aware of ICT platforms available at KIPPRA for tacit knowledge sharing. Twenty one (84%) out of the 25 respondents indicated they were aware of ICT platforms used for tacit knowledge sharing. They cited the following:

“Emails”

“E-publishing”

“Intranet,

“KIPPRA website”

“Social media”

“KIPPRA forum and blog”

“Division shared folders”

“Server files sharing”

Fifteen (60%) of the 25 respondents also stated that they contributed to online platforms for various professional and social reasons as stated in the following responses.

“I contribute to professional platforms such as linked in where I contribute to the various forums using my private account and also to the KIPPRA discussion forum and blog”

“I contribute to social media platforms such as facebook, twitter and online newspapers where I share general knowledge on everything and anything that I think is important.”

“I only use emailing where I share general knowledge and submit back to office reports with all staff after attending roundtables outside the institute”

“I use wiki links and podcast where I share with others about the developments in my profession”

“I contribute my tacit knowledge on the KIPPRA website and partner website blogs such as the Brookings institute blog”

“One of the main platforms that I use is the research gate where I discuss my key areas of research interest with other economic policy analysts around the world”

When asked to indicate if technology had enhanced the capture, transfer and sharing of tacit knowledge, 20 (80%) of the respondents recorded a “Yes”, while 5 (20%) recorded a “No” response. Those who recorded a “Yes” response gave the following reasons;

“Messages can be conveyed easily through emails, blogs and by posting publications online. Researchers are able have avenues for sharing their tacit knowledge which would have not been easy to share with a larger audience”

“The revolution in technology is offering a better use of knowledge than in the traditional ways in terms of the flow and integration across boundaries and people can put their thoughts on the net and make them accessible everywhere”

“People have a platform where they can contribute ideas that are captured and disseminated. Follow-ups and motivation is also given through the same platforms making accessibility easy from anywhere in the world”

“People who cannot express themselves verbally have an avenue to communicate and share their thoughts and opinions”

“Technology has enhanced but the adapting is slow and needs to be utilized more with the reducing of bureaucracies, formalities that hinder the exploitation of technology”

“Prior to signing up to the online forums dissemination of knowledge was limited to paper which took long and did not invoke discussion on issues to improve ideas at conception. Technology has enabled discussion and product improvement for innovation”

“Technology is accessible, has a wider outreach, its real-time and cost effective in the sharing of tacit knowledge”

“Technology enables documenting that is critical for tacit knowledge sharing. Without technology there is only talk which is easily forgotten”

The five (20%) respondents who recorded a “No” response were further probed to indicate why they believed that tacit knowledge capture, transfer and sharing had not been enhanced by technology. Their responses are as follows:

“People are yet to take up and appreciate the potential of technology, they are conservative”

“Less than 30% is being used, you will be amazed at how much people know yet there is multiplicity of roles”

“It is rudimentary and therefore I don’t think it is able to handle tacit knowledge, a lot more needs to be done to ensure that maximization of the capture of tacit knowledge using technology. In KIPPRA for example we have not been able to maximize on technology for example our intranet is a shell.”

“KIPPRA does not appreciate tacit knowledge; there is no technological forum for anyone who is interested in sharing their tacit knowledge. Focus is on economy, economy where people want theories and models.”

The researcher’s observation tended to confirm the views expressed by the respondents who gave a “No” response when asked if ICT had enhanced tacit knowledge harnessing at KIPPRA. In all the three sessions that the researcher attended as an observer, the presenters used basic ICT tools namely computer and projector to give presentations as they shared their tacit knowledge. In the sessions the presenters made their presentations, and questions were asked later.

The researcher also observed that during the breaks there was a free and relaxed environment. Mentors interacted freely with the researchers and young professionals.

4.5.2 Data from KIPPRA heads of divisions, mentors and the knowledge manager

Data analyzed in this section includes the responses given by the KIPPRA management, mentors and the knowledge manager the interview schedule (Appendix 6 and 7).

4.5.2.1 Tacit knowledge sharing, tacit knowledge avenues

The questions asked in this section sought to understand the perception of the KIPPRA heads of divisions, and mentors on tacit knowledge sharing, and willingness to share tacit knowledge with the staff they supervised.

Question five in the KIPPRA management and mentor interview schedule (Appendix 6 and 7) sought to find out how the staff that the management supervised worked. The responses given were as follows:

“Staff in my team work as experts in their field depending on the assignment”

“Sometimes staff works in fixed groups of projects for a designated period of time”

“Most of the time my staff works individually”

“My staff works in changing groups from time to time”

“I discourage individualism because you cannot go far when you work as an individual; I encourage team work in my division wherever possible.”

“They work like a team and share roles and meet to review”

Question six sought to find out if the respondents were aware of avenues used to share tacit knowledge. Eight (89%) of the 9 respondents said that they were aware of avenues used to share tacit knowledge in the institute. The respondents who recorded a “Yes” response stated the following:

“Taskforces and roundtables are very crucial for tacit knowledge sharing in the institute”

“Technical training sessions, workshops”

“Online technical training, emails, website blogging”

“Mentorship programmes, expert engagements”

“Conferences, dissemination forums and networking”

Question seven sought to explore KIPPRAs current ability to share tacit knowledge. The respondents were of the opinion that it was *“average as more focus was on explicit knowledge.”* Respondents used terms such as *“pathetic”*, and *“still limited”* to describe the current status of KIPPRA’s ability and added that there was need to explore further so as to come up with better ways of capturing and exploiting tacit knowledge.

“There is need for improvement especially with the specialists available. The resources available are not adequate to complement the knowledge harnessing effort”

“It is pathetic as people are not encouraged. The environment is they award mediocrity and persecute talent”

“Still limited. We have not fully leveraged our M&E effort, especially tracking back to office reports and feedback”

“I would rate it as above average because of exposure given through training of skills to enhance their knowledge”

“Even though the potential of tacit knowledge exploration is huge, KIPPRA is yet to conceptualize tacit knowledge and exploit it, the focus is more on explicit”

“It is good as there is no paper that is produced without being reviewed to make sure quality is maintained”

“Its limited, the institute does not capture/exploit tacit knowledge effectively”

“They are average and there are gaps that need to be addressed”

When asked if it was possible to share all the knowledge they had, 7 (77.78%) of the 9 respondents revealed that it was not possible. When further probed to explain why it was not possible to share tacit knowledge, the following responses were provided:

“Because tacit knowledge is acquired over a long period of time, it is huge and not easy to articulate”

“It is possible but not attainable. There has to be someone consulting for you. We are not behaving like capitalists whereby the institute is the owner of the cow but it does not want to take the milk”

“It requires time which is usually scarce”

“It is not easy to express oneself, therefore sometimes though willing some knowledge is not shared”

“Some of the knowledge I have can only be gained through experience which are not easy to share”

“Sharing of knowledge is subject to avenues at ones disposal and its an expensive affair considering the existing bureaucracies”

The two (22.2%) respondents who agreed that it was possible to share all the knowledge that they have said that;

“You just need to develop an attitude of building others positivity and eliminate issues of competition”

“It depends with the platforms available for sharing”

Question 8 sought to find out if respondents dedicated time to transfer their knowledge to their staff. All the nine (100%) respondents in this category stated that as heads of division and mentors, they dedicated time to transfer their unique knowledge to those they supervised and mentored. They did this through “*discussion forums, attending weekly review seminars of policy papers having one on one sessions with the Young Professionals and researchers, divisional meetings, roundtables, the day to day engagement, emailing, hands on training and participation during and after meetings and engaging them experiential by bringing them along for meetings.*” They also stated that they informally engaged their staff in discussions to share their knowledge, “*politicking during tea break and informal sessions outside the organization*” as one respondent put it.

Respondents agreed that they benefited a lot when they shared their knowledge with staff because they also learnt a great deal from them, and also when the staff take a positive approach to mentorship, continuity of the departmental activities is ensured in the absence or exit of the manager/mentor. Project execution was also successful when the unique knowledge was shared by the managers.

“To a very large extent, I benefit when I share knowledge as it helps in succession and ensures work flows efficiently in my absence”

“When I share the knowledge I have as a leader, the impact in project execution is successful”

“The more you are willing to share the knowledge that you have the more the people you are sharing it with are willing to share the knowledge they have with you”

“You cannot have all the knowledge so when you share you gain so much because you in turn learn what you did not know from others”

“It motivates the others to share and exchange their ideas too and that builds on my already existing knowledge”

“It ensures continuity in my absence. There is also the feel good factor where you know you have mentored someone and there is the appreciation of the imparted knowledge which in turn fosters good working relationships and builds loyalty from the staff. I delight in seeing my supervisees grow and succeed”

“It is exciting to see the staff independent and willing to share knowledge .As an expert in my field with years of experience under my belt I feel good knowing that I have impacted knowledge and I also learn from the younger generation about new developments which in turn complement my expertise”

By attending the discussion forums the researcher observed that most of the time when the mentors shared their tacit knowledge they nodded their heads in agreement and sometimes disagreement but did not articulate their opinion. However, the researcher was careful not to label non verbal communication which could derive several meanings; for example yawning could mean the listener was hungry or tired or not interested in the tacit knowledge being shared.

4.5.2.2 ICT for tacit knowledge sharing

When asked whether KIPPRA had the appropriate ICT platforms for knowledge sharing, Four (44.4%) of the respondents (management, mentors and knowledge manager) thought that it had while 5 (55.6%) indicated a “No” response. They stated that even though there was technology that was used in the day to day activities of the institute, there was no actual platform dedicated to the harnessing of tacit knowledge.

Respondents stated that they contributed to ICT platforms such as *“blogs, email, intranet, discussion forums, professional blog spots and social media to share tacit knowledge.”* Some of the platforms mentioned included the *“Brookings Africa Growth Initiative, BlogSpot, the SISQO ICT platform, KIPPRA blog spot and the creative commons discussion forums.”*

The three sessions that the researcher attended as an observer revealed that the more the learning environment was relaxed and the more the mentors were interactive, the more the researchers got encouraged to make suggestions openly and give meaningful contributions.

4.6 Communities of Practice

Data in this section was sourced from the Knowledge Manager. When asked if KIPPRA had established Communities of Practice, the Knowledge Manager recorded a “No” response. When further probed on the status of working groups in the institution, he stated that:

“Even though Communities of Practice do not exist at KIPPRA, there are working groups that come together from time to time to work on various projects. However, with the establishment of the Knowledge Management division, we are looking into developing a KM strategy that will encompass all these aspects.”

Due to non existence of COP at KIPPRA, the researcher pursued the composition of work groups at KIPPRA and established constitution of members, their roles and accountabilities, group definition, facilitators, work planning processes, level of trust and openness and their mandate of delivery of tangible results.

4.7 Tacit knowledge reuse for innovation and competitive advantage

Data presented in this section addressed the reuse of tacit knowledge for innovation and competitive advantage. The respondents were asked if they thought the reuse of captured tacit knowledge was significant for innovation and competitive advantage. All the 35 respondents recorded a “Yes” response. When further probed to indicate how tacit knowledge is significant for innovation and competitive advantage, the researchers responded as follows:

“Thoughts are things; there is nothing that was not a thought before it existed. If tacit remains a thought, it is dead”

“Tacit knowledge provides different perspective of looking at problems that are explicit and enriches them”

“Most innovations do not rely on explicit knowledge for example Newton’s law was not based on explicit but tacit knowledge”

“Ideas originate from people’s minds so innovation is a consequence of these ideas. This makes tacit knowledge very significant”

The Young Professionals gave the following responses:

“Many great ideas were developed by people. This tacit knowledge and their ideas have significantly improved our way of life one way or another”

“It is through tacit knowledge that we can be able to change the way things are done, discover new procedures and algorithms”

“Tacit knowledge has led to development when actualized and combined with the right resources, the multiplier effect is huge.”

The administrators noted that:

“Innovation is not always novel, when you look at big companies like IBM, Google and Microsoft, they heavily rely on knowledge that cannot be codified to develop applications. In KIPPRA, however, tacit knowledge for innovation is an unwritten rule in terms of developing models for innovation”

“Necessity is the mother of invention; therefore tacit knowledge plays a major role in discovery of new things, technologies and invention of the same, to do things in a different way”

“When ideas are shared it is easy to build on them and generate new products”

The management gave the following responses when probed further

“It is the source of innovation because it gives us the ability to come up with concepts that when implemented, leads to inventions that give the organization a competitive advantage. It is the mother of innovations, it is what you know and others don’t”

“Tacit knowledge contributes to generation of new ways of doing things or improving on the old ways of doing things, with the aim of making it efficient, accessible, reliable and of quality”

“We are all different and different people have different ideas. There is no formula for innovation and when ideas are brought together you come up with ideas of value as opposed to coping explicit knowledge thus no innovation for development”

“For most Socrates their ideas had not been proven yet it is these ideas that led to innovation are now working and we are benefiting from them. Some Socrates even paid for some of these ideas with their lives.”

4.7.1 Responses from researchers, young Professionals and administrators (human resource staff, ICT staff and librarian)

Question 14 on reuse of tacit knowledge for innovation and competitive advantage sought to find out if the respondents were able to reuse tacit knowledge and adapt it to everyday challenges. Eleven (44%) recorded an “at times” response, while 14 (56%) recorded a “Yes” response. When further probed, typical responses given by the respondents who recorded an “at times” response stated that:

“Not always because not all tacit knowledge is relevant. It depends on the circumstances where opportunity meets preparedness, then at that point, you are able to improve on the challenge and deal with it “

“Different challenges call for different tacit knowledge available so depending on the situation I am in I look to see if there is an experience I can learn from”

“Due to the nature of the culture, there is no full disclosure so sometimes I am not aware that this knowledge exists to help me deal with my day to day challenges”

“No because the level of development and sharing of this tacit knowledge is not ideal and has not been appreciated. It needs enhancement”

The 14 (56%) who recorded a “Yes” response stated the following:

“Yes I use tacit knowledge especially when I am stuck and I do not want to reinvent the wheel”

“Yes, I apply it to improve my skills and knowledge and to solve the day to day challenges”

“Yes our nature of research involves reusing what was captured tacit knowledge”

“In routine work once you learn how to use tacit knowledge it can be very helpful to meet challenges when encountered”

“Because tacit knowledge becomes explicit when captured you can always refer to it to solve various challenges”

“We learn and utilize what we have learnt to change situations which we did not have a solution for e.g. young farmers in Kenya are increasingly adapting farming methods because of websites e.g. mkulimayoung.com where they getting inspired and venturing into farming to reduce poverty by learning from seasoned farmers and agricultural scientist”

“Secondary data which was once tacit knowledge is reused extensively in KIPPRA to develop policies”

“Yes in that in most cases I do seek knowledge that is relevant to meet the specific challenge encountered”

“I would have reservations in saying I reuse it extensively because the resources are limited in terms of time and monies and therefore the implementation of the harnessed tacit knowledge is limited”

The respondents also stated that there were benefits of reusing tacit knowledge such as saving on time in the execution of tasks, resources, avoiding the reinvention of the wheel, helps one to become creative and rethink outside the box, quality improvement of the product development and have a competitive advantage over other institutes in the same league as KIPPRA. The following are opinions expressed by the respondents:

“Process reengineering in the organization where we are able to reevaluate our systems and how we do research to achieve quality and highly specialized research which is beneficial to our customers”

“The codification of tacit knowledge has given credibility to the institute because of the quality of output disseminated and this has given the institute a competitive edge”

“It save time and helps you to identify gaps and build on them”

“Tacit knowledge when documented enables us to have solutions to meet specific challenges for example. We can harness knowledge about the African people which helps us in coming up with solutions specific to the African context”

“We are able to share this knowledge and the new staff have continuity, innovation has also benefited greatly from reusing tacit knowledge, the accessibility and availability of knowledge leads to better research results”

“It brings new ideas that help us to think outside the box because in research there has to be an idea that can be tapped into. This freshness and ingenuity gives the organization that competitive edge required”

“One can borrow the ideas documented for product development and thus avoid reinvention of the wheel; this can also improve the product based on current status”

“It increases productivity, efficiency and ability to produce quality outputs and leads to innovation which is the source of competitive advantage. It also helps in shifting goalposts and minimizes duplication of effort.”

“You build on the knowledge therefore you end up becoming an expert and become more effective, confident and competent. This also invokes interests and makes you keep up to date and be informed of the surroundings”

“Tacit knowledge provides a roadmap of how to do things and reduces time in executing projects since there is already existing documented tacit knowledge”

“You learn more and become better when tacit knowledge is shared and sometimes you even become better than the originator of the knowledge”

“Harnessing tacit knowledge has increased the sources of knowledge points, it has also been used to give validity to work and confirm and collaborate that you are moving in the right direction. It has also prevented the duplication of effort and given avenues and scope for further research”

4.7.2 Responses by heads of divisions, mentors and knowledge manager

In this section, the researcher asked questions on the reuse of tacit knowledge for innovation and competitive advantage, with a view of finding out if respondents found tacit knowledge reuse important, by valuing the opinions of their staff and whether there was a threshold for tolerating mistakes.

Question 12 of the schedule required the respondents to give a “Yes” or “No” answer on whether managing tacit knowledge had an impact on the organizational output. All nine (100%) respondents (heads of division, mentors and the knowledge manager) indicated that managing tacit knowledge had an impact.

A follow up question 13 was asked to the management and mentors on whether they left their staff to develop freely and if they valued the thoughts and opinions of their staff. Nine (100%) respondents recorded a “Yes” response. The respondents also said that protocol dictated that they check what their staff were developing for accountability purposes. The following sentiments were expressed.

“They are valued. I value and check and also seek clarity and take it as part of feedback because we mostly work on their suggestions and needs”

“I value them though it is important to countercheck for accountability and to be in the know”

“I value their thoughts and opinions, however by nature, I need to confirm what I receive”

“Of course, I value but it is important to thrash and repackage depending on the output by deliberating further on how to improve. One thing is obvious though, it is good to let people express themselves”

“The institute’s protocol dictates that I have to confirm”

“I value them very much even though I have to confirm to ensure that the institute’s standards are maintained”

“In most cases, where I feel they can handle I don’t confirm but in some areas there is need to confirm”

“I value and check because when you just value without checking it is then that you get into problems later when the issues do not meet the institutes standards”

Question 14 sought to find out the level of tolerance in learning mistakes. Eight (89%) respondents stated that in KIPPRA, there was tolerance for making learning mistakes and such mistakes were corrected through continuous guidance and mentoring of staff. The respondents shared the following sentiments:

“I encourage my staff to develop their ideas first then appreciate the mistake and provide solutions for avoiding mistakes in future”

“There is a quality process that aids in addressing pitfalls in the assignments”

“I correct them and show them how to go about it through individual and group discussions”

“I keep correcting and guiding, and if they are unable to conceptualize the idea then I shift the task to someone else”

One (11%) respondent pointed out that there was no tolerance for learning mistakes and this hindered innovation and creativity. The respondent attributed it to the staff not being given room by the management in general to grow and learn from the mistakes.

“If you are not allowed to make mistakes, how can you then be innovative? Innovation can only happen where people are given room to experiment and grow and learn for their mistakes and unfortunately, this is nonexistent in KIPPRA”

All the nine (100%) respondents (managers and mentors) acknowledged that even though there was no formal tacit KM structure in place, the existing tacit KM was successful in creating a competitive edge at KIPPRA. They also stated that more effort needed to be put in place to harness tacit knowledge consistently and this would be beneficial when reused.

“Tacit knowledge enables us to easily identify opportunities and rapidly exploit them with limited resources”

“At the moment tacit knowledge is being utilized to make the institute a leader in the policy research field”

“The brand of the institute is defined by the quality of the products being churned and shared using the tacit knowledge generated internally”

“Tacit knowledge has given the institute credibility whereby the country appreciates the institute as a think-tank and is sought after in taskforces, working groups and its staff are on secondment from time to time in the government and other organizations”

A further question on reuse of tacit knowledge was posed to the Knowledge Manager at KIPPRA on what benefits the institute had realized using the KM system over a period of one year. The manager noted that there were no formal KM systems in place and the organizations used informal means of sharing and reusing tacit knowledge within and outside the institute.

“Tacit knowledge is more important than explicit knowledge and even thought there is no system in place there are informal ways of sharing experiences within and outside KIPPRA”

4.8 Role of KIPPRA’s management in creating a conducive environment for tacit KM

Different sets of questions in the interview schedule were posed to all the respondents. This was done in order to understand the views of researchers, young professionals, administrators, the heads of

division, mentors and the knowledge manager on how they envisioned the management's effort in the creation of a conducive environment for tacit KM. Further to this, the researcher wanted to find out the management's effort in the facilitation of tacit knowledge for knowledge based outcomes, creation of an atmosphere of safety, provision of infrastructure and creation of a knowledge organization.

4.8.1 Responses from researchers, young professionals and administrators (human resource staff, ICT staff and librarian)

Question 16 of the interview schedule sought to find out if the management had created a conducive environment for tacit KM. Twenty (80%) respondents recorded a “Yes” response, while five (20%) recorded a “No” response.

When probed further, the respondents who recorded a “Yes” response stated that the management had created a conducive environment by facilitating forums and supporting them financially, investing in ICT technology for tacit knowledge sharing, the regular meetings held and the availability of office infrastructure in terms of work stations and shared facilities that would enable the ease of sharing tacit knowledge. The respondents also added that the investment by the management in the Young Professionals program and capacity building in general for the staff, was a sign of commitment in creating a conducive environment for knowledge sharing. Responses given were as follows:

“The institute holds regular discussion and presentation forum were people are encouraged to share their ideas”

“The facilitation of round tables discussion forums and workshops within and outside KIPPRA is regular and encouraged”

“They have provided sufficient working space and infrastructure”

“There is an established ICT infrastructure that supports this and enables access and availability of knowledge”

“They have the YP programme that facilitates mentorship by supervisors”

“We are free to discuss within and outside the institute and encouraged to network and have forums and the management also encourages publishing which attracts interactions and comments from others”

“They have made online discussion forums free and there is no restriction as to how many can be created”

“They financially support dissemination forums and have created a KM division and KM roles to support knowledge sharing”

“There is regular interaction with staff, though it could be better and there should be deliberate effort to bring staff together for purposes of knowledge transfer”

The five (20%) respondents who recorded a “No” response stated that the management focused more on explicit knowledge, and gave priority to it and that the environment in general was not conducive enough. The respondents also stated that the management did not encourage an environment of trust and openness, and there was the risk of being muzzled or reprimanded for sharing knowledge. The respondents had this to share:

“They have only concerned themselves with explicit knowledge a lot of work needs to be done to develop a conducive environment for tacit knowledge sharing”

“It could be better especially relating to departmental activities and personal interest”

“There is nothing they have done to enhance knowledge sharing apart from having a division with the name the institution has been here for more than a decade yet there are no resources or structures to create the environment. I wish they could give priority and invest in this”

“There is no conducive environment for sharing as internal people are not given the forum. It is taken casually because of infighting, personal interests and or is unaware of what to do. People do not leave the organization they leave their line managers”

“There is no appreciation of what you know and you are muzzled and shot down when you share and skilled people are not taken as authority in their respective fields”

“The communication is very poor and revolves around the management yet people who are tasked with the various activities are thrown into the deep end”

Question 17 sought to find out the respondents views on tacit knowledge sharing culture at KIPPRA. The response varied with some saying it was a mixed culture of knowledge hoarders and knowledge givers at the same time. The respondents also stated that trust played a major role in knowledge hoarding. They blamed the KIPPRA’s leadership and said that even though it encouraged the bonding of staff, it was just a façade because it was not well rooted in the organization. Another issue that they raised was the inapproachability of some individuals especially in the management who they termed “hostile” and could only be approached officially. Responses given were as follows:

“It is shared, but in bits and pieces whereby there is tendency to withhold to see your downfall. People know they have the knowledge required to execute a task, but they don’t want to put it collectively in a group when working together”

“The management encourages sharing but it’s not practical it’s just a façade, there are deeper issue is of trust and the “we should guard what we know” attitude”

“Formally it is nonexistent but informally colleagues share knowledge at a personal social level but officially it is not systematic in any way”

“A major source of tacit knowledge sharing is interactions, however, some people are unapproachable and can only be approached on a professional level, this is especially so in the management level”

“Colleagues are willing to share but not everyone is receptive. Whereby if someone is critiqued they take it negatively instead of using it as an avenue to improve”

“Some people are too rigid to share knowledge they think that if they share they will make others be better than them”

“I would say its below average because even though the staff share they tend to be competitive and tend to share on demand not freely”

“I think people are yet to fully open up and share tacit knowledge that they have, they compete with each other instead. The staff hoards the knowledge and only share after being pushed and it’s much later when it’s of no use”

“I will say the tacit knowledge sharing culture is poor because it is not well rooted in the organization where you fully know that you can say and share ideas on certain issues without reprimand. And also people do not necessarily believe in themselves and their ideas”

“It is tricky and rare to share because of trust issues and unhealthy internal competition among staff”

“It is not well established and exploited there are challenges in personality traits and fear or reprimand mentality”

“The culture is a mix of knowledge hoarders on one side and others who are very willing to share”

“The sharing of tacit knowledge depends from one individual to the next while some have no issue in sharing others have a few hiccups whereby someone tells you what you have done I wrong without giving you an alternative and he is an expert in the field and as such you are left unsure of the direction to follow and keep baking and baking until you get the correct solutions to the challenges faced”

“People are willing to share but not wholeheartedly and it is largely due to familiarity and circumstances at any given time”

“It is not yet fully developed because there is so much more that can be done to encourage a knowledge sharing culture”

“It is nonexistent “

“It is controlled and borders on values, integrity and office etiquette”

“There are informants in the institute therefore trust is to a limited degree so it is not easy to freely express your thoughts and mind”

Question 18 sought to find out if the management offered incentives to encourage tacit knowledge sharing. Respondents stated that KIPPRA did offer incentives, but these incentives were not specific to tacit knowledge sharing. The respondents also stated that incentives were sometimes used as “punishment tools” on the staff who did not perform very well. The sentiments are shared below:

“None, I am not aware of any incentives that is given by the institute, what is given is a basic benefit nothing is specific to tacit knowledge sharing”

“Nothing like that exists in KIPPRA the bonus that I would maybe think is an incentive is used as a punishment tool instead so I don’t think there are any real incentives to support this initiative”

“You are awarded points on your appraisal if you published”

“There is monetary pay of journal publication. I also ensure that there are group assignments that give them tasks that they can learn and explore”

“By awarding points during the annual appraisal for forums, roundtable attended and publications output by the employee”

4.8.2 Responses from the heads of division and mentors on the environment of tacit knowledge sharing

Question 16 (Appendix 5) of the schedule probed the view of the management and mentors on whether the institute has managed to create a conducive environment for tacit knowledge sharing. The varying sentiments expressed show the different views of respondents as indicated below:

“It is above average. There is the assumption that people have undergone assimilation”

“The management has no clear cut policies or procedures for encouraging knowledge creation so I would say there is still a lot more that the management can do to encourage this.”

“I do not know what to say sincerely, I do not think they have anything in place to encourage knowledge sharing.”

“They have given the staff freedom of knowledge creation so I would say they are doing okay but more needs to be done in this aspect.”

“I think the knowledge sharing culture is good because we are able to access researchers and mentors for advice and guidance”

Question 17 (Appendix 5) required the respondents to describe the physical set up of the office space and some of the shared facilities. This question was asked to determine the management’s towards

the staff and whether the hierarchy set up and closed or open door policies were a factor in sharing knowledge. The shared facilities would also be useful in determining tacit knowledge sharing since it is in informal relaxed settings that part of the tacit knowledge is shared. The respondents mentioned that the physical set up of the office was an open plan with the supervisors having offices, however with an open door policy. Some of the shared facilities mentioned were the photocopiers, printers, tea points, boardrooms and shared folders on the intranet. Their responses were as follows:

“It is spacious even though we are in different locations. Some of the shared facilities include networks, photocopier and tea points”

“We have an open plan and an office for the HOD with an open door policy and we share printers, photocopier and watering and tea point and network divisional folders”

“It is not perfect or ideal because of limited space however open plan and an office for the HOD with an open door policy and share printers, photocopiers, watering and tea point”

“We have individual offices and ICT infrastructure but w share files in the server, watering and tea point”

Question 18 (Appendix 5) asked the respondents to describe the communication and relationships they had with their staff and among the staff themselves. The responses indicated that the communication was okay but could be better. Some of the sentiments shared are listed below

“It is perfect, one of my staff is forever sharing stories and ideas therefore I would say there is an air and environment of openness without fear”

“In my division it is perfect and one on one conversations are encouraged as opposed to emails which give instructions and guidelines”

“It is controlled and borders on value and integrity and office etiquette”

“It is good and there is free flow of communication within and outside my division”

“It is cordial.”

Question 19 (Appendix 5) of the interview schedule asked the respondents how they incentivized employees to share tacit knowledge. Respondents stated annual bonus, monetary remuneration on

journal publishing and getting points during the annual appraisal processes. The respondents shared the following views:

“There is monetary pay of journal publication. I also ensure that there are group assignments that give them tasks that they can learn and explore”

“We provide platforms where they can share at divisional and institutional level”

“I encourage them to come up with proposals and assign roles”

“I have an open minded attitude to their suggestions and correct instead of criticizing their work in a harsh tone”

“By awarding points during the annual appraisal for forums, roundtable attended and publications by the employee”

“By giving them room to pick/select specific issues unconsciously and practice them and unknowingly turning them into routines”

“By encouraging them to test their ideas by having a let them do it attitude. If you choke someone by not giving them room, you are discouraging thinking and sharing”

4.8.3 Knowledge manager

Question 17 of the respondent's interview schedule sought to find out if the management at KIPPRA is independent decision making. The manager recorded a “Yes” response. When further probed he gave the following explanation:

“There are regular divisional, institutional and management meetings that are used to communicate this”

Question 18 to the Knowledge Manager's interview schedule (see appendix 7) sought to find out if KIPPRA's management did put effort in facilitating tacit knowledge sharing under specific elements as stated below

- Motivate for knowledge based outcomes

“From a recent audit report conducted different people have different misconceptions on the definition of the public process and so the effort and practice to have a knowledge based outcome are not followed up to some extent.”

- Creation of an atmosphere of safety within the organization

“People like protecting their territories and are knowledge hoarders so I think there is room for improvement.”

- Provision of infrastructure

“Even though it is available it could be better and modified to achieve the knowledge sharing aspects”

- Creation of a knowledge organization

“I would rank it at 75% especially in accommodation of opinions”

The Knowledge Manager was also asked to describe how the management incentivize employees to facilitate tacit knowledge and he said that:

“There are no incentives in place and people tend to keep the knowledge they have to themselves and use it for competitive advantage”

The Knowledge Manager also stated that the KM initiative by the management had enabled KIPPRA to improve on the quality of outputs and had also enabled the staff to overcome some challenges.

“There have been quality outputs in terms of publications, client reports and workshops”

“Tacit knowledge has also made it faster to meet the targets and overcome challenges experienced from day to day”

4.9 Challenges faced in the application and management of tacit knowledge

When asked if they experienced challenges in application of tacit knowledge, 33 (94%) of the respondents recorded a “Yes” response while 2(6%) recorded a “No” response. Some of the challenges mentioned by the respondents included: lack of trust among staff, lack of documentation of success stories, lack of systems and structures, the difficulty to express tacit knowledge, tacit knowledge hoarding, and lack of repositories for codified knowledge and inaccessibility of persons with the relevant tacit knowledge.

Observation data complemented the sentiments shared by the respondents who recorded a “Yes” response. In one of the sessions, for example where the researcher was presenting their paper on

economic development, he was critiqued and told that the research had been done earlier as a client report. This was a clear case of the reinvention of the wheel, where tacit knowledge captured was not disseminated. The challenges experienced by the various categories of respondents are expressed below.

4.9.1 Challenges cited by researchers, young Professionals and administrators (human resource staff, ICT staff and librarian)

Seventeen (68%) of the respondents stated that they experienced challenges in the application of tacit knowledge available at KIPPRA. When further asked to explain, their responses were as follows:

The researcher's stated that:

"Tacit knowledge is only visible when one shows and shares it and so it is obviously difficult to identify it with the natural eye so most of the time when challenges are encountered the time and resources consumed are huge and only to discover that there was someone who had the knowhow of how to overcome the challenge."

"Yes sometimes you feel inefficient and second guess yourself when you know it could be better if there was more to back up your thought process unfortunately this is not so"

"I do not remember to use the repositories available and this is driven by the lack of proper information and dissemination or should I also include my ignorance when it comes to the application of the tacit knowledge available"

"People make it difficult for you to gain mileage and try and chop your legs by putting barriers to make it not happen, this they achieve by purporting that they are the authority and they do things that are not in your league"

The Young Professionals stated that:

"Sometimes there is not enough time to interact with staff that have knowledge that they can impart in the course of our YP program and accessing the tacit knowledge is a chore due to the busy schedules"

"Different specialized teams with varying perspectives on different issues and people with different backgrounds cannot have the same thinking and the same people are not expressive enough and you have to second guess what they are saying at times"

“The mentorship is not consistent and the supervisors do not have enough time to impart tacit knowledge”

“There is a general unwillingness of people to share what they know and what they have”

“Sometimes our mentors are inaccessible and if they are accessible the time to sit and have a real conversation is limited”

“The facilities, space and capacities are not at 100% to be able to manage this knowledge so a lot is not documented or harnessed”

The administrators gave the following responses:

“The challenge I encounter is the how to manage tacit knowledge, store it and pass it on at the most relevant time because the infrastructure and procedures are not there”

“There are no mechanisms in place through which tacit knowledge can be tapped and codified”

“We have a homogenous environment in our workplace and the challenge is in the incomplete acquisition of this tacit knowledge”

“Most of the time people want evidence to the tacit knowledge that you have so most people keep it to themselves”

“The different academic backgrounds breeds unfamiliarity of topical issues and experiences and this develops a barrier until a rapport is developed within individuals”

“It is not the conventional way of doing things. The greatest challenge is the lack of people wanting to change the way knowledge is shared. We have not invested well in this area and there is a lot of focus on explicit knowledge and more so in one specific area”

4.9.2 Challenges cited by management and mentors

All the nine respondents stated that they experienced challenges in the application of tacit knowledge. Below are some of the shared views on the challenges experienced.

“We do not document success stories or even appraise the stories so this compromises the management and sometimes we reinvent the wheel which costs the institute time and monies”

“There is difficulty in understanding each other because of the different levels of technical understanding and there is limited time to share all the knowledge that can be possibly shared”

“There are no explicit policies to govern or address knowledge sharing”

“There is Knowledge/information asymmetry. I wish there was someone I could reach out to for everything”

“There is a lot of knowledge hoarding and you have to keep explaining that the sharing of knowledge is for the better of the both of the institute not you only”

“Yes of course, there are no existing systems and structures or policies to do this and so the documenting and tracking of this knowledge is impossible in this case”

“There are no guidelines, there is a division and a manager in charge but still there is no way of handing or dealing with this kind of knowledge”

4.9.3 Challenges cited by the knowledge manager

The respondent indicated that they faced challenges in the application and management of tacit knowledge such as lack of KIPPRA’s capacity to manage tacit knowledge, mistrust among employees and the management not recognizing tacit knowledge as a valuable asset to the institute as some of the challenges faced in the application of tacit knowledge. The respondent stated that:

“The management does not recognize the importance of tacit knowledge”

“We lack the skills to manage tacit knowledge”

“There is mistrust in the institute and therefore people are reluctant to share”

“Lack of incentives has also hindered the proper management of tacit knowledge”

“The infrastructure to support this initiative is wanting”

In the second part of the question, respondents were probed further to explain how they overcame the challenges experienced in applying tacit knowledge. The responses were as follows

Response from the mentor was as follows

“I embark on continuous mentoring and also try to create new knowledge and share it at every opportunity I get by having a continuous process of creating avenues that allow the expression of this knowledge”

Typical responses from the Management

“I try to engage in follow ups in most cases with people who have the required knowledge and also focus on where certain knowledge is harnessed or not”

“We hire and invite experts from outside to train and capacity build”

“We create avenues for sharing and hope that tacit knowledge is transferred”

“As a person I try and share my best and seek to develop others and also by continuously improving my already existing knowledge through professional education”

“We cannot force things, where I am unable to influence I just do what I can and let it be”

Responses from the researchers were as follows:

“I am forced to read books for long periods of time to get the information which would have been easily accessed in form of tacit knowledge”

“I constantly engage in informal interaction to gather tacit knowledge, if you are lucky you get if not alas!”

“I try and engage the relevant parties on an informal basis and gather knowledge”

“I ignore and use alternative explicit knowledge”

“I listen to others and develop the idea that I do not know everything and that the truth might be with the other person so I try to learn from them and get something out of their experiences”

“I have to be aggressive and innovative and look for other sources that have the knowledge that I need”

Responses from the Young Professionals were as follows:

“I read more and I am also open-minded and ready to be taught”

“I seek clarification where I can and improve and where I don’t understand, I re-consult with the originator of the tacit knowledge if available”

“I keep pushing the supervisor and running after them to impart knowledge”

“I keep it to myself and apply it somewhere else to a more receptive audience”

The administrators had the following typical responses:

“I embark on one on one basis by talking to the officer who I expect to have the relevant knowledge that I need at any given time”

“If I identify a knowledge source I either try and have a one on one conversation or write to them a request to share”

“I am a go getter so if I need something I will get it”

4.10 Suggestions

In the last section the researcher sought, views on measures to be taken to enhance the management of tacit knowledge.

4.10.1 Suggestions by researchers, young professionals and administrators (human resource staff, ICT staff and librarian)

The researchers gave the following recommendations:

“The institute should aim to create a culture for sharing and creating knowledge by giving incentives to encourage people to share knowledge, they should also invest in technology that will enhance knowledge sharing”

“There should be recognition of talent and there should be a conducive environment created by the management where more informal sessions and regular team buildings because people are overwhelmed because of the desk job and therefore are caged in. The staff should also be more open and share the knowledge they have”

“The institute should introduce incentives to encourage people to share tacit knowledge”

“There is a great need to build trust within employees within the institute otherwise the tacit knowledge sharing effort will be a waste”

“The institute should embark on the use of ICT to create knowledge repositories that can be easily accessed by everyone. The technology should be user-friendly, and that will encourage people to share their tacit knowledge online because of the ease of navigation and have anonymity to accommodate introverts”

“There should be freedom to write, share and publish what you know without control but within the framework of the institution and some of the irrelevant controls should be removed”

“The management should identify talent and build teams that will facilitate collaboration and harnessing of tacit knowledge. The days of knowledge hoarding are long gone”

The Young Professionals stated that:

“There should be more informal forums where knowledge can be shared”

“The staff should be educated on the importance of knowledge sharing and more so the importance of tacit knowledge.”

“There is need for capacity building for everyone in the institute on the importance of Knowledge management”

“The management should be sensitized on the importance of tacit KM”

“The senior staff presence should be more so that tacit knowledge can be shared with the juniors in the internal forums and seminars”

“There should also be a system that captures the tacit knowledge in terms of experiences and success stories that should run parallel to research projects”

According to the administrators the following should be done:

“The management should encourage specialization of skills so as to build on the existing tacit knowledge in individual instead of having a bit of everything”

“There should be policies and strategies to encourage tacit knowledge sharing”

“We should have more informal sessions where people can freely interact”

“The institute should introduce ways to systematically allow units to share relevant knowledge and discussions using ICT and the KM effort should be acknowledged and supported by the management”

“The institute should develop a strong knowledge sharing culture and things like trust should be embedded”

“The management should emphasize on tacit KM as an asset for competitive advantage just as it would and does with tangible assets. They should invest in technology and people who are skilled in enforcing KM and also educate the staff on the importance of sharing tacit knowledge”

4.10.2 Suggestions by KIPPRA’s management

The respondents provided the following recommendations to enhance tacit knowledge sharing in the institute.

“The flawed system of appreciation through the bonus as an incentive should be clear-cut not like now where the bonus is used as a weapon of punishment and not to motivate”

“There should be reinforcement in the collaboration networks and outside the formal structure there is need to have informal settings for brainstorming on issues and increase the forums for that.”

“There should be institutional repositories where all the output is stored and also the management should invest more in human capital which is the main source of knowledge that will give them the competitive edge”

“More focus and investments should be on tacit knowledge rather than explicit. For example the Chinese use their tacit knowledge to develop indigenous medicines.

“When someone exits the institute, tacit knowledge is lost so it is important to document it to ensure continuity. People may oppose tacit knowledge but with time they will come to appreciate it”

“The staff should be more open and trusting and stop hoarding knowledge; this can be achieved by taking them through training to broaden their minds on the concept of knowledge and knowledge management and its importance”

“The dissemination of the existing tacit knowledge should be enhanced sooner than later when it’s still fresh and relevant”

“Tacit knowledge should be codified and have better reporting mechanisms. The staff should also be motivated to interact and bond on an informal level and across divisions”

“The knowledge that we have does not have a KM system or strategy to harness it so one should be developed in line with the vision of the institute”

“There should be deliberate measures in place to harness tacit knowledge through back to office reporting and experiences from people who have been to the field”

“A culture and environment of trust in the institute has to be encouraged. Secondly the management needs to refocus the budgeting approach to give weight to the emerging issues instead of the explicit things. They need to know how they can successfully invest and implement knowledge management. Once we devote to the two we can overcome anything and any challenge and become the leading institute as our vision states”

“The institute should acknowledge the importance of tacit knowledge. They should also record successful cases of all challenges experienced that are founded on tacit knowledge. They should also give incentives and recognize individual and collective effort. Above all the management should work hard to eliminate the already existing silos they created by pitting divisions against each other as it has hindered the flow of tacit knowledge in the institute”

4.10.3 Suggestions by the mentor

The mentor made the following recommendations:

“They should also embark on engaging the mentors who work full-time instead of having them come over three times a week”

“There should be allocation of days where tacit knowledge is shared between staff and also people from other institutions to build on the already existing tacit knowledge”

“It might be important to sensitize people about the tacit knowledge concept, now that it is clear in my mind after you have explained”

“The institute should invest in training and capacity building, give better incentives and rewards, develop e-learning platforms where knowledge can be shared widely and finally participate in more networking and roundtables”

“People who work as silos and divisions which work independently should be discouraged and encourage cross population good knowledge grows when two different people come together”

4.10.4 Suggestions by the knowledge manager

The knowledge manager recommended that:

“The management should lead from the front and champion tacit KM for competitive advantage”

“The management should address the already existing constraints of attracting the best brains of researchers and mentors because of the incentives given. They should also invest in technology and avail resources that can enhance tacit KM”

“KIPPRA has to recognize and reward talent. This will encourage everyone to bring the out the best in them. For example the salaries should be performance based where you are able to attract and retain the best talent”

“We have failed to completely embrace technology as a modus operandi for harnessing tacit knowledge and it is about time the management invested in the appropriate technology to harness this valuable knowledge”

“The management should invest more in the mentorship programmes and continuously engage more seasoned experts and peers who can share their valuable experience and pass this to the young and upcoming researchers”

4.11 Summary

This chapter has presented data collected from different categories of respondents at KIPPRA. The key data themes were in relation to the objectives of the study and patterns across data sets are associated to the research questions. The results emanated from the sample population and reflected

the views of the interview and observation. The actual words of the respondents have been used to emphasize opinions as they were implied.

CHAPTER FIVE

INTERPRETATION AND DISCUSSION OF RESEARCH FINDINGS

5.1 Introduction

This chapter presents a discussion of research findings. The analysis and interpretation of the results is guided by themes from the findings that are based on the study objectives. According to Creswell (2009), data interpretation is a process by which a researcher makes sense of the data collected by giving the data meaning and comparing it to the already existing literature.

5.2 Sources and types of tacit knowledge at KIPPRA

The first objective of the study was to determine the sources and types of knowledge. Knowledge is a resource that enables the development of and provides potential for economic and social stature of mankind (World Bank, 2007; Nonaka & Takeuchi, 1995). Organizations have realized the potential of having knowledge as an asset. Research findings revealed that 32 (91.4%) respondents acknowledged that knowledge was recognized as an asset at KIPPRA. This recognition is backed by the respondent's awareness of knowledge sources in their various formats not only within KIPPRA but also outside the organization.

Theorists have debated over the definition and types of knowledge and there has been no unanimous consensus on the issue; if knowledge is information and if in actual fact knowledge can be quantified as either tacit or explicit (Wu *et.al.*, 2011; Davenport & Prusak, 1998; Nonaka &Takeuchi, 1995). This is not different in KIPPRA as only 34% of the respondents could comprehensibly classify tacit and explicit knowledge as types of knowledge, with 51% giving a clear definition of tacit knowledge. The researcher explained tacit knowledge and distinguished it from explicit knowledge to the respondents who were not aware of the different types of knowledge. This clarification was significant as it helped the respondents to distinguish between tacit and explicit knowledge, after which they acknowledged that both tacit and explicit knowledge existed at KIPPRA. However, KIPPRA has invested more in explicit knowledge.

The above analysis shows that although KIPPRA recognizes knowledge as part of its asset base, a lot of effort is geared towards explicit knowledge. Tacit knowledge is still a new concept to the organization, and little or no effort has been put in place to sensitize staff. This can be attributed to its

complexity, versatility and probably its formalization. The reality that only 34% of the respondents, including the management, could not distinctively identify tacit knowledge from explicit knowledge is a clear indication of this.

5.2 Enabling resources for the capture and transfer of tacit knowledge

5.2.1 Willingness to share tacit knowledge

Tacit knowledge is an intangible asset that is not subject to the law of diminishing returns and its value increases as more people share it (Laudon & Laudon, 2012), therefore for tacit knowledge to be useful in any organization it has to be captured, codified and transferred to others.

In KIPPRA, the respondents stated that there was a very rich background of tacit knowledge; however, not everyone was willing to share. The old adage of ‘knowledge is power’ has created a knowledge hoarding culture within the organization, where some individuals see it as a loss of competitive advantage, if they share the knowledge they possess. If they share, they practice the error of omission by not sharing all the knowledge. This is described as “pride of ownership” (Wenger *et.al.*, 2002) by an individual. Another key factor is the knowledge possessors are not being aware that they have tacit knowledge, and if they did, they are not willing to share it because of the risk of being exposed. The above findings expose the individual barriers that have over time hindered the sharing of tacit knowledge at KIPPRA just as in most organizations.

5.2.2 Avenues for tacit knowledge sharing

In describing knowledge sharing, Awad and Ghaziri (2007) state that for tacit knowledge to be shared, it must be captured, codified and deployed in a format that is acceptable to the user; Nonaka and Takeuchi (1995) and Awad and Ghaziri (2007) add that knowledge transfer is a prerequisite for knowledge sharing and tacit knowledge sharing is more than simply knowing the right thing to do. Literature reviewed (Awad & Ghaziri, 2007; Panahi *et.al.*, 2012) indicates that employees in organizations share tacit knowledge formally and informally through personal interactions among individuals and teams and through computer databases. Jacobson (2009:1) contributes stating that “tacit knowledge can be unleashed and shared as never before by connecting people ubiquitously through social networking, and its closely related partner collaboration.”

The findings of the study indicated that 88% of the respondents used various avenues for tacit knowledge sharing. These avenues are not only face to face, but also the use of technological mechanisms has been implemented to facilitate tacit knowledge sharing. Avenues such as

roundtables, intranet, training sessions, meetings, one on one session with supervisors, mentorship programmes, and social media were mentioned by the respondents.

Respondents, however, indicated that these avenues are not maximized for tacit knowledge sharing. The respondents mentioned challenges such as the formal nature of these avenues, knowledge asymmetry, availability of time, introverted users, unawareness of the available avenues, and the nature of relationships among staff as the main reasons as to why the avenues are not fully exploited.

The findings of the study corroborate the existing literature in that the avenues used in KIPPRA have been quoted by scholars (Nonaka & Takeuchi, 1995, Awad & Ghaziri, 2007; Jacobson, 2009; Panahi *et.al.*, 2012) for sharing and transferring tacit knowledge in organizations. The findings of the study also corroborate literature whereby tacit knowledge played second fiddle in many organizations and therefore the avenues availed in most organizations, are not fully utilized. This is attributed to the avenues not being user friendly and therefore employees resist sharing knowledge using the said formal avenues. Respondents' awareness of informal avenues for sharing tacit knowledge compliment the already existing literature, whereby avenues such as water cooler points, social interactions over lunch breaks among others, are recognized as avenues that tacit knowledge is shared.

5.2.3 ICT platforms for sharing tacit knowledge

The findings of the study revealed that 84 percent of the respondents were aware of ICT platforms that could be used to share tacit knowledge. When asked about the status of the ICT platforms for sharing tacit knowledge at KIPPRA, respondents indicated that KIPPRA has rudimentary ICT platforms that can be used to enhance tacit knowledge sharing. Respondents were not aware of any ICT platforms that had been implemented by the organization specifically to support tacit knowledge sharing. This could be attributed to the fact that KIPPRA does not appreciate tacit knowledge as an asset, and no major technological investment has been done that can be used for tacit knowledge sharing. However, respondents were in agreement that technology can greatly enhance sharing of tacit knowledge not only within but also outside the organization, because it breaks the barrier of the traditional face to face way of sharing tacit knowledge. In line with this, majority of the respondents contribute to online platforms both formal and social to share knowledge.

Laudon and Laudon (2012) in analyzing ICT platforms stated that the implementation of integrated ICT systems by organizations that are a mismatch with the intended users, and the reluctance by the same employees to use technology due to lack of familiarity are some of the main challenges of

using ICT platforms in sharing tacit knowledge. Davidavicien and Raudeliunien (2010) add that tacit knowledge transfer using ICT is “far more ambitious” and the usage and interaction of ICT with employees can influence tacit knowledge flow. In this case, the appeal by other ICT platforms that the respondents use to share knowledge clearly reflects the incompatibility of the already existing ICT platforms in KIPPRA. This could be attributed to the fact that the organization did not do a user needs survey, and if they did, they failed to train the employees how to use these ICT platforms to share tacit knowledge. Technological mechanisms such as corporate portals, intranet and internet which have friendly, centralized, and simplistic information can guarantee the accurate and timely delivery of tacit knowledge in a more effective way (Jain, 2006).

The findings of the study indicate that like in most organizations, tacit knowledge has not been fully appreciated or valued (Lee & Nissen, 2010) at KIPPRA, and therefore, knowledge has been generalized. No effort has been made in the adoption and customizing of ICT platforms to enhance tacit knowledge sharing. The capture of tacit knowledge and converting using technology into a format that can be used is also not a straight forward business and it is a costly affair (Awad & Ghaziri, 2007). This could be the reason why KIPPRA has not invested in ICT platforms that can enhance tacit knowledge sharing.

5.2.4 Communities of Practice

No formal communities of practice exist in KIPPRA. In fact, no initiative has been taken to install and nurture communities of practice (COP) in the organization. The Knowledge Manager confirmed that there has been no effort in developing COP. However, the management encourages its staff members to work in expertise groups and in assignment based groups. Individualism exists, but it is discouraged within KIPPRA. However, no measure has been taken to ensure that this does not happen on a regular basis. This individualism is attributed to the antagonism in cooperation even when they are grouped or being ill fitted into groups, where they have no strategic focus or their expertise is not required. The researchers also said that they, sometimes, work in groups of expertise on a need basis, but they are not as active as they should be. The respondents stated that they are members of external peer networks where they share tacit knowledge. Wenger and Snyder (2000) discuss the communities of practice as organizational frontiers in that people share knowledge that is intangible. However, COP have been seen as a management fad, thus their prevalence is not dominant in organizations. They attribute this to three factors; the fact that COP is a new term and thus not every organization is aware of it. Only several organizations have taken the leap of faith in

the installation and nurturing of COP and lastly, the organic, spontaneous and informal nature of COP makes it difficult to build and sustain them because of their resistance to supervision and interference.

Considering Wenger and Snyder (2000), KIPPRA's failure to launch COP could probably be attributed to the management's lack of awareness of the power of COP in organizational running, of their staff potential, and therefore, this does not bring the right talent together and the right infrastructure and environment in which COP can thrive.

5.3 Tacit knowledge reuse for innovation and competitive advantage

All the 35 respondents agreed that reuse of tacit knowledge is a sure way of innovation and competitive advantage. Over the years, successful organizations have relied on tacit knowledge to meet necessities by coming up with innovations that have propelled them to successful limits, hence giving them a competitive advantage. KIPPRA has also used innovation to develop services and products that have improved their way of doing things or improving on the old ways on a day to day basis. This, they have achieved by combining the right resources and it has had a multiplier effect whereby they have been recognized and have become one of the most sought after think tank in Kenya.

As innovation becomes obsolete on a daily basis, part of the respondents indicated that not all tacit knowledge could be used to meet the everyday challenges at KIPPRA. This is a trend that is applicable in most organizations, and as Alwis and Hartmann (2008) state, tacit knowledge dimension grows obsolete daily, and if not properly managed, it can be a huge barrier to innovation. By using tacit knowledge for innovation, KIPPRA has also been able to make gains by avoiding the reinvention of the wheel, and this enables them to build on new ideas instead of focusing on those that have already been implemented or shared. The reuse of tacit knowledge has also enabled the organization to evaluate, process and reengineer the already existing systems to enable them to meet the client demand for research.

For competitive advantage, KIPPRA has been able to reuse documented tacit knowledge to increase productivity. Tacit knowledge has been used as a roadmap that gives knowledge points used to validate, confirm and corroborate that a project is moving in the right direction, therefore reducing on the turnaround time of projects. Reuse of tacit knowledge has also enabled the researchers at KIPPRA to build on the knowledge they have, hence becoming effective, confident and competent in their field of expertise.

To some extent however, the non disclosure of the tacit knowledge available has also been a challenge as its reuse has been hindered and the researchers have to go back to the drawing board only to be informed in the midst of it that there was some harnessed tacit knowledge to that extent.

These findings concur with studies conducted by Szulanski (2003) and Foos *et.al.* (2006) who state that the formal process for capturing tacit knowledge for reuse and innovation has been ignored as organizations and managers lack experience to make effective use of ideas and are not necessarily interested in the "*long term ramifications of tacit knowledge transfer*" (Foos *et.al.*, 2006). This is because they feel that they have tacit knowledge at hand, and they need not have it transferred for long term product development and management.

5.4 The role of management in creating a conducive environment for effective application and management of tacit knowledge at KIPPRA

The support of the leadership of an organization is critical for any knowledge management initiative to thrive. The leaders are entrusted with the organization as a whole, and they are supposed to ensure that the autonomous divisions in an organization work together using the available infrastructure to meet organizational goals. This, they achieve by creating collaborative relationships between the staff, the staff and the management, and also ensuring proper infrastructure is in place and the work environment is conducive for the staff to flourish (Savolainen, 2008; Mahoney, 2000). Leaders assume the responsibility of coaches and mentors who develop a workforce that is motivated to use their competencies in service to the organization (Farkas, 2003). Leaders are also the ones who develop strategic action plans, identify knowledge opportunities and based on the organizations' vision, are the primary persons who influence the cultural and organizational change (Donnelly, 2010).

In interrogating the role of leadership at KIPPRA, the researcher asked varying questions to the respondents in the management and their juniors in order to capture sentiments from both groups. This approach was important as it would distinguish the views of the two groups and establish the disconnect that was a hindrance to tacit KM. These questions were posed differently in order to bring out the issues relating to trust and the openness and togetherness culture of an organization, supported by the management that allows for free flow of tacit knowledge.

At the supervisee level, the 20 of the 25 respondents felt that the management had provided a conducive wholesome environment for tacit knowledge sharing. This was by availing the proper infrastructure, giving support, mentoring and having an open door policy where staff could walk in at any time and consult freely with the management. The respondents also stated that even though there

were no clear cut policies on tacit knowledge harnessing, the management tried to have an open culture, staff are able to express their creativity without fear of reprimand. This opinion was however not shared by all the respondents as some felt that the management used the expressed opinions against the staff, therefore, the trust that is essential in the sharing or tacit knowledge was nonexistent. Communication and bonding of the staff was also expressed as a concern by the staff in that it is not well rooted. The fact that the major source of tacit knowledge sharing is through interaction makes it difficult to share as some management staff are not receptive, therefore unapproachable and can only be engaged on a professional level. This in turn leads to knowledge hoarding. In his report, Wick (2000) states that if the corporate culture encourages sharing of such resources, organizations are somehow able to overcome the mistrust and knowledge hoarding nature and increase the collaboration among them, thereby creating a knowledge sharing culture. The respondents credited the management for having shared resources such as the water and tea point, photocopier, printer and meeting areas where the staff from all levels interact and share ideas from time to time.

Basu and Sengupta (2007:273) state that “it is normal for human beings to feel insecure in sharing knowledge at the work place as knowledge is regarded to be a valuable resource in the profession.” These sentiments on incentives are shared by the KIPPRA staff. However, the staff does not see the incentives offered by the management as rewards for sharing tacit knowledge, but as a basic benefit that cuts across all the staff and they are not specified to tacit knowledge sharing. Other staff members even viewed the incentives mentioned “punishment tools” used against staff by the management; Chua (2003) asserts this in his research by adding that in every individual, there is a natural tendency to hoard knowledge. Consequently, there is no motivation to share it with others unless they are rewarded or recognized properly.

At the managerial level nevertheless, all respondents stated that they gave their staff room to develop freely, but within the objectives of the institute and that there were incentives in monetary and in kind to exceptional cases when staff shared their tacit knowledge with others. This they do by awarding members who publish journal articles and those that have mentored, held discussion forums and public disseminations, and those who score well during the annual appraisal. Basu and Sengupta (2007) attribute factors such as superior pay structure, motivation towards continuous learning and active participation of staff members in conferences and seminars as part of the incentives that motivate the staff to share knowledge. In the long run, this has an impact on organizational growth

and stability. KIPPRA has used this to motivate staff to share tacit knowledge within and outside the organization.

5.5 Challenges faced in the application and management of tacit knowledge

Ninety four percent of the respondents stated that they experienced challenges with the application and management of tacit knowledge. These challenges cut across the individual, organizational and technological front, depending on the individuals. Key issues that came out of the study included trust among the employees, knowledge hoarding by some employees, lack of recording of success stories, staff not being aware that certain tacit knowledge existed, lack of self-confidence and resilience, lack of proper technological mechanisms to facilitate tacit knowledge application, unavailability of hybrid technologies and structures to enable tacit knowledge application, superiority complex by part of the staff, and knowledge asymmetry in the organization.

The capture, transfer and sharing of tacit knowledge is not an easy task. (Laudon & Laudon, 2012; Holste & Fields, 2010; Joia & Lemos, 2009; Taylor, 2009; Awad & Ghaziri, 2007; Riege 2005; Tiwana, 2002; Housel & Bell, 2001) identified individual, organizational and technological barriers as the three key areas that challenge the application and management of tacit knowledge in organizations. At the individual level, Awad and Ghaziri (2007) and Wenger *et.al.* (2002) also identify individual's personality, temperament, attitude, interpersonal skills and pride of ownership by an individual as factors that hindered the management of tacit knowledge.

At the organizational level, (Holste & Fields, 2010; Joia & Lemos, 2009; Riege 2005) state that trust is of paramount importance as it means that there is integrity and consistency in communication. These in turn enable the sharing of tacit knowledge in an organization. Trust and integrity reduce competitiveness and encourage transparency in an organization. Other organizational challenges that the scholars mentioned include downsizing in organizations, high turnover, limited resources, top down communication, inflexible, bureaucratic and hierarchical organizational structures. On technology, Laudon and Laudon (2012) say that it is a challenge that hinders the application and management of tacit knowledge. They attribute this to the fact that it does not operate in a vacuum; however organizations have simply invested ICT systems and processes that are a mismatch with the intended users. The unrealistic overreliance on technology has also been attributed as a challenge because if a system fails, then the employees are unable to function. The survey findings revealed that KIPPRA clearly has individual, organizational and technological challenges identified by scholars (Laudon & Laudon, 2012; Holste & Fields, 2010; Joia & Lemos, 2009; Taylor, 2009; Awad &

Ghaziri, 2007; Riege, 2005; Tiwana, 2002; Housel & Bell, 2001) that hinder the flow of tacit knowledge in the organization.

The respondents also stated that they have tried to come up with ingenious ways of overcoming the challenges but the approach is not always successful. They, for example, create informal avenues for clarification and mentorship in the case of the young professionals and their mentors, follow up with expertise when the tacit knowledge being transfer has not been easily articulated and in some cases, they look for alternative sources of knowledge. This scenario was also unveiled by Shim and Roth (2008) where no formal avenues for expert knowledge articulation is given mentors and mentees are normally left with trial and error challenges of accessing, codifying and sharing tacit knowledge. Shim and Roth (2008) further add that “some tacit knowledge has a relatively high potential to be articulated in words given the limits, but other tacit knowledge has relatively low or no potential to be transformed into explicit knowledge.” In this study therefore, the respondents who look at explicit knowledge as an alternative may not be fully contented with the results as not all tacit knowledge can be made explicit.

5.6 Chapter summary

This chapter has presented the interpretation of the research findings. According to the interpretation, KIPPRA faces challenges in the application and management of existing tacit knowledge. There were notable gaps in the identification of tacit knowledge as a resource and the mechanisms that can be used to harness tacit knowledge for the organization. Tacit KM harnessing efforts and practices were found to be lacking. Notwithstanding, a few optimistic efforts were noted such as the establishment of the Knowledge Management division.

CHAPTER SIX

SUMMARY OF MAJOR FINDINGS, CONCLUSION AND RECOMMENDATIONS

6.0 Introduction

This chapter presents the summary of major findings, conclusion and recommendations.

6.1 Summary of the findings

This section presents a summary of the research findings based on the study research questions.

6.2.1 What are the sources and types of knowledge existing at KIPPRA?

- 91.4% of the respondents indicated that undoubtedly knowledge was recognized as an asset
- All the respondents understood what knowledge is and gave examples of the types of knowledge as tacit and explicit knowledge
- Respondents gave sources of explicit knowledge as individual persons, groups of individuals, and experiences
- Only 12 (34.3%) of the 35 responded could comprehensibly distinguish tacit and explicit knowledge
- Only 18 (51.4%) of the respondents properly defined tacit knowledge
- Both tacit and explicit knowledge exist in KIPPRA, however explicit knowledge is more dominant

6.2.2 What resources enable the capturing and transferring of tacit knowledge at KIPPRA?

- Meetings, seminars, workgroups, discussion forums and training sessions Respondents stated that the avenues available for tacit knowledge sharing have not been fully exploited by the Institute
- ICT platforms available for tacit knowledge sharing at KIPPRA include internet, intranet, emails, KIPPRA blog and online discussion forums
- The ICT platforms available for tacit knowledge sharing are not well adapted to enhance tacit knowledge sharing
- Not all respondents contribute to online forums

- If well invested, ICT would greatly enhance tacit knowledge sharing within and outside KIPPRA

6.2.3 Do Communities of Practice exist at KIPPRA?

The employees at KIPPRA work together from time to time depending on the projects and nature of work. However, the knowledge manager stated that no Communities of Practice have been established or exist at KIPPRA.

6.2.4 Can tacit knowledge be reused for innovation and competitive advantage?

- All the 35 (100%) respondents agree that reuse of tacit knowledge is a sure way of innovation and competitive advantage
- Not all tacit knowledge could be adapted to meet everyday challenges at KIPPRA
- KIPPRA has realized some benefits by reusing tacit knowledge

6.2.5 What is the role of management in creating a conducive environment for tacit KM?

- 80% of the respondents felt that the management has tried to create a conducive environment for tacit KM, but there was still room for improvement
- KIPPRA has a mixed environment and a culture of knowledge givers and knowledge hoarders whose blame rests on the management's lack of initiative to encourage bonding among staff.
- The management has not established initiatives that encourage bonding therefore trust is almost nonexistent. This leads to tacit knowledge hoarding.
- The staff is open and willing to share their tacit knowledge in a more informal setting
- The physical set up of the office is conducive for tacit knowledge sharing
- The incentives given by KIPPRA are not adequate enough to encourage tacit knowledge sharing

6.2.6 What are the challenges faced in the application and management of tacit knowledge?

- 33 (94%) of the respondents experience various challenges in the application and management of tacit knowledge
- The challenges mentioned include; difficulty in identifying relevant tacit knowledge, capturing and sharing of tacit knowledge, ICT technology that is not suitable for tacit KM,

tacit knowledge hoarding, incomplete acquisition of tacit knowledge, knowledge asymmetry, inaccessibility of tacit knowledge carriers, no documentation of success stories where tacit knowledge was used, lack of explicit policies to govern knowledge sharing, mistrust and lack of incentives.

- The respondents find their own creative ways of dealing with the challenges including continuous mentorship, creation of tacit knowledge sharing avenues and hope that tacit knowledge is transferred, ignoring and using other alternative (explicit) knowledge and being introverted, and working as individual silos.

6.2.7 Respondents recommendations

- Recommendations given by the respondents include; capacity building of employees on the importance of tacit knowledge and knowledge management, sensitization on the management on tacit knowledge and its advantages to the Institute, systematic capture of success stories that used tacit knowledge, creation of a tacit knowledge sharing culture, recognition of talent, building of trust among employees, implementation of ICT platforms that harness tacit KM and creation of informal sessions where tacit knowledge can be shared freely and in a relaxed environment.

6.3 Conclusion

In this section, the conclusion of the study based on the findings is provided. Conclusion returns to the research questions and spells out the implications of the finding (Bryman, 2004). Leedy and Ormrod (2010) point out that “the conclusions should be entirely supported by the data presented”. The conclusions of this study are drawn and only the major findings that directly addressed the research questions are discussed in proportion to the order in which the research questions were stated in Chapter One.

For any KM initiative to succeed, an organization needs to identify and value the existing knowledge that it hosts. Lee and Nissen (2010) explain that tacit knowledge is not well understood or valued in most organizations more so public institutions, consequently it is neglected and much more time is spent in managing explicit knowledge that is recognizable, and as such, they lose the competitive advantage for organizational development and growth over other institutes in performance and target delivery. At KIPPRA, knowledge is valued as an asset by both the staff and management. Both tacit and explicit knowledge exist at KIPPRA. The concept of tacit KM existing at KIPPRA is nonexistent.

However, despite its vagueness, this study concludes that the harnessing of tacit knowledge at KIPPRA is possible owing to the wiliness and the interest shown by the staff in learning about tacit knowledge during the interview sessions.

Organizations should be able to invest in proper avenues and technological applications that can be used as enablers to extract, codify and share tacit knowledge. These avenues should be customized to the staff needs and they should not be an impediment for the employees to share their knowledge. They should be powerful enough to get the employees to share more of their knowledge. In KIPPRA, employees are not aware of the existing avenues and technologies used to share tacit knowledge, and those aware, think that the avenues availed are not adequate enough to facilitate tacit knowledge. In the use of the existing technologies at KIPPRA, the employees do not use them to share tacit knowledge and opt to share tacit knowledge on platforms outside the institute. Other avenues such as meetings and round tables are also not exploited to the maximum, and therefore their full potential is not achieved. This study concludes that proper avenues and resources are important for the harnessing tacit knowledge.

In a rapidly changing environment, organizations are still working in the old world of business and they are not only experiencing huge financial loses, but also losing their competitive advantage. Most organizations are opting to constantly change their strategies in order to grow, stay competitive and survive (Alrawi, 2007). They are achieving this by recognizing tacit knowledge, though a complex asset because of its cognitive and technical element, as their most valuable asset and they are finding innovative ways to harness and reuse tacit knowledge at hand to stay ahead of the pack. Nonaka and Takeuchi (1995) credit the success of Japanese companies on innovation to tacit knowledge conversion. The study established that the employees at KIPPRA agree that reuse of tacit knowledge is a sure way of innovation and competitive advantage. The institute has in the past reused tacit knowledge to develop products and services that have propelled them ahead of the competition giving the institute national recognition as the go to think tank for policy advice. KIPPRA has reused documented tacit knowledge as roadmaps to increase productivity and also to avoid the reinvention of the wheel. However not all the tacit knowledge has been documented and more often than not KIPPRA has been forced to reinvent the wheel, lost out to competitors and has been unable to execute projects on the exit of valuable employees with skill sets and cognitive know how.

For KM initiative to succeed, the management that is entrusted with the organization as a whole needs to be onboard and support it fully by providing the necessary financial, technological and personnel resources at any given point. The management is the steward of any organization and whether the organization sinks or floats is entirely dependent on their leadership (Harlow 2008). O'Dell and Hubert (2011) add that the most convincing grounds for the management to become involved in KM initiatives is to guarantee that all KM efforts relate to the overall objectives of the organization. The management at KIPPRA has strived to create a conducive environment for tacit knowledge sharing by ensuring that the employees are not individual silos but work in groups from time to time. The management has also invested in infrastructure that supports the tacit KM initiative, and they have strived to build an organizational culture of trust among the employees. However, this management opinion is not shared by all the employees who feel that there is no trust among themselves and as a result, knowledge hoarding exists. The employees also feel that the incentives given by the management to encourage knowledge sharing are lumped together, and therefore they do not consider them as tacit knowledge sharing incentives, consequently they do not feel the need to go above the call of duty to share tacit knowledge.

The study identified three broad challenges that affect the management of tacit knowledge namely, individual, organizational, and technological challenges. Ninety four percent of the respondents stated that they experienced challenges that cut across the individual, organizational and technological front. On an individual level, knowledge hoarding, individual working silos and inaccessibility of persons with tacit knowledge were mentioned by the respondents. At the organizational level, trust, lack of COP's, formal rigid structures and processes were identified. On technology, lack of customized platforms for tacit knowledge sharing were mentioned as challenges for tacit knowledge sharing.

6.4 Recommendations

The research findings revealed that tacit KM is hindered by various aspects at KIPPRA. The study therefore makes recommendations addressing the tacit KM concerns identified in the study in order to boost the value of services offered by KIPPRA.

6.4.1 Articulation of tacit knowledge concept and its incorporation in the organization for competitive advantage

The study findings reveal that knowledge is considered an asset at KIPPRA and plays an important role in meeting KIPPRA's objective as a think tank. However, emphasis is more on explicit knowledge as observed by the large collection of publications at the resource centre. KIPPRA already has a Knowledge Management division in place, however there is need to broaden the concept of knowledge and educate the employees on the dynamics of knowledge.

This study recommends that the Knowledge Manager, who is the champion of the knowledge management initiative at KIPPRA, ensures that the tacit KM concept is clearly outlined and incorporated in the organizations daily activities. The types of knowledge should be clearly defined and emphasis on the importance of tacit knowledge, its composition, and the implications of making sense of tacit knowledge for knowledge translation should also be clearly shared among employees. This is the first step in ensuring that tacit knowledge is utilized within the organizational structure. Secondly, the Knowledge Manager should have sessions where the staff should be educated on tacit knowledge, and its importance in meeting the organizational objectives.

6.4.2 Use of informal avenues for tacit knowledge sharing and transfer

The findings of the study show that KIPPRA uses formal avenues such as meetings, trainings, discussion groups, workgroups, round tables and mentorship for transferring tacit knowledge internally and externally. However, not all respondents felt that they were effective for tacit knowledge transfer because of the knowledge asymmetry and the organizational hierarchy. It is not easy to share views and opinions because of fear of reprimand, the persons in these groups have the same way of thinking, the unavailability of mentors and lack of enough time to share tacit knowledge.

This study recommends that the management (Executive Director and Heads of Divisions) at KIPPRA embark on introducing informal avenues that can be used for tacit knowledge sharing. Informal avenues have, over the years, been used by successful organizations to build relationships among employees in organizations. These relationships have enabled employees to not only bond, but also develop an environment of openness and mutual trust, consequently breaking down the tacit knowledge sharing barriers. Informal forums have also enabled organizations to develop a culture that embraces sharing, learning and exchanging of collective intelligence with the ultimate aim of recognizing that sharing knowledge leads to individual and organizational growth. For instance, in a formal setting such as a work group, an individual might be intimidated when critiqued and in future

practice tacit knowledge hoarding. In an informal setting however, the individual is in a more relaxed environment and can speak his/her mind as there are no written rules as to how much knowledge a person can share at a given time.

Simple and inexpensive avenues and resources that can be integrated at KIPPRA include having designated sections where the employees can interact during lunch and tea breaks, ensuring that the water point is centralized and shared by all staff, encouraging informal interactions between the management, mentors and researchers in the office by having team building sessions and having happy hour sessions on a monthly basis.

6.4.2.1 Review of organizational structure

The study findings also revealed that there is a great deal of bureaucracy that haunts the tacit knowledge sharing process at KIPPRA. This hinders the interaction and socialization of employees across the institute as the existing chain of command and inflexible organizational structures make tacit knowledge holders in senior level positions inaccessible.

This study recommends that the Management reviews the bureaucratic factors such as the inflexible organizational structure and hierarchical chain of command that are major barriers for tacit knowledge sharing. Organizational structure and hierarchies hinder communication, therefore hampering the tacit knowledge transfer process (Joia & Lemos, 2010). The management should therefore ensure that the structure and hierarchies are not barriers by ensuring there is flexibility and that the people with the required tacit knowledge are accessed when their knowledge is required irrespective of their positions.

6.4.2.2 Investing in ICT Platforms for capturing and transferring tacit knowledge

IT platforms have been lauded as the main enablers of knowledge sharing, however focus has not been on creating interactive platform which involve people who are tacit knowledge holders (Panahi, Watson & Partridge, 2013). The transfer and preservation of tacit knowledge has been a challenge as ICT platforms have been made to manage explicit knowledge (Davidavicien & Raudeliunien, 2010). The findings of the study revealed that even though KIPPRA had heavily invested in technology, there were no specific ICT platforms that had been exclusively designated for tacit knowledge sharing. Data also revealed that the respondents did think technology is important for tacit knowledge sharing and added that they shared their tacit knowledge using external ICT platforms such as blogs, social media, intranet and professional online discussion forums.

This study recommends that KIPPRA invests in ICT platforms such as groupware systems, project management tools, decision support systems, intranet and extranets that can be used for tacit KM. With the guidance of the ICT Manager, the Management and the Knowledge Manager should be able to acquire and customize ICT platforms that provide interactive, collaborative and real-time technologies to enhance tacit knowledge sharing among the employees. The use of such web based technological applications that provide faster and effective communication globally, can enable the sharing of tacit knowledge at KIPPRA. As technology by itself is insufficient to effectively transfer tacit knowledge, the adapted technology should be easy to orientate and use. KIPPRA could also actively adapt the usage of collaborative social web-based technologies such as social networking sites, wikis, blogs, podcast and instant messaging. These social web technologies have over time, proven to build an environment where tacit knowledge has been shared freely by employees due to their informal nature. Laudon and Laudon (2012) asserts this by suggesting that new ways of communicating online through the use of online social networks, wikis and blogs have been used by successful organizations as effective tools to transfer tacit knowledge. The existing technologies in KIPPRA such as intranet and internet portals, project management software and shared folders should be updated and made user friendly and easy to access.

6.4.2.3 Establishing digital knowledge repositories

The study revealed that KIPPRA does not have knowledge repositories where harnessed tacit knowledge can be codified and stored for reuse. This has led to reinvention of the wheel from time to time, and a lot of time and energy is wasted in redoing the same things, sometimes with disastrous results. The use of knowledge repositories has been widely successful in enabling organizations to reinvent and come up with innovative products and services in the current era of heightened competition in the markets. The study also recommends that the Knowledge Manager should create knowledge repositories where codified tacit knowledge can be stored for retrieval and reuse. The codified tacit knowledge should be tied together and links or an index made accessible to the employees. In harnessing and storing the codified tacit knowledge, it is important for KIPPRA to note that not all tacit knowledge will be relevant to the organization, therefore the organizational goals and objectives should be used to determine what codified tacit knowledge should be archived in the repository. Once tacit knowledge is harnessed, it can be availed in future to the right people at the right time to meet the organizational challenges.

6.4.3 Capturing and reuse of tacit knowledge for innovation and competitive advantage

The findings of the study revealed that the reuse of tacit knowledge is important for innovation and competitive advantage. Respondents also revealed that even though there were no formal structures and processes to harness tacit knowledge, the tacit knowledge available has been reused for competitive advantage. The findings of the study also revealed that the lack of codification of success stories of tacit knowledge use has led the institute to encounter challenges which were costly including reinvention of the wheel, loss of time when process reengineering is involved, reduced productivity and inefficiency in execution of projects.

In order to overcome the challenges mentioned, this study recommends that the Knowledge Manager at KIPPRA embarks on creating conditions in the organization, where every member can be able to verbalize their tacit knowledge. These ideas should be captured in a pool where they can be reused innovatively to generate new services, products and business procedures. Success stories on the reuse of tacit knowledge should also be captured and stored in knowledge repositories to be reused as a road map in future. Alwis and Hartmann (2008) stress organizations are forced to renew their products and services to sustain competitive advantage and tacit knowledge is key in attaining innovation success. By achieving this, KIPPRA can leverage the reuse of harnessed tacit knowledge strategically and will be able to have substantial benefits that emanate from harnessing tacit knowledge in the way daily operational procedures are done, the effectiveness in solving problems which brings efficiency in the turnaround time in product development and service delivery. This shall accelerate their growth and innovation in the field of service, thus provide a competitive advantage for the organization.

6.4.4 Role of management in creating a conducive environment for effective management of tacit knowledge

The study findings revealed that 80% of the respondents felt that the management has created a conducive environment for tacit KM. A successful KM initiative needs support of management and leadership of the organization. Smart managers focus on the future of the organization and develop strategies that are operational for survival and growth of the organization, and share the same with their knowledge workers. They also create conducive working environments for their employees and give them opportunities to brainstorm and come up with new ideas of doing business (Awad & Ghaziri, 2007).

The management in KIPPRA should evaluate and assess the competencies of the organization by searching out, creating and sharing knowledge and harnessing tacit knowledge from employees through task oriented activities whilst motivating them. The management should also be able to deal with the shortcomings of their employees in a positive way such that productivity is not measured only in efficient but also effective nature as they are equally important. The management should also endeavor to establish an organizational culture that encourages trust, openness and creative thinking as not all employees are inclined to follow ideals proposed by the management. For sharing tacit knowledge, KIPPRA's management should shun internal competition that encourages knowledge hoarding and encourage collaboration of staff in tasks and purposely create workgroups that ensure knowledge is shared. This can be done by matching employees with certain skill sets with those that require or are in need of the said skills. Specialist work groups should also be encouraged. However in supporting collaboration, the management should also be careful not to create individual silos whereby an employee feels intimidated in sharing his or her ideas in the work groups. Finally motivation is vital for any tacit knowledge to be harnessed by an organization and the management should consider introducing incentives and rewards that motivate the employees to share tacit knowledge. These incentives could be in monetary terms such as high pay and the prestige that goes with high compensation, opportunities for career advancements and placement programmes or fellowships that enable the continuous learning and knowledge building.

6.4.5 Establishment of Communities of Practice

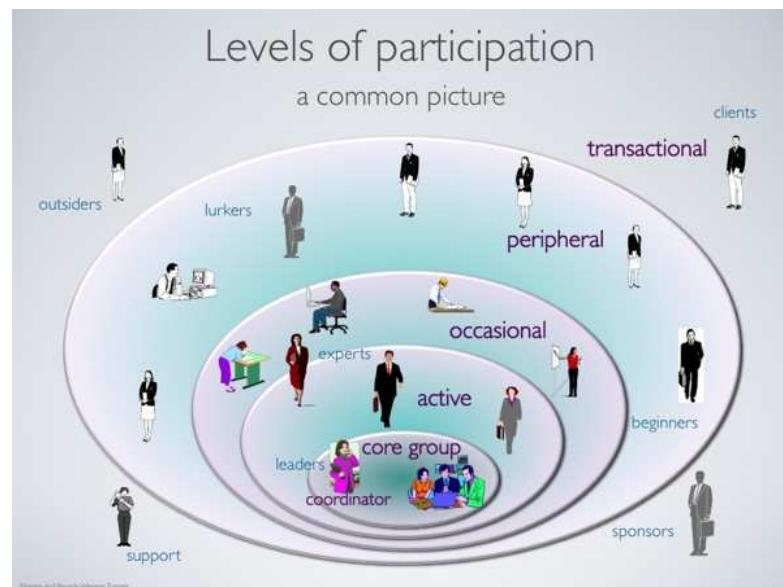
The findings of the study show that KIPPRA does not have COP's to facilitate tacit knowledge sharing. Harlow (2008) notes that for an organization to sustain competitive advantage, they should be able to look beyond the common assets and patents and add value using their knowledge assets and intellectual property for innovation in product and service rendering. Wenger, *et.al*, (2002) defines these work groups as Communities of Practice (COP's). COP's are created and encompass a blend of skilled employees from all levels in an organization. They create, share and apply tacit knowledge within and across boundaries, to create a knowledge organization using available infrastructure and processes. COP's are lauded as the perfect vehicle for involving practitioners directly in the management of the knowledge they need and they work individually and collectively so as to strategically achieving the goals of the organization they work for (Wenger *et.al.*, 2002).

KIPPRA has the three key components that ensure the success of COP's. First there is a cadre of employees that consists of individuals who are rich in context around their areas of knowledge;

secondly, they have technology that can be used and adapted to support COP's for tacit knowledge harnessing; and finally, they have a leadership that supports the KM initiative, therefore can be able to create an environment that will facilitate materialization of new communities of practice. COP's composition has five levels of participation which comprise of the core group whose major task is to nurture and engage the community, the active members who are practitioners define the community and are skilled, and the occasional participants who come in when the topics are of special interest to them, the peripheral members who have ties to the community but with less authority and engagement, and finally, the transactional members who interact with the community on an intermittent basis (Wenger, *et.al.*, 2002).

In establishing COP's, KIPPRA as an organization should exercise fortitude as the participation of members solely relies on having them experience the value of learning together in the COP's over and over before they are ready to make a commitment. However, KIPPRA can also embark on setting up COP's that last for shorter periods on a need basis or as long as members find value in their learning together. The level of participation in the COP's should also not be mandatory as COP's are mostly informal and rarely seen as a person's main profession, but the management should encourage and even lead in the formation of COPs.

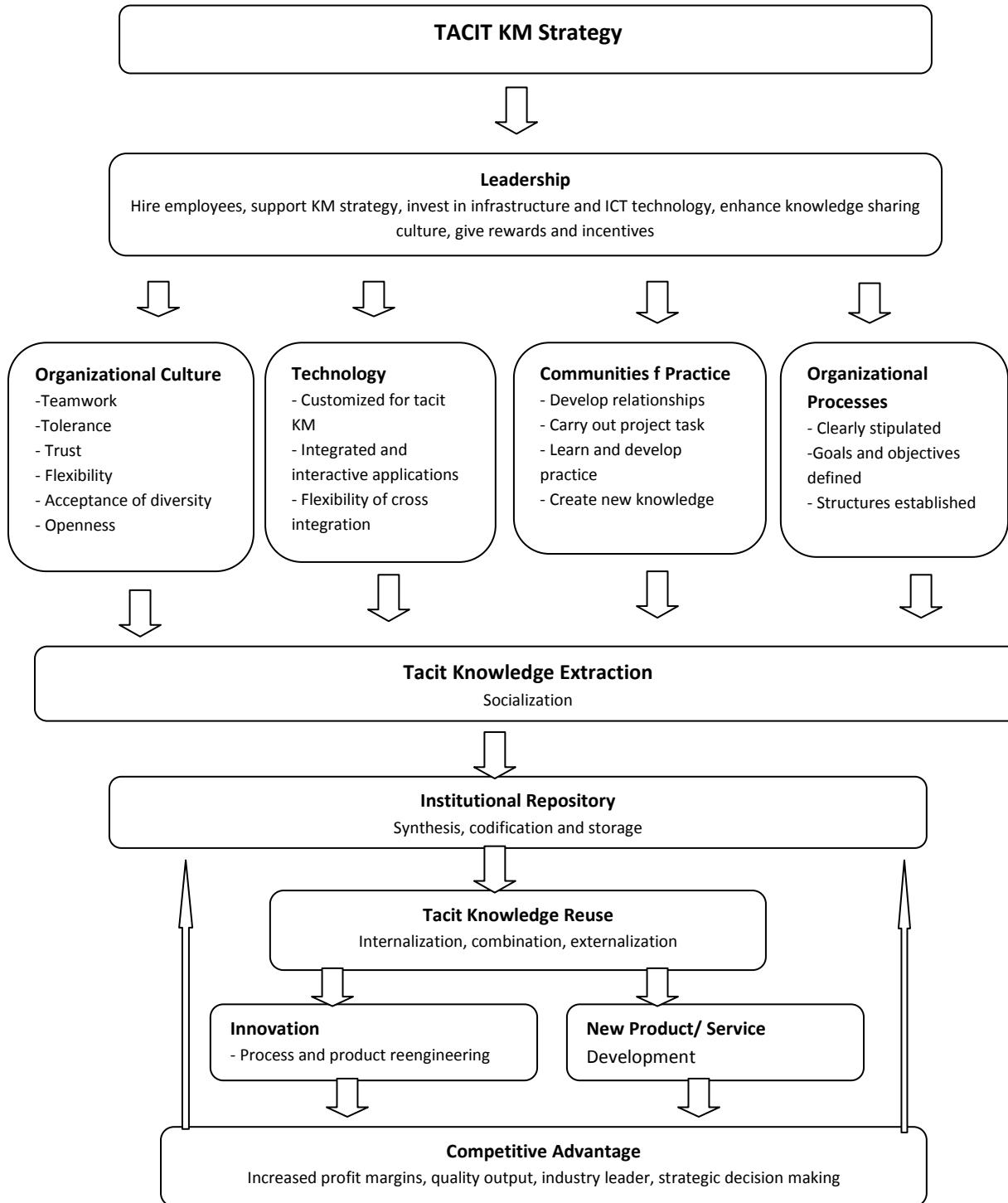
Figure 6.1: A sample of the members and level of participants in an organizational Community of Practice (COP), (Wenger and Tryner, 2013)



6.4.6 Proposed model for tacit knowledge use and reuse for innovation and competitive advantage

The findings of the study show that KIPPRA recognizes knowledge as an asset. However, KIPPRA does not have a tacit KM strategy; therefore a lot of tacit knowledge is not harnessed by the institute. No effort has been made in ensuring that there is a right environment, infrastructure, leadership and processes to ensure that tacit knowledge is harnessed. The study recommends a model/framework that could be used to ensure that tacit knowledge is effectively used and reused for organizational growth and competitive advantage. The study combined five key elements (Human Resource, Technology, Organizational Culture, Leadership and Organizational Processes) as identified by scholars (Awad & Ghaziri, 2007; Nonaka & Takeuchi, 1995; Laudon & Laudon, 2009; Wenger, et.al., 2002; Jain 2006, Polanyi, 1966) as essential elements for successful tacit KM. KIPPRA is a fairly small organization with a population of 45 fulltime employees who are well versed with the economic development of Kenya. The combination of formal (workgroups, teams) and informal (COP'Ss) structures is fundamental in service delivery of the shifting market requests of KIPPRA's clients. This combined with organizational culture, leadership, technology and processes will enable the harnessing of tacit knowledge for the much needed competitive advantage. The model also borrows from Nonaka and Takeuchi (1995) SECI model for tacit knowledge extraction and reuse. Figure 6.2 illustrates the proposed model for tacit KM at KIPPRA.

Figure 6.2: Proposed model for tacit KM at KIPPRA



6.4.6.1 The aim of the model

The aim of the model is to guide tacit knowledge use and reuse strategy to ensure organizational growth and competitive advantage at KIPPRA.

6.4.6.1 Key elements for successful tacit KM

The following key elements are essential for successful tacit KM:

a) Communities of Practice

Tacit knowledge is not static and its sharing requires interaction among individuals and groups. Nonaka and Takeuchi (1995) explain tacit knowledge as knowledge embedded in individuals and involves intangible factors and experiences by human beings. A rich human resource is therefore important in any organization for the realization of tacit KM. From the research findings KIPPRA has a rich human resource that has both administrative and research employees. This human resource should be used to create COP's for tacit KM. COP's are crucial in the sharing of tacit knowledge as they will enable the employees at KIPPRA to:

- Develop relationships not only as colleagues but also as peers and engage and reduce individualism
- Enable project executions for tasks assigned through the combination of expertise from the different cadre of employees
- Enhance the knowledge sharing culture due to the open knowledge sharing nature of COP's
- Create a platform for learning and interaction with other employees
- Creation of new knowledge from the individuals and groups that are members of the COP's

b) Organizational culture

Research findings indicated that employees at KIPPRA hoard knowledge because they worry that they will lose their competitive advantage in the organization. Developing an organizational culture that is based on trust should be the priority for KIPPRA, if they are to harness tacit knowledge. By doing so the employees will be able to change their attitude and create a culture that is based on openness. Organizational culture is also important as it ensures there will be tolerance, acceptance of

diversity and flexibility. These aspects will create trust among the employees, and foster teamwork and make tacit knowledge sharing attractive at KIPPRA.

c) Technology

Identifying and installing the right technological platforms and accessories for tacit KM is important. The identified technologies should not be blanket technologies, but should be customized to ensure that their key role is to harness and manage tacit knowledge. While adapting the relevant technology, factors such as interactive applications, user friendliness and flexibility of cross integration should be assessed before the implementation. Once the technology is implemented, the employees of KIPPRA should be trained on the use of the technological platforms available and their relevance in tacit KM. The established technology should also be updated on a regular basis to ensure that maximization in the harnessing of tacit knowledge is executed.

d) Leadership

Without the support of the leadership of an organization, the tacit KM initiative is bound to fail. Leadership is important as leaders are entrusted with the organization and are tasked in sharing the vision of the institute. Employees more often than not look up to leadership and follow them. Therefore, the leadership at KIPPRA should be at the forefront and support the tacit KM strategy. This they can do by ensuring the right tools and technologies are provided, support interactions among employees and give rewards and incentives. This will enable the creation of a tacit knowledge sharing culture within KIPPRA.

e) Organizational processes

To run operations smoothly, successful organizations ensure that organizational processes are clearly outlined and well understood by employees. In tacit KM it is not different. Therefore, having organizational processes that clearly stipulated with the goals and objectives of the organizations will ensure that tacit KM runs smoothly. The establishment of clearly defined structures will enable the proper channels to be referenced when challenges are experienced during the tacit KM process.

f) Tacit knowledge extraction, storage and use

Once the five key elements are in place, tacit knowledge is extracted through socialization by a combination of the elements. The tacit knowledge extracted is then synthesized, codified and stored in the institution's repository, which can be accessed by the employees on a need basis.

The tacit knowledge harnessed will then be reused to develop new products and services or improve on the already existing products through innovation. This is achieved through process and product reengineering.

g) Competitive advantage

Tacit knowledge reuse leads to better decision making during the innovation and product development process. This in turn enables KIPPRA to be an industry leader with quality outputs that will enable the institute to have competitive advantage that will lead to increased profit margins. Once this is established, the success stories on tacit knowledge reuse should be recorded and stored in the institution's repository as a blue print.

6.5 Implementation Strategy

With the context of the proposed model, it is important to have short term, medium term and long term goals that will be used as guidelines before, during and after the implementation of the strategy. The implementation strategy provides a guideline on the activities to be carried out, the aim of the activities to be carried out, the time line and the persons responsible to ensure that the tasks are executed. The implementation strategy proposed will ensure that the tacit KM strategy is implemented within the said time frames and that there is no deviation from the agreed upon goals and objectives. Table 6.1 illustrates the proposed implementation strategy.

Table 6.1: Proposed implementation strategy

	Activity	Aim	Timeline	Responsibility
Short term goals	Develop and launch a tacit KM Strategy <ul style="list-style-type: none"> - Define tacit knowledge - Define the role of tacit KM in the institute - Describe the role of technology, employees and management with regards to tacit KM. - Establish the benefits of tacit KM initiatives in changing organizations. - Educate the staff on tacit KM initiative 	-Increase awareness of tacit knowledge - Gain employees and management support - Develop tacit knowledge intensive culture	0-1 year	Knowledge Manager , Leadership, ICT Manager
Midterm goals	Tacit KM <ul style="list-style-type: none"> -Establish Community of Practice - Implement and customize tacit KM technologies - Establish institutional repository -Continuous development of employees tacit knowledge sharing initiatives - Management support on tacit knowledge sharing by giving incentives - Promote a knowledge sharing organizational culture 	- Identification and capture of tacit knowledge within the organization - Creation of informal avenues for tacit knowledge sharing - Bring expertise together for effective collaboration - Harness tacit knowledge and codification of success stories - Make harnessed tacit knowledge available - Ensuring tacit knowledge harnessed is reusable - Ensure tacit knowledge harnessed is available at all times	1-2 Years	Knowledge Manager, Leadership, employees
Long term goals	Measurement of tacit KM <ul style="list-style-type: none"> -Reuse of tacit knowledge for innovation and new product development - Review of accuracy and relevance of harnessed tacit knowledge - Upgrade and customize existing technologies - Measure Return on Investment 	- Avoid reinvention of the wheel - Assess the value of reuse of tacit knowledge in the institute - Ensure the technologies in place have economic value to the institute - Value of tacit KM for institutes competitive advantage - Assess success and failures of tacit KM initiative - Identify gaps in tacit KM	3 + years	Knowledge Manager, Leadership, Employees

6.6 Areas for Further Studies

The researcher recommends further research in the following areas:

- An in-depth study on successful companies that have used Communities of Practice for growth and sustainability
- A comparative study on tacit KM between public and private organizations
- The use of incentives in encouraging tacit knowledge creation and sharing
- The impact of online social networks for tacit knowledge harness

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APPENDICES

Appendix 1

Letter of introduction

My name is Gladys Mungai. I am a student at the University of South Africa pursuing a Master of Arts degree in Information Science.

I am carrying out a research project for my Masters degree on *Application of Tacit Knowledge at the Kenya Institute for Public Policy Research and Analysis*. This study is being carried with the approval of the University of South Africa. The overall purpose will be to identify how KIPPRA as a public service institute manages tacit knowledge as an intangible asset that is perceived as an important capability for competition and growth. The study will also look at the employees' perception of tacit knowledge as a key development resource. The study will also be identifying and examining the gaps or weaknesses of tacit KM process and providing an alternative approach for future use by the KIPPRA. By sharing findings and recommendations of the study with KIPPRA the researcher hopes that corrective action will be taken as guided by the findings and recommendations for better service delivery.

I am writing to request you to allow me to conduct in-depth interviews with you. Before the interview, I will introduce myself and give a brief about the research to the respondent. I will also give a consent form to the respondent to sign before I conduct the interview.

The findings of this research study will be shared with the University of South Africa. I may also present them in the form of articles in future. In all cases, any information that might be identified by individual members will not be included.

If you would like to contact me about this research at a later date, or you have any questions, please contact me at the address given below. Thank you.

Yours Sincerely,

Gladys Mungai

0733498631

njeriflex@yahoo.com

Appendix 2

CONSENT FORM

Thank you for agreeing to participate in this research on *Application of Tacit Knowledge at the Kenya Institute for Public Policy Research and Analysis*. The purpose of this research is to analyze the management of Tacit Knowledge by the KIPPRA by examining the enablers of tacit KM in the institute and also the employees' perception of tacit knowledge as a key development resource.

The information gathered will be used to complete a research project for my Masters in information Science at the University of South Africa. By participating in this study you will be creating information that will contribute to the tacit KM and the interview will also give you an opportunity to gain insight into tacit knowledge and KM as a whole, it will give you an opportunity of expressing your views on this topic.

The in-depth guided interview will be guided by pre-structured questions. I encourage you to ask any questions that may arise at any time. If you would like a copy of the results of my study, I would be happy to make that available to you. However, if I cannot adequately address your concerns, feel free to withdraw your consent and discontinue participation at anytime without prejudice from me.

Your information will be held with utmost confidentiality. At no time will the name of any individual be revealed to or attributed to a specific part of the information. This research is supervised by Prof. H. Kemoni (hkemoni@yahoo.com) and Prof. B. Onyancha (onyanob@unisa.ac.za) of University of South Africa. Please contact them on if you have any questions about the research or your right as a respondent in the research.

You can reach me on the following at anytime:

Name: Gladys N. Mungai

Cell: 0733 498631

Appendix 3

WRITTEN CONSENT FORM

“I have read and understood the above descriptions of the study being conducted by Gladys Mungai. I have received satisfactory explanation of any language that I did not fully understand. I agree to participate in this study, and I understand that I may withdraw my consent at any time. I have received a copy of this consent form

Name of participant:

Participant’s signature:

Date:

Appendix 4

UNIVERSITY OF SOUTH AFRICA

APPLICATION OF TACIT KNOWLEDGE AT KENYA INSTITUTE FOR PUBLIC POLICY RESEARCH AND ANALYSIS, KENYA

INTERVIEW SCHEDULE FOR KIPPRA YOUNG PROFESSIONALS, RESEARCHERS AND OTHER STAFF

All data collected will be treated with confidentiality and will be used for academic purposes only

Bio data

Name (optional):

Sex: [] Male [] Female

Highest Academic Qualification:

Position:

Unit:

How long have you worked for the organization

[] 0-4years

[] 5-9 years

[] 10-14 years

[] 15-19 years

[] Over 20 years

Sources and types of tacit knowledge

1. Does KIPPRA values knowledge as a resource? [] Yes [] No

If yes please explain

.....
.....

2a. What sources of knowledge are you aware of?

.....
.....

b. Which ones are available at KIPPRA?

.....
.....

3a. What types of knowledge are you aware of?

.....
.....

b. Which ones are available at KIPPRA?

.....
.....

4. Do you understand what tacit knowledge is? [] Yes [] No
If yes please explain

.....
.....

(If no, the interviewer to explain what tacit knowledge is)

5. Do you think tacit knowledge is core in the attainment of KIPPRA objectives?
[] Yes [] No

Enabling resources to capture and transfer of tacit knowledge

6. What kind of knowledge is shared in KIPPRA?

.....
.....

7. Are the members in your unit supportive and willing to share knowledge with you? []
Yes [] No?

If yes, what avenues that are used to share tacit Knowledge in KIPPRA?

.....
.....

8. Do you experience challenges when using the mentioned avenues for tacit knowledge sharing?

[] Yes [] No

If yes, kindly elaborate

.....
.....

9. Are you aware of any ICT platforms that KIPPRA has put in place to support tacit knowledge sharing? [] Yes [] No

If yes, mention the various platforms

.....
.....

10. Are you using or contributing your tacit knowledge to any online platforms?

[] Yes [] No

If yes, which ones and for what purpose do you use the platforms for?

.....
.....

12. Do you think technology has enhanced the capture, transfer and sharing of tacit knowledge in KIPPRA? [] Yes [] No

Explain

.....
.....

Re-use of tacit knowledge for innovation and competitive advantage

13. Do you think tacit knowledge is significant for innovation? [] Yes [] No

Please, explain

.....
.....

14. Are you able to extensively re-use captured tacit knowledge and adapt it to the everyday challenges?] Yes [] No [] At times

Please explain

.....
.....

15. What would you state as some of the benefits of re-using tacit knowledge in KIPPRA?

.....
.....

Role of management in creating a conducive environment for effective application and management of tacit knowledge

16. Do you think the management has created a conducive environment for knowledge sharing? [] Yes [] No

Please explain

.....
.....

17. How would you describe tacit knowledge sharing culture in KIPPRA?

.....
.....

18. What incentives and reward systems has the management implemented to facilitate tacit knowledge sharing in the organization?

.....
.....

Challenges faced in the application and management of tacit knowledge

19. Do you experience challenges in application of tacit knowledge housed in KIPPRA?

[] Yes [] No

a. If yes, what are some of the challenges?

.....
.....

b. How do you cope with the challenges experienced?

.....
.....

Recommendations

20. What proposals can you give to enhance the sharing and capture of tacit knowledge in KIPPRA?

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

Thank you for your participation

Appendix 5

UNIVERSITY OF SOUTH AFRICA

APPLICATION OF TACIT KNOWLEDGE AT KENYA INSTITUTE FOR PUBLIC POLICY RESEARCH AND ANALYSIS, KENYA

INTERVIEW SCHEDULE FOR THE KIPPRA MANAGEMENT/MENTORS

All data collected will be treated with confidentiality and will be used for academic purposes only

Name (optional):

Sex: [] Male [] Female

Highest Academic Qualification:

Position:

Unit:

How long have you worked for the organization

[] 0-4years

[] 5-9 years

[] 10-14 years

[] 15-19 years

[] Over 20 years

Sources and types of tacit knowledge

1. Does KIPPRA recognize knowledge as a part of their asset base?

[] Yes [] No

If yes, explain

.....

2a. What sources of knowledge are you aware of?

.....

b. Which ones are available at KIPPRA?

.....

3a. What types of knowledge are you aware of?

.....

b. Which ones are available at KIPPRA?

.....
.....

4. Is tacit knowledge core in the attainment of KIPPRA objectives? [] Yes [] No

If yes, please explain

.....
.....

Enabling resources for capture and transfer of tacit knowledge

5. How does the staff that you supervise work? (Fixed group, changing groups, expertise groups or individually)

.....
.....

6. Are you aware of any particular avenues used for tacit knowledge capture at KIPPRA?

[] Yes [] No

If yes, what avenues are used to capture Tacit Knowledge in KIPPRA?

.....
.....

7. How would you describe KIPPRAs current ability to capture and exploit tacit knowledge?

.....
.....

8. Do you think that it is possible to share all the knowledge you have [] Yes [] No.

Explain

.....
.....

9. Do you dedicate certain times to transfer ‘unique’ knowledge to your staff? [] Yes [] No

If yes, in what settings do you transfer your unique knowledge (experience, expertise and impressions) to your staff?

.....
.....

To what extent do you think you are benefited when you share this knowledge?

.....
.....

10. Do you believe the organization has the appropriate IT mechanisms for effective tacit

knowledge transfer? [] Yes [] No

If yes, list the various IT mechanisms that you have used to transfer and share tacit knowledge

.....
.....

11. Are you using or contributing to any online platforms?

[] Yes [] No

If yes, for what purpose do you use the online platforms? (Give examples or names)

.....
.....

Tacit knowledge re-use for innovation and competitive advantage

12. Do you think managing tacit knowledge has an impact on the output of the organization?

[] Yes [] No

13. Is your staff left to develop freely [] Yes [] No

If yes do you value the thoughts and opinions of your staff or you need to confirm them yourself?

.....
.....

14. Is there tolerance for making learning mistakes? [] Yes [] No

If yes, how do you deal with such circumstances?

.....
.....

(b) If no, how do you think lack of tolerance hinders innovation and creativity?

.....
.....

15. Do you think tacit KM effort is successful in creating a competitive edge at KIPPRA? [] Yes
[] No. Explain

.....
.....

Role of management in creating a conducive environment for effective tacit KM

16. How would you describe KIPPRA's management culture in encouraging knowledge creation?

.....
.....

17. How would you describe the physical set up of your division and what are some of the shared facilities?

.....
.....

18. How would you describe the communication and relationship between your staff and yourself and between the staff themselves?

.....
.....

19. How do you incentivize employees to tacit share knowledge?

.....
.....

20. Do you believe that tacit KM offers benefits to your organization? [] Yes [] No

(a) If yes, which specific benefits can you mention which are currently realized in your organization due to the tacit KM initiative?

.....
.....

Challenges faced in application and management of tacit knowledge

21. Do you face challenges in the management of tacit knowledge? [] Yes [] No.

Please explain

.....
.....

How do you overcome these challenges?

.....
.....

Recommendations

22. What recommendations can you give to enhance the sharing and capture of tacit knowledge in KIPPRA?

.....
.....

Thank you for your cooperation

Appendix 6

UNIVERSITY OF SOUTH AFRICA

APPLICATION OF TACIT KNOWLEDGE AT KENYA INSTITUTE FOR PUBLIC POLICY RESEARCH AND ANALYSIS, KENYA

INTERVIEW SCHEDULE FOR THE KIPPRA'S KNOWLEDGE MANAGER

All data collected will be treated with confidentiality and will be used for academic purposes only

Name (optional):

Sex: [] Male [] Female

Highest Academic Qualification:

Position:

Unit:

How long have you worked for the organization

[] 0-4 years

[] 5-9 years

[] 10-14 years

[] 15-19 years

[] Over 20 years

Sources and types of tacit knowledge

1. Does KIPPRA recognize knowledge as a part of their asset base?

[] Yes [] No

If yes please explain

.....

2a. What sources of knowledge are you aware of?

.....

b. Which ones are available at KIPPRA?

.....

3a. What types of knowledge are you aware of?

.....

b. Which ones are available at KIPPRA?

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

4. Does KIPPRA have a KM management policy or strategy? [] Yes [] No

(a) If no, how do you conduct KM activities?

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

5. Is tacit knowledge core in the attainment of KIPPRA objectives? [] Yes [] No

If yes, please explain

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

Enabling resources for tacit knowledge capture and transfer

6. How do you capture and share tacit knowledge within KIPPRA?

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

7. What tools are dedicated for the capture and transfer of tacit knowledge?

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

8. What are the specific efforts made to capture knowledge of experienced exiting or retiring employees?

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

9. Does KIPPRA use technology in tacit KM? [] Yes [] No

10. Which ICT technologies does KIPPRA use to capture and transfer knowledge?

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

11. Do Communities of Practice (COP'Ss) exist in KIPPRA? [] Yes []No

If yes what is the constitution of the members?

.....
.....

12. Are roles and accountabilities defined in a common agreement in the COP's? []Yes []No

If yes, please explain

.....
.....

13. Are key roles in the core group defined, e.g., manager, facilitator, and back-stopper? []
Yes []No

If yes please explain

.....
.....

14. Are the step-by-step work planning process open and transparent? []Yes []No

If yes please explain

.....
.....

15. Are the COP's mandated to deliver on tangible results? [] Yes []No

If yes where is the inventory of tacit knowledge stored after capture?

.....
.....

Tacit knowledge reuse for innovation and competitive advantage

16. If the KM system has been in place for over a year, what are some of the major returns on investments in regards to tacit knowledge capture?

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

The role of management in creating a conducive environment for tacit KM

17. Does the management allow for independent decision making? [] Yes [] No

(a)If yes, how are these communicated clearly and entrusted to the staff?

18. How would you describe the management's effort in facilitating tacit knowledge under the following elements?

Motivate for knowledge based outcomes? (Achievable targets, work related learning support, mentoring, infusion of ideas)

Creation of an atmosphere of safety within the organization (clear communication, trust, independent decision making, brother's keeper attitude)

Provision of infrastructure (meeting rooms, technology, common rooms, time)

Creation of a knowledge organization (individual skills, accommodation of opinions, deployment according to competence)

19. How does the management incentivize employees to facilitate tacit knowledge?

20. Overall, what benefits has the tacit KM initiative benefited KIPRRA?

Challenges faced in application and management of tacit knowledge

21. What are some of the challenges experienced in managing tacit knowledge?

22. How do you overcome these challenges?

Recommendations

23. What recommendations can you give to better the tacit KM initiative in KIPPRA?

Thank you for your cooperation

Appendix 7

Observation checklist

ITEM	Session 1	Session 2	Session 3
Management/mentors thinking that only their idea is superior			
Handling of knowledge in an egoistic way “knowledge is power”			
Not enough time to share knowledge			
Difficulty in expressing and sharing tacit knowledge			
Technology used to share tacit knowledge			
Reinventing of the wheel			
Ease of seeking clarification. Is asking a question a sign of weakness?			
Willingness in sharing of knowledge. Do they think it's a loss of power			
Observation of non verbal behavior (nodding in disagreement, folding of arms, zoning out of discussants, yawning)			

Appendix 8

Letter of introduction

My name is **Gladys N. Mungai**. I am a student at the University of South Africa pursuing a Master of Arts degree in Information Science. I am carrying out a research project for my Masters degree on '*Management Of Tacit Knowledge In Public Institutions In Kenya: A Case Of The Kenya Institute for Public Policy Research and Analysis (KIPPRA)*'

This study is being carried out with the approval of the University of South Africa. The overall purpose will be to identify how KIPPRA as a public institute manages tacit knowledge as an intangible asset that is perceived as an important capability for competition, growth and building knowledge economies. The study will also look at the employees' perception of tacit knowledge as a key development resource. The study will also identify and examine the gaps or weaknesses of tacit KM process and provide an alternative approach for future use by KIPPRA. By sharing findings and recommendations of the study with KIPPRA, the researcher hopes that corrective action will be taken as guided by the findings and recommendations for better service delivery.

I am writing to request you to allow me to conduct in-depth interviews with the KIPPRA staff. Before the interview, I will introduce myself and give a brief about the research to the respondent. I will also give a consent form to the respondent to sign before I conduct the interview. The findings of this research study will be shared with the University of South Africa. I may also present them in the form of articles in future. In all cases, any information that might be identified by individual members will not be included.

This research is supervised by Prof. H.Kemoni (hkemoni@yahoo.com) and Prof. B. Onyanoba (onyanob@unisa.ac.za) of University of South Africa. Please contact them if you have any questions about the research. If you would like to contact me about this research at a later date, or you have any questions, please contact me at the address through tel 0733498631 or email: nieriflex@yahoo.com

Recommended

 26/9/2013	Eugene Aliogula 30/9/13	OK.	But not during KIPPRA working hours. So 03/10
Mr. Felix Muriithi (KM & Communications Manager)	Dr. Eric Aliogula (Programmes Coordinator)	Dr. John Omiti (Executive Director)	