EFFECT OF KNOWLEDGE MANAGEMENT ON ORGANIZATION PERFORMANCE IN THE PUBLIC SERVICE SECTOR IN KENYA

BY

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DECLARATION

This dissertation project is my original work and has not been presented for a degree in any other University.

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Thank you

DEDICATION

I dedicate this project to my family, friends and country.

ABSTRACT

Knowledge management is very critical in the working of an organization because it provides for the creation and transfer of knowledge effectively in an organization. This study determined the effect of knowledge management on organizational performance in the public-sector organizations of Kenya. The specific objectives were: to determine the effect of knowledge creation on organizational performance in the public service of Kenya, to establish the effect of knowledge sharing on organizational performance in the public service of Kenya, to find out the effect of knowledge application on organizational performance in the public service of Kenya, and to establish the effect of knowledge storage on organizational performance in the public service of Kenya. This study adopted multiple regression design to establish the effect between the independent and dependent study variables. The target population included the 2343 employees at the ministry of devolution, ministry of labor social security and services and the ministry of information communication and technology. The researcher used simple random sampling and stratified sampling technique to obtain a sample size of 303 respondents. Primary data was collected using structured questionnaires and applying the drop and pick later method in data collection procedure. A pilot group of 15 staff working at the public service commission was used in testing the validity and reliability of the instrument. The collected data was entered into SPSS 23.0 and MS. excel for further analysis computation. The study found out that coefficient of correlation R was 0.897 an indication that the variables were highly correlated. Adjusted R^2 was 0.801 an indication that variations in organizational performance was influenced by the independent variables. The study concludes that knowledge creation, sharing, application and storage positively influenced organizational performance of public service in Kenya. This was attributed to the following factors; public service authority patented new ideas and knowledge it created and encouraged functional heads to champion creation of new knowledge, staffs learnt to carry out their job by sharing out duties, respondents indicated that the ministries planned for seminars to share knowledge on current work place and staffs were trained on different tasks on different job to share knowledge. The study recommends that public service ought to talking with technical experts in specific field for knowledge creation and employees ought to be valued. New knowledge ought to be created at the public service in an organized formal training session. Ministries ought to plan for seminars to share knowledge on current work place. Staffs ought to be trained on different tasks on different job to share knowledge. Trainings ought to cover different tasks in various duties for staffs to share information. The stakeholders ought to use public services to create knowledge and to increase service delivery to the citizens, collect knowledge to help in solving everyday work problems and improve service delivery to public service. The ministry system ought to have a trail to monitor access on knowledge stored, they ought to have a proper mechanism of retrieving stored work procedures and manuals and use advanced systems in storing their created knowledge.

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DEFINITION OF TERMS

Knowledge Management: it is the creation, sharing, retrieval and application of the organization information in order to assist the organization to be able to compete and remain sustainable in the industry (Meihami & Meihami, 2014).

Organizational Performance: Performance of government is measured through social benefits, service delivery to citizenry, quality of products and efficient processes (Kinyanjui, 2014).

Knowledge Creation: it occurs in many dynamic forms, which could be through humanistic means such as formal training or talking with people who share similar interests or technical mechanism and technological terms (Hoon, 2013).

Knowledge Sharing: involves the spread of knowledge to make it more accessible and usable between or within chosen organizations (Majchrzak, Faraj, Kane & Azad, 2013).

Knowledge Application: means converting information handled by expertise in order to facilitate the production of goods and services (Birasnav, 2014).

Knowledge Sharing: is a method that involves is a soft and hard style of recording and retention of both the organizational and individual knowledge that allows the information to be easily retrieved (Dalkir, 2017).

ACRONYMS AND ABBREVIATIONS

ANOVA   Analysis of Variance

ICT   Information Communication and Technology

KM   Knowledge Management

KRA   Kenya Revenue Authority

RBT   Resource Based Theory

SPSS   Statistical Package for Social Sciences

CHAPTER ONE

INTRODUCTION

1.1 Background Information

Knowledge Management involves the creation, archiving and sharing of valued information, expertise and insight both within and across communities of people in organizations with similar needs (Tong, Tak & Wong, 2015). Yang (2010) defines knowledge management as the development of methods, tools, techniques and organizational values that promote the flow of knowledge between individuals and the retrieval, processing, and use of this knowledge in improving and innovating activities. It is the process that creates a link between a firms' internal and external information convenient for the right recipient at the appropriate time. Right application of the unique insights and information in an organization has the possibility of earning a sustainable competitive advantage. The competitive advantage earned could help improve organizational performance (Kim, Lee, Chun & Benbasat, 2014).

Knowledge is basically made up of unique bundles of information and insights which enable organizations to respond to the needs of their customers in a precise manner. The unique bundle of knowledge generated and gathered by an organization over time is important in distinguishing it from other firms in the industry. In order for a firm to realize the optimal returns from knowledge in its possession, it has to have appropriate structures that promote better knowledge management. The knowledge needs to be stored in a manner where it can easily be retrieved whenever required (Birasnav, 2014). Rapid developments in technology coupled with complex organizational environment have called on organizations to adopt knowledge management in order to achieve set objectives (Donate & de Pablo, 2015).

Knowledge management provides an opportunity to organizations for aligning their operations to the ever-changing business environment for survival (Kim *et al.,* 2014). An effective and efficient organization requires knowledge in order to have an influence on the overall performance (Liebowitz & Frank, 2016). The recognition of knowledge as a resourceful asset in the overall functioning of a firm, as emphasized by Becerra-Fernandez

& Sabherwal (2014) is as important as the organizational capital. This is because it has an impact on the performance and sustainability of the organization in a highly competitive environment. However, various studies suggest that unlike the private sector, public organizations are less inclined to apply principles on knowledge management (Arora, 2011). This is very common in Kenya where appreciation and incorporation of knowledge management is in its early stages with comparison to Western and Asia economies (Mwai, 2012).

There are different constructs of knowledge management that serve as indicators to determine the performance levels of an organization. Some of these indicators include knowledge creation which is defined by Ceptureanu and Ceptureanu (2010) as the process of making available and amplifying knowledge created by individuals as well as crystallizing and connecting it to an organization's knowledge system. The process of knowledge creation entails two main levels; interaction between individuals to groups then to the organization and an interaction between tacit and explicit knowledge (Binbin Jiangstao, Mingxing and Tongjian (2012). This is called the Socialization, externalization, combination and internalization (SECI) process. This knowledge can be shared through by either observation or imitation between apprentices and experts.

Knowledge sharing is another indicator of knowledge management that can influence the performance of an organization. Berchicci (2013) states that there are many problems in organizations that are caused by a lack of efficiency in terms of knowledge that is useful in addressing various issues to do with the effective running of an organization. Since there exists a gap in knowledge in terms of expertise, the members of an organization need to direct their attention towards dealing with issues concerning knowledge sharing to enable the younger workforce to learn different skills that would assist in improving an organization's progress. According to Crampton and Hinds (2014), team interactions is a tool adopted by some organizations that facilitates the process of sharing of individual perspectives, information and know-how which can be shared and discussed in teams. The exchange of unique knowledge would capture market share and assist in alleviating local competition in other locations.

Knowledge application is another indicator that refers to the process of transforming knowledge from theory to practice. Knowledge application according to Beloglazov and Buyya (2012), can result in an improvement in the decision-making process and can boost the problem-solving techniques. Also, knowledge application is seen to be effective as it aids in the development of shared mental models which can assist members of an organization carry out their tasks with ease. Knowledge storage on the other hand involves storing information in a central location that is readily accessible to those members of an organization who can use for everyday tasks. Stored information can be stored in the format of soft and hard copies like in the case of college and university repositories. It is also important to regularly update records for easy and faster retrieval (Alegre, Sengupta & Lapiedra, 2013).

Public organizations worldwide are characterized by high degree of bureaucracy which leads to delays in decision making for the sake of ensuring proper utilization of public funds and promote accountability (Esterhuizen, Schutte & Du Toit, 2012). This could explain the existence of a huge number of well experienced professionals in each field who have worked in given positions in a given department over a long period of time. Through knowledge management, organizations hope to gain efficiency through information sharing across different level of governments and across borders, developing new and doing away with outdated systems to improve overall performance and take advantage of more wide integrated and easily accessible knowledge base, improving accountability and reducing risk by making informed decisions, through quicker problem solving mechanisms, facilitated by access to integrated, transparent information across organizational boundaries, and delivering better and more cost effective services while maintaining partnerships with the private sector (Maravilhas & Martins, 2018).

Public service ministries are knowledge driven organization; hence the knowledge management implementation would provide an opportunity to enhance the performance of the firms (Mason & Pauleen, 2003). The knowledge management practices are very crucial in the operation for the organization to be effective and efficiency in the operations. For the knowledge management has been identified as the priority for the standards organization as a way of strengthening their operation to ensure the products and services

being offered to the customers are of high quality standards and for human consumption with no side effects (Maravilhas & Martins, 2018). Thus, this study sought to analyze the effect of knowledge management in organizational performance in Kenya's public service.

Knowledge management is often characterized by a number of obstacles in creation, transfer and distribution. The constraints mainly affect the ability of the organization to convert tacit knowledge into explicit knowledge (Maravilhas & Martins, 2018). One of the common constraint in sharing of knowledge is the existing vertical authority structures which introduce unnecessary bureaucracies due to the hierarchical structure industry (Meihami & Meihami, 2014). Other constraints include: lack of autonomy in learning; inefficient systemic knowledge capture, inadequate innovative training mechanisms, underinvestment in IT infrastructure and limited of horizontal integration.

1.1.1 Knowledge Management in Public Service

Knowledge management refers to the process of acquiring, applying and storing of the intellectual capital of an organization (Fuller, 2012). It is also referred to as creation, sharing, retrieval and application of the organization information in order to assist the organization to be able to compete and remain sustainable in the industry (Meihami & Meihami, 2014). The creation and transfer of knowledge in the organization is of great importance in the organization because it helps the organization to achieve their objectives and to be sustainable in a competitive environment (Rasula, Vuksic & Stemberger, 2012). Knowledge has become one of the most critical determinants for firms to become successful. In order to acquire high performance attainment level in the organization, it is vital for the organization to develop effective and efficient ways that it would foster the creation, transfer and integration of knowledge in the performance of the organizations. For the knowledge management implementation in the organization is seen as the major contributor in the enhancement of the organization operations and sustainability (Fuller, 2012).

Extensive research on knowledge management has been applied in various public institutions because it efficiently deals with issues associated with the work environment. According to Rao (2012), knowledge management views the concept of knowledge according to how knowledge is applied in organizational processes. Based on this

perspective, knowledge can either be viewed as organic or hierarchical in character. The approach that is based on the hierarchical approach looks at the designing and implementation of a well- organized organizational process governed by rules of implementing knowledge production or integration passed down by managers to employees (Obeidat, Al-Dmour & Tarhini, 2015). On the other hand, the organic approach focuses on the implementation of policies use existing knowledge to govern patterns happening in communities who practice organizational authority outside formal organizational authority.

According to Akhavan, Jafari, & Fathian, (2012), trending behaviors such as new public management, are being utilized from managerial techniques that have proven to be fruitful in the private sector, but the wider difference in techniques in human resource management practices, management of ethical issues and decision processes, highlight the need of strategies specially designed for governments in the area of knowledge management. Rao (2012) notes that public organizations traditionally function with vertical hierarchy, leaving few opportunities for innovation and team work. Outcomes of service delivery are difficult to measure in clear terms, with the activities of public organizations being more knowledge based, with highly educated staff, these organizations would not be able to operate well if they do not have effective mechanisms to manage knowledge.

Within the public sector, organizational systems of knowledge occur using sophisticated information computer technology platforms to provide a link between the service units and the coordinating authority at the departmental level (Owira & Ogollah, 2014). These stepwise arrangements involve information on providers' performance from monitoring and accountability including informing the citizen's choice on resource and contextual information. It also assists service providers with better practice advice on efficient service delivery. This represents an improvement in the management and investment of resources (Akhavan, Jafari & Fathian, 2012). However, critical issues have emerged with regards to the implementation of this ICT system in the governance and testing of its overall effectiveness. The complexity of its functionality has led to a rise in administrative burden (Metho, 2015). Mills and Smith (2011) also confirm that organizations that lacks effective

information technology infrastructure finds it challenging to facilitate knowledge sharing across the organization.

Yusuf (2014) reiterates that organization that lack clear defined responsibilities for knowledge management initiatives hindered effective execution of knowledge management practices across organization departments. Another challenge of knowledge management in the public sector is the risk posed by knowledge insufficiency and transfer of knowledge due to the employee retirement trends (Sonnet, Olsen & Manfredi, 2014). According to Psirimoi (2017), Kenya's public sector is composed of an aging workforce with more than 50% comprising people aged 50 years and above. This is mostly entrenched in the senior management levels. This crisis endangers the knowledge management systems in the public sector.

1.1.2 Organizational Performance in Public Service

Performance is the driving force of every organization. Cummings and Worley (2008) indicate that organizational performance is the essence of existence of an organization. Though profit-generating organization measure performance through profit-earnings, non-profit organizations measure performance through social benefits (Maurice, 2011). Government is normally established with the aim of providing services to its citizenry. Performance of government is measured through service delivery. Performance focuses on results rather than the processes and other activities (Kinyanjui, 2014).

Government organizations ought to be able to respond to social needs of the society even when they are not aligned with the main objectives or mandate (OECD, 2012). There are several factors which influence organizational performance in Government ministries. They include the performance contracting system which is the setting and evaluation of targets, organizational structure which involves activities of tax collection, coordination supervision, organizational culture which is a set of shared mental assumptions that define corporate behavior for different situations, implementer attitude which defines the attitude of a human being's feelings and beliefs towards someone or a task and the implementer monitoring and evaluation skills which addresses the issues involved in evaluation and implementation (Kinyanjui, 2014). However, the public-sector organizations face

challenges in implementation in service delivery due to a lack of monitoring accountability and knowledge management insufficiency (Sonnet, Olsen & Manfredi, 2014).

1.1.3 The Public Service of Kenya

The Public Service Commission was first set up in 1954 and subsequently enshrined in the independence Constitution in 1964 as an independent state organ. It is the oldest constitutional Commission and its mandate has expanded over the years. Currently, the Commission is established under Article 233 of the Constitution of Kenya 2010. It consists of a Chairperson, Vice Chairperson and Seven other members appointed by the President with approval of the National Assembly. The Commission's mandated is outlined under Article 234, further in article 254 the Commission is mandated to report to the President and Parliament on the extent to which the Values and Principles in Article 10 and 232 are complied with in the Public Service and the discharge of the Commission's Mandate. This introduces a new accountability framework on the discharge of the Commission's Mandate and creating ways to improve its performance in terms of service delivery and making high quality products (Shahzad, Bajwa, Siddiqi, Ahmid & Sultani, 2016).

The Commission is served by a secretariat headed by the Chief Executive Officer. The Secretariat is comprised of five directorates, namely; Corporate Services, Recruitment and Selection, Human Resource Management and Development, Compliance and Quality Assurance and Establishment and Management Consultancy Services. Article 233 (5) empowers the Commission to appoint the Secretary/ Chief Executive Officer and Article 252 (1) (c) empowers the Commission to recruit other necessary staff. (Constitution of Kenya 2010).

1.2 Statement of the Problem

Knowledge management is very critical in the working of an organization because it provides for the creation and transfer of knowledge effectively in an organization (Reich, Gemino & Sauer, 2014). For an organization to achieve its mandate, it should ensure that knowledge management practices are being practiced sufficiently and the knowledge must be readily available to the employees of the organization in order for it to be useful to them and the organization as a whole (Khuram, 2016). Public service in Kenya is characterized

by bureaucratic processes which have to be followed closely to ensure that public funds are not misappropriated. They are mainly meant to ensure that the Government gets value for its resources. Some of the initiatives introduced by Governments in management of knowledge is the secondment of employees to other state departmental offices which ensures that they learn what happens there. The Government has also promoted regular rotation of employees which enable them to acquire more skills and knowledge on what other employees do (GoK, 2017).

The public service report shows that the performance of individuals and departments has not yet reached the standard set. For instance, whenever an old experienced staff proceeds on leave, their functions come to a standstill until they report back (Shahzad, et al., 2016). This is majorly due to lack of sufficient inherent knowledge and skills in handling tasks. The older and more experienced workforce are reluctant to share the knowledge they possess for fear of losing their jobs to the younger team. Incidences of older workforce retiring without passing their knowledge to the younger workforce has been witnesses which has forced the Government to engage retired staff on contract basis which is often renewed from every two years (Reich, et al., 2014). Another issue is the problem of complacency being exhibited from the younger workforce who may lack the interest in gaining more knowledge in their particular area of expertise for fear of not being promoted. This study aimed to find out the way public service commission manages its knowledge to ensure that it helps it deliver on its mandate at the present and in the future.

Several studies have been conducted on knowledge management and organizational performance. Khuram (2016) examined the interaction between strategy and knowledge management process on organizational creativity among listed firms in India. The study found complexity in the functionality of the ICT infrastructure, weak organizational structure and aging workforce which hinders knowledge management initiatives. The study fails to link knowledge management on organizational performance creating a gap.

Iyer, Sharp and Brush (2017) reviewed the role of organizational systems such as knowledge creation in innovation performance. The study concentrated on the system for creating knowledge failing to consider knowledge management in general and its effect on organizational performance. Karani (2015), in mobile telephone companies, knowledge

management practices have effects on organizational performance in Kenya. The study considered effect of knowledge management practices on organizational performance, the gap is created as this study covers practices in the mobile telephone companies. This study looked at knowledge management and organizational performance in the public sector. Ireri (2015) concentrated on knowledge transfer process which is only one aspect of knowledge management, a research gap is created that requires investigating knowledge management in general. Kaboro (2012) studied the factors that influence level of knowledge management in public sector organizations in Kenya which is a case of the ethics and anti- corruption commission. The study provided managerial implications in a public sector oriented organization to effectively realize the benefits of adopting and implementing knowledge management. The study fails to link knowledge management to performance, creating a knowledge gap.

These studies show a gap as none has linked knowledge management to organizational performance. Thus creating a need to carry out a survey to link the two variables with a case of public service in Kenya. This study sought to examine the effect of knowledge management and the organizational performance in the public sector of Kenya.

1.3 Objectives of the Study

The study sought to accomplish the following objectives:

1.3.1 General Objective

To determine the effect of knowledge management on organizational performance in the public service of Kenya.

1.3.2 Specific Objectives

The specific objectives were:
i.   To determine the effect of knowledge creation on organizational performance in the Public Service of Kenya.
ii.   To establish the effect of knowledge sharing on organizational performance in the Public Service of Kenya.

iii.   To find out the effect of knowledge application on organizational performance in the Public Service of Kenya.

iv.   To establish the effect of knowledge storage on organizational performance in the Public Service of Kenya.

1.4 Research Questions

i.   What is the effect of knowledge creation on organizational performance in the Public Service of Kenya?

ii.   What are the effects of knowledge sharing on organizational performance in the Public Service of Kenya?

iii.   How does knowledge application affect organizational performance in the Public Service of Kenya?

iv.   What are the effects of knowledge storage on organizational performance in the Public Service of Kenya?

1.5 Justification

The Government is elected with the aim of providing basic goods and services to every citizen. The Government normally invests in parastatals and Ministries to ensure that quality services are delivered to its citizenry. Ministries engage the services of well qualified and experienced professionals from diverse fields to help it improve the living standards of its people. However, it would be very unfortunate if the departure of experts in these diverse fields mean end of knowledge. This study would therefore see how the Government is managing its knowledge to ensure continued quality service delivery beyond the existence of certain qualified experts. This study was important in helping the Government monitor its processes of knowledge creation, sharing, storage, retrieval and application.

1.6 Significance of the Study

Findings of this study would be significant to the Government of Kenya especially the Public Service of Kenya in understanding the importance of knowledge management in

continued stable service delivery. The findings would promote formulation and implementation of policies that forester proper knowledge management for quality service delivery. Other ministries would also learn on how to create, share, store, apply and retrieve knowledge for better service delivery.

The findings of this study would be important to the Kenyan citizen in understanding the efforts that the Government has put in place to ensure proper knowledge management and quality service delivery. This would move to assure them of continued receipt of better service from their Government.

The findings would also be significant to future scholars in that it would provide important empirical literature that would guide their undertaking of further research in the area of knowledge management and organizational performance. In addition, this study would highlight key areas of further research where they can focus their studies on.

1.7 Scope

The study concentrated on the effects of knowledge management in organizational performance in the public service Kenya, with focus on three ministries- the ministry of devolution, ministry of labor social security and services and the ministry of information communication and technology. The study collected data from the staff working in the different ministries at their headquarters in Nairobi County. According to the records held by the public service commission, there were a total of 2,343 employees working in these ministries. The study was limited to the six elements of knowledge management including: knowledge creation, acquisition, sharing, storage, application, and retrieval. The study was undertaken in the Month of July and August 2018.

1.8 Assumptions

The study assumed that study participants would provide reliable information. Some public institutions might experience similar circumstances in knowledge management and therefore to some extent the findings would be a reference point for other public orgarnizations. The sampling procedure is appropriate and that the study participants have

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similar understanding about the study phenomenon. Finally participants would have sincere intrerest in participating in the study and would not have any other ill-motives.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This chapter reviews relevant literature on the effects of knowledge management strategies and how they have affected the performance of real estate development companies. This chapter develops the theoretical review, the conceptual framework showing the relationship between independent and dependent variable and the empirical review in regard to each study variable. It has sections on critique of the study, research gaps and chapter summary

2.2 Theoretical Review

2.2.1 Knowledge Based Theory

The study involved the utilization of the knowledge-based theory of a firm whereby knowledge is considered the most important resource a firm can make use of. Those who agree with this study are of the argument that it is difficult to replicate knowledge-based theories and they are complex in its social aspect. The factors that determine the sustained competitive advantage and superior corporate performance of firms are the heterogenous knowledge bases and a firm's capabilities (Maskell, 2001). The knowledge is applied and it undergoes multiple entities that comprises of the organizational culture and identity, policies, documents, routines, systems and employees. Coming from the literature on strategic management, this angle of thought builds upon and surpasses the Resource- based view of the firm (RBV) which was supported by Grant (1996) and later the literature was added by others (Grant & Baden-Fuller, 1995).

This theory is relevant to the study as it explains how a firm is a sharing knowledge system composed of knowledge-holding employees, and the role of a firm which is to coordinate the work of those employees so that they can create knowledge and value for the firm (Spender, 1996). KM processes allow the firm to acquire, convert and apply existing and

new knowledge by adding value to the performance while remaining competitive in the market.

2.2.2 Organizational Learning Theory

Garvin (1993) defined organizational learning as reflecting the skills of creating, acquiring, and transferring knowledge and modifying behavior to reflect new knowledge and insights. This theory emphasizes that organizational learning depends on individual learning but is more than the cumulative result of each employee's learning. Organizations acquire knowledge, not only through their own employees, but also through consultants and through formal and informal environmental scanning. Knowledge management can be classified according to a socio-technical theory. Socio-technical theory assumes that an organization or an organization work system can be described as a social-technical perspective (Bostrom & Heinen, 1977).

Learning theory as applied by Siemens (2014) shares that organizational learning theory occurs on three levels; the first is at individual level, where learning takes place through self-study, observation and use of current technologies. The person learns on organizational values, personal attitudes, skills and insights. Bell (2011) shares that in individual level of learning, the main actor is always the individual. The second format of learning is through team level as noted by Argote and Miron-Spektor (2011) that team learning is a precedence for organizational learning. Team learning is transforming conversational and collective thinking skills, so that people can reliably develop intelligence and ability greater than the sum of individual member's talents. While Siemena (2014) stated that all organizations do learn either as conscious and active activity of unconsciously since it is fundamental for survival and growth of the entire firm. The organizational level learning is now a collective experience. For learning at this level, it is necessary to attend to structures and the organization of work, as well as the culture and processes.

The social system is concerned with attributes of people, relationships among people, reward systems, and authority structures (Gupta & Govindarajan, 2000). This theory is relevant to the study as it shows how the organization create knowledge and share it to the employ in the organization which leads to performance.

2.3 Empirical Literature Review

2.3.1 Knowledge Creation

The creation and development of knowledge is an important and intrinsic feature of knowledge management. The creation of knowledge is essential for the survival of any organization. Knowledge creation is an activity that occurs throughout daily activities, at work or in social setting (Khodakarami & Chan, 2014). Knowledge creation occurs in many dynamic forms, which could be through humanistic means such as formal training or talking with people who share similar interests or technical mechanisms (data mining activities). Knowledge creation is primarily a human process; technology can facilitate knowledge creation but cannot replace people. Organizations leverage on their ability to create knowledge, innovate, and generate value with new knowledge (Hoon, 2013). This is knowledge that leads to new and innovative products; knowledge that improves internal processes and operations; or knowledge to improve the strategic decision-making capabilities and direction of the organization.

Many firms together with government departments and institutions in the developed countries like Europe are ahead by far in knowledge creation but the developing countries in Africa and Asia are far behind in terms of the ability to create knowledge that can lead to a sustainable advantage (Scardamalia & Bereiter, 2014). These developing countries can enforce knowledge creation through using this measure such as creating value in intellectual property rights like patents, which can be used as an intelligence tool and a competitive weapon. While Wuyts and Dutta (2014) concur in stating that the ability to create knowledge and generate a competitive advantage is now essential for any organization that wishes to remain sustainable within its marketplace.

Knowledge creation capability is defined as an organization's ability to exchange and combine knowledge to create new knowledge which plays a critical role in its competitive advantage (Sankowska, 2013). However, the biggest challenges knowledge management faces are how quick knowledge becomes obsolete and the situation is bad in the face of significant advancements in science and technology. Therefore, organizations must create

a structure and a system to continue churning new knowledge concepts to keep abreast with knowledge and technological advances and development (Hoon, 2013).

According to Jones (2013) the challenges of knowledge management is cause by six factors namely, strategic alignment, people and culture, leadership, processes content and technology. For organization to get the most from KM they need to integrate the initiative to their overall strategic management processes. They also need to manage knowledge content and context in order to preserve its value. To further advance understanding of KM and how knowledge should be managed, organization can employ to encourage knowledge sharing minimize the risks of knowledge loss.

On the role of organizational agility as a link between knowledge creation processes and organizational performance, Chung, Liang, Peng and Chen (2018) indicated that organizational agility has a significant effect on the link between the influence of knowledge creation on organizational creativity which in effect had an impact on the performance of the organization. According to Jordan (2013) on investigating the presence of a linkage between organizational knowledge creation and firm operational performance, the dynamic theory of knowledge creation explains why there is a difference in performance among firms. However, it does not explain the path through which knowledge is transformed into capabilities. The study adds more depth to the understanding that organizational knowledge is a resource for value creation rather than the outcome of the enterprise.

Berraies and Chaher (2014) investigated the influence of knowledge creation process on the organization's innovation performance and its link to the role of organizational learning. The results indicate that the linkage between knowledge creation process on innovation performance and organizational learning is partial. Importance of activities such as socialization, internalization and externalization that brings about innovation performance for the Tunisian ICT companies were noted as key influencers.

Iyer, Sharp and Brush (2017) reviewed the role of organizational systems such as knowledge creation in innovation performance. The role of organizational systems in this study is to bring together existing knowledge and new knowledge in order to add value.

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The findings of the study indicate that organizational systems mediate the relationship the between knowledge transfer and innovation performance, this supports the idea of the organization as the main facilitator for knowledge creation. Internal knowledge sources are seen to have a greater contribution to knowledge transfer within a firm compared to knowledge sources that are external to the organization (Berraies and Chaher, 2014).

According to Karani (2015), in mobile telephone companies, knowledge management practices has effects on organizational performance in Kenya. The management of telephone companies in Kenya perceive the term knowledge as a strategy that organizations utilize to improve the competitive performance of the firm. It is also viewed that knowledge management is used to facilitate acquisition, application and sharing of knowledge in the institution in order to facilitate better knowledge management and application in organizations, through the experience and competences of the staff. Knowledge management practices have an effect in the performance of the organization in terms of the more knowledgeable employees, better decision-making processes by the organization, improved service delivery to the clients, a reduction in operational costs and an increase in the competitiveness of the organization.

Based on the foregoing review, this study proposes the following hypothesis:

H01: Knowledge creation has no effect on organizational performance in public service

2.3.2 Knowledge Sharing

One of the most fundamental parts of knowledge management includes knowledge sharing which involves the spread of knowledge to make it more accessible and usable between or within chosen organizations (Majchrzak, Faraj, Kane & Azad, 2013). The sharing of information among staff and stakeholders of a business unit or organization are moved from one department to another (Yu, Yu & Yu, 2013). It is insufficient to depend to on staffing and training systems in or to gain competitive advantage. This is because selection of employees involves knowledge, skills and abilities or competencies. Knowledge sharing is a tool that can be used to promote evidence-based practice and decision making, and also

to promote exchange and dialogue among researchers, policymakers, and service providers (Titi, 2013).

According to Ogendo (2014), there are a number of possible reasons for why a coherent, integrated understanding of knowledge-sharing strategies does not yet exist: knowledge sharing often occurs within and among diverse disciplines whose members may not communicate and share their expertise and promising practices; knowledge sharing occurs even when sharing knowledge is not the objective; when informal knowledge sharing does occur, it may not be identified as a knowledge-sharing strategy; and knowledge sharing encompasses a broad scope of activities; lack of agreement on what counts as knowledge sharing limits collaboration and shared understanding. It is with this fact that Cai, Goh, de Souza and Li (2013) mentioned in a study that many organizations have realized that they need to work out a formula on how knowledge can be shared to the new employees in the organizations. The organizations need to emphasize more effectively on knowledge-based resources that are present within the organization.

In fact, successful knowledge sharing include extended learning processes just as new knowledge is incorporated into products as stated by Hau, Kim, Lee and Kim (2013), further reveling that services or business processes as both old and new. Adan (2013) in a study on the impact of knowledge management enablers on organizational performance at Kenya Revenue Authority revealed that the coming together of major stakeholders, creating a mutual trust in sharing information, educating others through avenues like mentoring and on- job training and development of effective leadership and organizational structure, has led to the rise in the overall performance of KRA. The study further indicated that knowledge enablers had a moderate to high impact on the overall performance of an organization. Transferring and sharing of knowledge is very important in KM, because organizations struggle with knowledge loss which eventually leads to high employee turnover (Fullwood, Rowley & Delbridge, 2013).

According to Ndegwa (2015) understanding how knowledge can be used to improve performance, Knowledge sharing, organizational learning and firm-level institutions are considered to offer an explanation for superior performance of top 100 medium-sized

companies in Kenya. Knowledge sharing is statistically significant with a positive moderating effect to organizational performance. Managers are advices to re-evaluate the state of their firm level performance in terms of their organizational structure, culture, technology, management style and human resources to increase knowledge sharing for innovation and improved performance.

In examined the role of knowledge transfer as a source of competitiveness at the Kenya Power company, Ireri (2015) also identify the challenges that face the organizations knowledge transfer process. The research established that firms transfer knowledge to their partners as well as between different departments in the organization. The transfer of knowledge in the organization was found to have improved the organizations competitiveness through increasing the customer satisfaction, market share, operation cost reduction and also adoption and operation of new technology. Several challenges were identified that affected the implementation of knowledge transfer in organization. Some of these challenges included managers being unable to identify the appropriate knowledge required in the firm, resistance and lack of trust by the employees and other partner firms on the utilization of the acquired knowledge and also a lack of the proper understanding by the management on the changing internal and external environments for the knowledge transfers and how the changes are going to impact the operations of the firm (Pinjani, & Palvia, 2013).

According to Ogendo (2014), knowledge transfer has significant effect on organizational performance. Knowledge transfer has significant effect on strategy content. External environment has no significant moderating influence on the relationship between knowledge transfer and strategy content. Strategy content has significant intervening influence on the relationship between knowledge transfer and organizational performance. The joint effect of knowledge transfer, strategy content and external environment on organizational performance is significantly different from the independent effect of variables.

Full support of the dynamic theory of organizational knowledge creation through socialization, internalization, externalization and combination, industrial organization

economics theory through environment-strategy-performance; and partly support of the knowledge based theory through knowledge transfer within the organizations, the contingency theory through environmental dynamism and stakeholders theory through customer, internal business process and learning and growth perspectives (Birasnav, 2014).

The ultimate goal of knowledge sharing is to distribute the right content to right people at right time. The system therefore must enable us quickly and effectively to find relevant information & expertise and that can aid into decision-making & problem solving (Kim, 2013). Hence, the tacit knowledge resides in the minds of individuals, in their skills, experiences, value judgments. Individuals are often the most difficult source to document because they feel that sharing what they know would make them expandable or that their knowledge on any given subject is what makes them unique. Another biggest challenge for knowledge sharing is each time employees leave their job, they carry what they know with them. If they share tacit knowledge among employees it ensures that pertinent employees knowledge stay around long after the employees leave the company (Adan, 2013).

Based on the foregoing review, this study proposes the following hypothesis:

H01: Knowledge sharing has no effect on organizational performance in public service

2.3.3 Knowledge Application

Knowledge application involves using information that has been gathered through different channels in order to quicken the speed of achieving the organization's goals and objectives. This means converting information handled by expertise in order to facilitate the production of goods and services (Birasnav, 2014). Knowledge application is the process through which knowledge is applied to task performance and problem solving. The knowledge is applied by individuals in an organization or entire team of workers employed in an organization (Tseng & Lee, 2014). Companies and organization can only benefit from the right application of the knowledge existing.

A study on the influence of management practices on organizational performance with a focus on the case of compassion international in Imenti North District, Meru County by

Kinoti (2012) seeking to examine the relationship between management practices and organizational performance in Compassion International. The study found that teamwork with organizational communication with participatory decision making have a positive relationship with organizational performance. The study concludes the success of Compassion International could be as a result of careful selection of management practices which enabled the easy transfer of knowledge thus contributing to learning and to the alignment of the strategies to meet the goals of the organization.

Kombo (2015) examined the relationship between knowledge strategy management and organizational performance. The objectives of the study were to determine the effect of knowledge strategy management in performance, to establish whether organizations mediate the relationship between knowledge strategy and performance, and to prove that innovation on performance is greater than the effect of knowledge strategy and performance. The study showed that organizational characteristics mediated the relationship between knowledge strategy and performance. Results demonstrated that the joint effect of knowledge strategy, organizational characteristics, and innovation on organizational performance was greater than the effect of knowledge strategy alone.

The study seeking to establish the relationship between knowledge management and performance of commercial banks in Kenya by Maseki (2012) found that knowledge greatly affected performance of employees on their duties in the bank and increased the employee competence. It enhanced the bank's ability to produce new innovative products for its customers and the communication process in the bank's profitability.

Maina (2015) conducted a study to identify the knowledge management strategy development and implementation process as the United Nations Environmental Programme (UNEP). This study covers knowledge management strategy, development and implementation, benefits and challenges. The study further covered the theories of knowledge management and organizational value. Successful implementation of knowledge management includes employee training and involvement, open and trustworthy spirited teamwork, empowerment of the employees, leadership, commitment and efficient information system infrastructure (Birasnav, 2014). Putting more emphasis

on training and information sharing helps organizations in improving knowledge sharing, institutional setup and communication command (Maina, 2015).

The role of leadership in knowledge management practices was rather limited and there was need for the formalization of those responsible for steering forward the knowledge management agenda within these organizations, as revealed by Githua (2013). In determining the status of knowledge management practices at selected non- profit organizations based on the health sector in Nairobi, it was established that knowledge management related practices were well-established within these select organizations. The creation of knowledge-sharing culture is enabled by information technological applications and a favorable organizational culture (Maina, 2015). The research findings also recognize the value in knowledge management and observe that knowledge management has improved the use of organizational memory and intellectual capital and made efforts to improve operational performance. The alignment of knowledge management policy to organizational strategy in health sector non-profit organizations would act as a guideline on knowledge dissemination within these organizations (Maina, 2015).

In essence knowledge application has a positive significant effect on the performance of audit firms in Kenya as shown by Muhoya (2016) while establishing the effect of knowledge management practices on Kenyan auditing firms. Other variables that had a significant impact include knowledge identification, acquisition and sharing. The recommendations of the study indicated that there is need for firms to improve on their knowledge transfer as there is a positive relationship between performance of audit firms in Kenya and transfer of knowledge. In addition, there is a need for firms to improve on knowledge application strategies.

Tubigi and Alshawi (2015) sought to determine the impact of knowledge management processes on organizational performance. The model proposed aims at determining the potential of knowledge management processes in improving organizational performance. This model can guide the process of knowledge management application in order to maximize on the influence of knowledge management process on the performance of the organization.

Based on the foregoing review, this study proposes the following hypothesis:

H01: Knowledge application has no effect on organizational performance in public service

2.3.4 Knowledge Storage

Knowledge storage is the method that involves is a soft and hard style of recording and retention of both the organizational and individual knowledge that allows the information to be easily retrieved. Knowledge storage carries with the modern type of hardware that is backed by large amounts of data and software. It also has human processes that identify the knowledge in the organization. In addition, it can be used to code and index data for future retrieval (Dalkir, 2017).

According to theoretical literature, knowledge storage provides for the coding and indexing of knowledge for future retrieval. The area of organization in knowledge management offers not only the storage but the organization of information to facilitate a better understanding of knowledge (Meihami & Meihami, 2014). Organizational memory is utilized in data mining and learning tools for the knowledge storage and retrieval phase. It is vital for that in the era of high employee turnover and management changes, storage of information plays an important role for future use. The organizational manual provides for an organizational structure that stores information that can be accessed and shared among all the staff (Liebowitz & Frank, 2016).

The stored information can be in soft copies or hard copies; for the soft copies like the case in colleges and university repositories, it is important to keep updating the records, so as to ease in retrieval (Meihami & Meihami, 2014). And the major platforms for knowledge sharing include intranets and extranets where profiles are used can be created and monitored to control the access and utilization of knowledge. Only people with sufficient authorization should be allowed access to the information to avoid contamination and loss of the information (Alegre, Sengupta & Lapiedra, 2013).

Stored information can be stored in the format of soft and hard copies like in the case of college and university repositories. It is also important to regularly update records for easy and faster retrieval. Platforms for knowledge sharing include intranets and internets where the creation and monitoring of profiles are done to control the ability to access and make use of the knowledge. Sufficient authorization should be awarded to those people with access to the information in order to avoid damaging information stored (Meihami & Meihami, 2014).

Al-Ghazi (2014) the study aims at measuring the effect of knowledge management on organizational performance through the use of balance scorecard perspectives. The outcomes of this study showed that there is a significant statistical influence of knowledge management in terms of creation, application and storage on organizational performance using the balance score card perspectives. The study also showed that there was a significant statistical effect of knowledge storage and application on the performance of the organization using the customer perspective of the balance score card. The study recommended that private hospitals need to pay more attention to knowledge management practices by carrying out training sessions to the hospital staff in order to increase the productivity of the organization. Novak (2017) sought to identify applicable literature in recent years on the relationship between knowledge management on organizational performance in terms of knowledge creation, storage, transfer and application. A majority of the reviewed studies showed that there was a positive effect of knowledge management factors on organizational performance. The researchers measured organizational performance using financial and non-financial measures of performance.

After identification or creation of knowledge it is codified and stored in the corporate database or knowledge-based systems for retrieval and application or reuse by globally distributed software development teams of high-tech organizations (Khodakarami & Chan, 2014). Increasing volume of knowledge and rapid changes in knowledge and technologies make it difficult to store, update, search and maintain corporate knowledge. In addition, it is difficult to identify which of the currently available IT tools are the most appropriate ones, what is the most suitable method, and what is the best strategy for storage and retrieval of knowledge (Fuller, 2012). Despite a high need for tackling the knowledge

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storage challenges and high potential to address the problem, an in-depth literature review shows that the prior studies have dealt with IT tools, methods and strategies for knowledge storage and retrieval significantly inadequately.

Nonaka (2013) state that knowledge storage involves both the soft or hard style recording and retention of both individual and organizational knowledge in a way so as to be easily retrieved. Knowledge storage utilizes technical infrastructure such as modern informational hardware and software and human processes to identify the knowledge in an organization, then to code and index the knowledge for later retrieval. This approach encourages people to document approach. A repository as argued by Armstrong, (2012) allows many people to search for, and retrieve codified knowledge without having to contact the person who originally developed it. This saves on time and other organizational resources and thus improved performance.

Capturing, storing and sharing knowledge is critical to any KMS (Birasnav, 2014). This starts with identifying where the organization's knowledge is located. This procedure is sometimes referred to as a knowledge map. Creating a knowledge map typically involves documenting the workflows and decision-making processes to identify key knowledge workers in the organization. Simply put, knowledge workers are people who create, use and disseminate knowledge. This typically includes scientists, engineers, writers, educators, designers and other professionals (Kinyanjui, 2014).

Based on the foregoing review, this study proposes the following hypothesis:

H01: Knowledge storage has no effect on organizational performance in public service

2.4 Conceptual Framework

The conceptual framework is a diagram showing the relationship between the independent variables and the dependent variables with the indicators that expound on the variables.

Knowledge creation in organizations is done through data mining mechanisms using ICT based systems on different aspects of the organization. Knowledge can be created through

formal training sessions organized by the management in organizations or redesigning processes and activities.

The second variable of knowledge sharing in organizations is made possible using on-job -training sessions, initiating mentorship programs and organizing seminars and workshops to pass on knowledge from one group to another. Most of the experienced staffs use these opportunities to pass on information to the less experienced ones.

Knowledge application looks at the way knowledge is used within organizations such as creating efficiencies in operations at the work place, redesigning processes and workflows and advancing the work processes to accommodate new operating systems. ICT systems is then used in adopting the created and shared knowledge to increase organizational performance. Knowledge storage is done for future references and making sound decisions, this is done using modern facilities like hardware and software. Traditional systems using documentation system can also save information safely for re-use.

Organizational performance is a measure of social benefits accrued, the level of service delivery to the people, quality of processed products and efficiency in operational processes.

Independent Variable   **Dependent**

```
┌─────────────────────────────┐
│ Knowledge Creation          │
│     • Data mining           │
│     • Formal training       │
│     • Process redesign      │
└─────────────────────────────┘

┌─────────────────────────────┐                    ┌─────────────────────────────┐
│ Knowledge Sharing           │                    │ Organizational Performance  │
│     • Mentoring             │                    │     • Social benefits       │
│     • On-job training       │                    │     • Service delivery to   │
│     • Seminars / Workshops  │                    │       citizenry             │
└─────────────────────────────┘                    │     • Quality of products   │
                                                    │     • Efficient processes   │
┌─────────────────────────────┐                    └─────────────────────────────┘
│ Knowledge Application       │
│     • Process redesign      │
│     • Advanced process      │
│     • Efficiency            │
└─────────────────────────────┘

┌─────────────────────────────┐
│ Knowledge Storage           │
│     • Hardware              │
│     • Software              │
│     • Documentation         │
└─────────────────────────────┘
```

Figure 2.1: Conceptual Framework

2.5 Operationalization of Variables

Table 2. 1: Operationalization of Variables

Objective	Variable Type	Indicators	Type of data
To determine the effect of knowledge creation on organizational performance in the Public Service of Kenya.	Independent Knowledge Creation	• Data mining • Formal training	Descriptive Regression
To establish the effect of knowledge storage on organizational performance in the Public Service of Kenya.	Independent Knowledge storage	• Mentoring • On-job training	Descriptive Regression
To establish the effect of knowledge sharing on organizational performance in the Public Service of Kenya.	Independent Knowledge sharing	• Product Innovation • Advanced process	Descriptive Regression
To find out the effect of knowledge application on organizational performance in the Public Service of Kenya.	Independent Knowledge application	• Hardware • Software •	Descriptive Regression
Organizational performance at the Public Service of Kenya	Dependent	• Social benefits • Service delivery to citizenry • Quality of products • Efficient processes	Descriptive Regression

2.6 Summary of Research

The chapter has covered theories that anchor the study and the empirical literature from different scholars that cover the five study variables (Knowledge Creation, Knowledge Acquisition, Knowledge Storage, Knowledge Sharing and Knowledge Application). This include researchers like Hoon, Kolb, Hee and Kyoung (2012) which state that organizations must create a structure and a system to continue churning new knowledge

concepts to keep abreast with knowledge and technological advances and development and Jones (2013) was more concern with creation. On the variable of knowledge on acquisition, studies that covered it included Anderson, Spiro and Montague (2017) and Riungu (2015); on knowledge sharing the variable was fashioned information Cai, Goh, de Souza and Li (2013) and Ndegwa (2015).

Knowledge application concentrated on the useful of knowledge in new product development and improvement of service delivery, efficiency of the process, with researchers such as Kombo (2015) and Githua (2013) and knowledge storage was anchored on by researchers such as Dalkir (2017) and Liebowitz and Frank (2016). The conceptual framework shows the relationship between the variables and operationalization table shows the study indicators.

<div align="center">

CHAPTER THREE

RESEARCH METHODOLOGY

</div>

3.1 Introduction

This chapter presents the methodology focusing on how the data was collected and the analyses. It consists; the research design, target population, sampling procedures and sample size, data collection instruments and their validity and reliability of the research methods of data collection and data analysis.

3.2 Research Design

This study adopted descriptive research design to assess the effect between the independent and dependent study variables. Creswell and Creswell (2017) state that descriptive research describes a phenomenon as it exists, by taking raw data and tabulating it into a useable format. This design was appropriate as the study intended to establish the existence of the effect of knowledge management on organizational performance in the Public Service Kenya. The study collected data from employees working at the three ministries (Devolution 841, labor and social security services 783 and ICT 719) in their headquarters based in Nairobi County on knowledge management and organizational performance to test the effect between these two variables. According to the records kept by the Public Service Commission, there were 2,343 employees working throughout different locations and in the counties (**www.publicservice.go.ke**)

Table 3.1: Population

Management Levels	Frequency	Percent %
Ministry of Devolution	841	36
Ministry of Labor	783	33
Ministry of ICT	719	30
Total	**2343**	**99**

Source: www. publicservice.go.ke (2018)

3.3 Target Population

A target population is a large population of interest to the researcher from which the sample respondents is drawn. The target population of the study comprised of all the employees of the three ministries. This target population had relevant information on knowledge

management that was useful in answering the study's research questions. The study targeted employees from top, middle and junior management.

3.4 Sampling Procedure and Sample Size

A sample is a subset of a population that has been selected to reflect or represent characteristics of a population (Creswell & Creswell, 2017). Sampling is a deliberate choice of a number of people who are to provide the data from which study drawn conclusions about some larger group whom these people represent. The sample size is a subset of the population that is taken to be representatives of the entire population. For this study, the population was stratified as per ministry and for each stratum 13% was picked to obtain the sample size of 303. According to Creswell and Creswell (2017) mentions that a sample size is deemed ideal if picked from 10-30% of the population from each group. This study adopted a 13% from each stratum, as shown in Table 3.2

Table 3. 2: Sample Size

Management Levels	Frequency	Percent %	Sample Size
Ministry of Devolution	841	13%	109
Ministry of Labor	783	13%	101
Ministry of ICT	719	13%	93
Total	**2343**		**303**

Source; (PSC, 2018)

3.5 Research Instrumentation

The study collected primary data using structured questionnaires. According to Maxwell (2012) a questionnaire is a tool for collecting data in a standardize manner. It comprised of a set of written questions which asks for answers from the respondents, and of which it may be self-administered or administered in groups. Questionnaires are good because they allow anonymity of the respondents and the information they share (Flick, 2015). The questionnaire had Likert questions, short closed ended questions as well as some open-ended questions which were administered to the respondents to collect quantitative data. The questions were short, precise and easy to quantify.

The questionnaire contained six sections each covering a study variable and the general information. Section A seeks general information about the respondents in order to

determine their suitability to participate in the study. Section B covered knowledge creation, section C covered knowledge sharing, section D covered knowledge application, section E covered knowledge storage while section F covered performance at the Public Service of Kenya. The questionnaire made use of both open and closed ended questions to ensure exhaustive response to study objectives. Closed ended questions made use of a five-point Likert scale ranging from 1-5 where 1 is strongly disagree and 5 is strongly agree.

3.5.1 Validity of the Instrument

A pilot study is a small-scale version of the full study that is done to check for procedures, processes, parameters and materials needed for the final study (Yin, 2017). It is done to check for weakness and correct the instrument so as to provide valid and reliable answers to the research questionnaires. A pilot group of 15 respondents working at the public service commission was used to test the instrument.

According to Bowling (2014) a reasonable pilot group should consist of between 1-10% of the sample size, hence this study picked 5% of the sample size to be included in the study. Validity refers to the extent to which the research instrument measured what it was expected to measure. Validity ensured that the data was reliable, true and accurate (Pickard, 2012). This study used content validity to test the instrument and ensured it measured what it was meant to measure. Content validity referred to how effectively a measurement tool tap into the various aspects of the specific construct in question. The researcher measured content validity by relaying on the knowledge of people familiar with construct being measured. The subject matter experts were provided with the measurement tool an asked to provide feedback on how well each question measured with the construct with the question. Their feedback was analyzed and informed decision made on effectiveness of each question.

3.5.2 Reliability of Instrument

Reliability of the instrument was the degree to which the research instrument yields results that are consistent every time it is administered to the same object (Soy, 2015). It is a measurement offering consistency in the measurement variables. For this study, the researcher used Cronbach alpha basic formula for determining the reliability based on

internal consistency. An internal consistency technique was applied using Cronbach's Alpha in order to test the reliability of the instruments. The alpha value ranges from 0 to 1 with reliability increasing with the increase in value. A Cronbach Alpha coefficient that ranges of 0.7 and above is deemed sufficient enough to collect reliable data (Fowler, 2013)

3.6 Data Collection

The data was collected from the respondents using a drop and pick later method, this is because the respondents are busy people and also allowing them to fill the instrument at their convenient time improved the quality of response. It also improved response rate, as the respondents were allowed one week to fill the questionnaire before they are collected in readiness for analysis. Contact information was obtained when dropping the instrument for purposes of reminding the respondents to fill it during the one-week timeframe and for responding to queries.

3.7 Data Analysis and Presentation

Data analysis comprised the process of editing, coding and tabulation of the collected data into simpler summaries (Yin, 2013). Data coding was done to facilitate its entry in the computer for analysis. The Statistical Package for Social Sciences (SPSS version 23.0) and MS. Excel was used to analyze the data and generate descriptive statistics such as frequency counts, percentages, mean, mode and standard deviation. The threshold of content analysis was measured based on the respondent's answers in relation to the objectives of the study.

Multiple Regression analysis was conducted to test the effect of the relationship between the independent variables (Knowledge Creation, Knowledge Storage, Knowledge Sharing and Knowledge Application) and the dependent variable (Organizational performance). The study used the F Statistic to determine the validity of the regression model adopted. This statistic was compared to the F Critical value where the regression model was referred to as valid if F Statistic is greater than F Critical. Otherwise, the conclusion made was that that the model was invalid. This was based from the results in the ANOVA Table.

The regression model was used to determine if the regression assumptions used in the study were valid before performing the inference. Since if there any violations, subsequent inferential procedures might be invalid resulting in faulty conclusions. And in constructing our regression models assumed that the responses Y to the explanatory variables were linear in the parameters and that the errors were independent and identically distributed.

The Multiple Regression Model followed this format:

$Y= \beta_0+ \beta_1X_1+\beta_2X_2+\beta_3X_3 +\beta_4X_4 + \varepsilon$

Where Y= Organizational Performance in the Public Service of Kenya.

$B_0 =$ Constant

β_1, β_2, and β_3 are Coefficients of the effects of knowledge management on organizational performance in the Public Service of Kenya.

E = error term

X_1= Knowledge Creation

X_2= Knowledge Storage

X_3= Knowledge Sharing

 X_4= Knowledge Application

The finding from the analysis was presented in form of charts, pie charts, figures, graphs, tables and narrations.

3.7.1 Diagnostic Tests

Before carrying a regression analysis, the researcher conducted diagnostic tests to determine the suitability of data set for regressing. The diagnostics were used to test if the general information of the respondents how it affects the main objective of the study in knowledge management and organizational performance. These diagnostic tests included Multicellularity, Normality, and Heteroscedasticity. Normality test was done using Kurtosis and Skewness. Data analysis proceeded if the kurtosis and skewness is between +2 and -2 as this was an indicator that the data has a Normal distribution (Kothari, 2004). Multicollinearity was checked using the Variance Inflation Factor VIF, to show how the variables are correlated. If VIF is between 1-5, the variables are not correlated and hence

the test deems it valid. Heteroscedasticity test is useful in examining whether there is difference in residual variance of the observation period to another period of observation (Godfrey, 2008), and it was done using scatter plot.

CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION

4.1 Introduction

This chapter presents interpretation of the findings of the study. The study relied on primary data collected by use of structured questionnaires, collected data was coded into SPSS Version 23.0 for analysis and presentation. The study further establishes the effect of knowledge management on organizational performance in the public service of Kenya.

4.1.1 Response Rate

The researcher distributed a total of 303 questionnaires to all the employees of the selected Public Service Organizations. Out of this questionnaires 236 were dully filled and returned to the researcher. This gave a response rate of 77.9% which is deemed sufficient for the study. This conforms Babbie (2010) who stated that a response rate of 70% an above is deemed as very good. The findings are presented in Table 4.1.

Table 4.1: Response Rate

Variable	Frequency	Percent
Response	236	77.9
Non-Response	67	22.1
Total	**303**	**100**

4.1.2 Reliability Test

The study adopted Cronbach Alpha to test for reliability of the research instruments. Reliability test sought to determine whether questionnaires measured what they were meant to determine. Fowler (2013) recommends that Cronbach Coefficients of above 0.7 indicates that the research instruments are reliable. The findings are shown in Table 4.2.

Table 4.2: Reliability Test

Variable	Number of Items	Cronbach Alpha
Knowledge Creation	5	0.814
Knowledge Sharing	5	0.829
Knowledge Application	5	0.785
Knowledge Storage	5	0.799
Performance of Public Service	5	0.836

The findings established that knowledge creation had a Cronbach alpha of 0.814, knowledge sharing had a Cronbach alpha of 0.829, knowledge application had a Cronbach alpha of 0.785, knowledge storage had a Cronbach alpha of 0.799 and performance of public services had a Cronbach alpha of 0.836. The findings show that the Cronbach alpha coefficient were above 0.7 that the current study used a reliable scale hence reliable results were sought.

4.2 General Information

The researcher sought to establish the general information of the respondents in order to establish their appropriateness in the study. The general information carried out in the study were; gender, highest level of education, length of service at the public service in Kenya and length of service the respondents worked for the government. The findings are indicated in subsequent sections.

4.2.1 Gender

The researcher sought to establish the distribution of respondents Public Service Organizations under review. The findings are indicated in Figure 4.1.
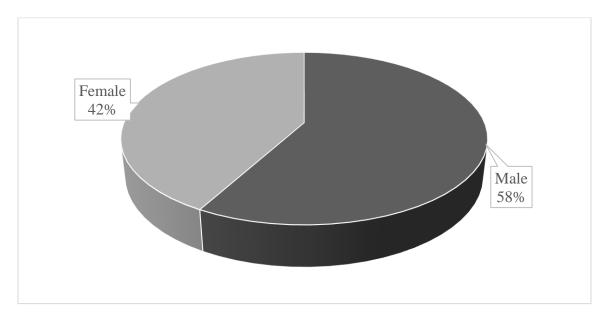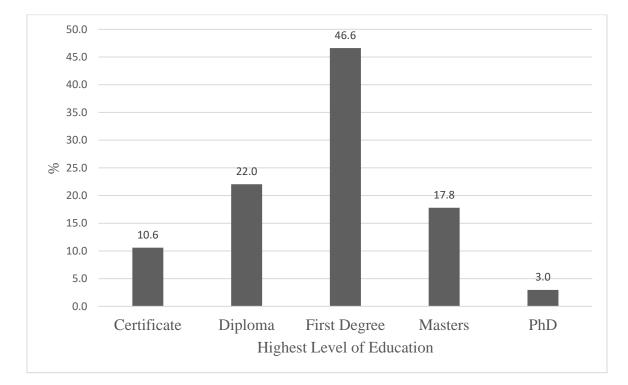

Figure 4.1: Gender

The findings show that majority of the respondents 58% were male and 42% of the respondents were female. This therefore show that pubic service in Kenya hired more men as compared to women.

4.2.2 Highest Level of Education

The study sought to establish the highest level of education of respondents. The findings are shown in Figure 4.2.

Figure 4.2: Highest Level of Education

The findings in Figure 4.2 show that 46.6% of the respondent's highest level of education was first degree, 22.0% had diploma, 17.8% had masters, 10.6 % had certificate and 3.0% had PhD. The findings show that majority of the respondents were educated and had acquired enough skills hence were proficient with their professionality.

4.2.3 Length of Service at the Public Service in Kenya

The findings of the distribution of length of service at the public service in Kenya is as shown in Figure 4.3.

Figure 4.3: Length of Service at the Public Service in Kenya

The findings established that 36.4% of the respondents' length of service at public service was 12 years and above, 33.9% length of service was between 8-12 years, 22.9% ranged between 4-8 years and 6.8% ranged 1-4 years. The findings show that majority of the respondents' length of service was above four years an indication that majority of the respondents had acquired skills.

4.2.4 Length of Service for The Government

The researcher requested respondents to indicate how long they had worked for the government. The findings are shown in Figure 4.4.

Figure 4.4: Length of Service for The Government

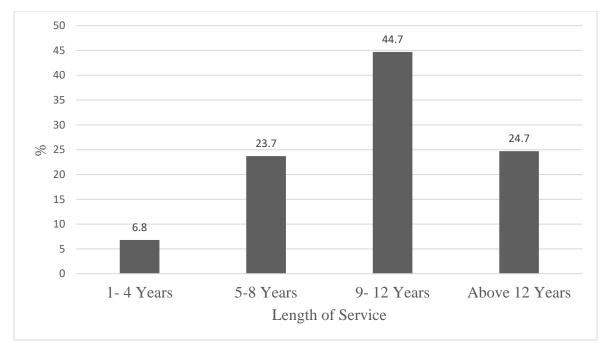The findings in Figure 4.4 show that 44.7% of the respondents had worked for 9-12 years, 24.7% had worked above 12 years, 23.7% had worked for 5-8 years and 6.8% had worked for 1-4 years. This show that majority of the respondents had served the government for more than 5 years an indication that the respondents were conversant with their respective role and duties they played in their organization.

4.3 Diagnostic Tests

The researcher conducted diagnostic test to establish the reliability of the dataset used in carrying out analysis. The following tests were carried out; multicollinearity test, normality test and heteroscedastic test. The findings are indicated in subsequent sections below.

4.3.1 Multicollinearity Test

The researcher conducted multicollinearity test to establish whether the variables were correlated. A test was done using the Variance Inflated Factor, (VIF) to measures how much the variance of the estimated regression coefficients are inflated as compared to when the predictor variables are not linearly related. According to Myers (1990), VIF values of less than 10 indicates no multicollinearity, while VIF greater than 10 shows presence of multicollinearity. The findings are indicated in Table 4.3.

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Table 4.3: Multicollinearity Test

Model	Collinearity Statistics	
	Tolerance	**VIF**
(Constant)		
Knowledge Creation	.603	1.65
Knowledge Sharing	.360	2.78
Knowledge Application	.316	3.16
Knowledge Storage	.399	2.50

The findings in Table 4.3 show that knowledge creation had VIF of 1.65, knowledge sharing had a VIF of 2.78, knowledge application had a VIF of 3.16 and knowledge storage had a VIF of 2.50. The findings show that all the variables had a VIF of less than 10 an indication that the variables had no multicollinearity.

4.3.2 Normality Test

The researcher conducted a multicollinearity test to establish whether the datasets were normally distributed. The study used kurtosis and skewness to test for normality. Kothari (2004) stated that data analysis proceeds if the kurtosis and skewness is between +2 and -2 as this was an indicator that the data has a normal distribution. The findings are indicted in Table 4.4.
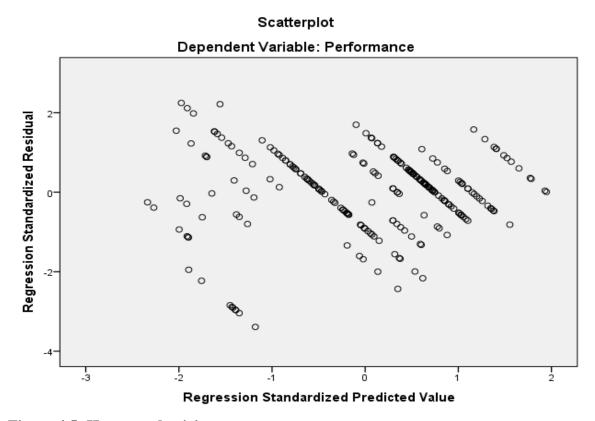
Table 4.4: Normality Test

	Skewness		Kurtosis	
	Statistic	**Std. Error**	**Statistic**	**Std. Error**
Knowledge Creation	-.370	.158	.111	.316
Knowledge Sharing	-.358	.158	-.159	.316
Knowledge Application	-.313	.158	-1.04	.316
Knowledge Storage	-.770	.158	.177	.316
Performance	-.681	.158	.335	.316

It was established that knowledge creation had a skewness of -0.370 and kurtosis of -0.111, knowledge sharing had a skewness of -0.358 and kurtosis of -0.159, knowledge application had a skewness of -0.313 and kurtosis of -1.04, knowledge storage had a skewness of -0.770 and kurtosis of 0.177 and performance had a skewness of -0.681 and kurtosis of 0.335. The findings show that all the variables had skewness and kurtosis value which ranged between +2 and -2. The depicts that the variables were normally distributed hence reliable for the study.

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4.3.3 Heteroscedasticity

The researcher conducted heteroscedasticity test to establish whether modelling errors are uncorrelated and normally distributed. The researcher used scatter plot to establish whether the sequence of random variables is homoscedastic if all random variables in the sequence have the same finite variance or heteroscedasticity. The findings are shown in Figure 4.5.

Figure 4.5: Heteroscedasticity

The findings established that the data sets formed a pattern an indication that the variables were homoscedastic and the modelling errors were uncorrelated and normally distributed and that their variances do not vary with the effects being modelled.

4.4 Descriptive Statistics

The researcher conducted descriptive statistics to establish the extent of the agreement of respondents to statements selected by the researcher on effect of knowledge management on organizational performance in the public service sector organizations of Kenya. The findings are indicated below.

4.4.1 Knowledge Creation

The researcher established several statements on how knowledge creation affected organizational performance in the ministry of devolution, ministry of labor social security and services and the ministry of information communication and technology. Respondents were requested to indicate the extent of their agreement on each statement on a scale of 1-5 where; 1= Strongly Disagree; 2 = Disagree; 3= Neutral; 4= Agree and 5= Strongly agree was used. The findings are indicated in Table 4.5.

Table 4.5: Knowledge Creation

	Mean	Std. Dev
Our staffs understand the value of creating knowledge for survival	3.43	.928
We create new knowledge in our daily work activities	3.33	.928
New knowledge is created at the public service in the organized formal training sessions	3.84	.542
Talking with technical experts in a specific field helps in knowledge creation	3.95	.577
Our employees are valued for creation of new knowledge since it is a human process	3.79	.571
Our service unit creates leverage in innovation through using the new knowledge	3.33	.928
The public service authority patents its new ideas and knowledge it creates	3.84	.542
Our structure encourages creation of knowledge for sustainable advantage	3.33	.928
Our ministry encourages functional heads to champion creation of new knowledge	3.77	.582
The service has instituted mechanisms to manage knowledge content created for future use	3.67	1.06
Our ministry takes officers on benchmarking visits	3.88	.625
Brain storming is allowed for knowledge creations	3.37	.965

The findings in Table 4.5 show that staffs in the ministry understood the value of creating knowledge for survival by a mean of 3.43 with standard deviation of 0.928. Respondents indicated that public service created new knowledge in our daily work activities as supported by a mean of 3.84 with standard deviation of 0.928. Respondents agreed that talking with technical experts in a specific field helped in knowledge creation as shown by a mean of 3.95 with standard deviation of 0.577. Respondents employees were valued for creation of new knowledge since it was a human process by a mean of 3.79 with standard deviation of 0.571. The findings are supported by Hoon (2013) who states that

organizations leverage on their ability to create knowledge, innovate, and generate value with new knowledge and knowledge creation is an activity that occurs throughout daily activities, at work or in social setting (Khodakarami & Chan, 2014).

The study found out that service unit created leverage in innovation through using the new knowledge creation as indicated by a mean of 3.33 with standard deviation of 0.928. The public service authority parented its new ideas and knowledge it created by a mean of 3.84 with standard deviation of 0.542. The structure at the ministries encouraged creation of knowledge for sustainable advantage by a mean of 3.77 with standard deviation of 0.582. This agrees with Berraies and Chaher (2014) who indicated that the linkage between knowledge creation process on innovation performance and organizational learning is partial. Importance of activities such as socialization, internalization and externalization that brings about innovation performance for the Tunisian ICT companies were noted as key influencers.

The ministries had instituted mechanisms to manage knowledge content created for future use by a mean of 3.67 with standard deviation of 1.06. The public service took officers on benchmarking visits by a mean of 3.88 with standard deviation of 0.625. Brain storming was allowed for knowledge creations as indicated by a mean of 3.37 with standard deviation of 0.965. This supported by Wuyts and Dutta (2014) who stated that the ability to create knowledge and generate a competitive advantage is now essential for any organization that wishes to remain sustainable within its marketplace.

4.4.2 Knowledge Sharing

Statements on how knowledge sharing affected organizational performance in the ministry of devolution, ministry of labor social security and services and the ministry of information communication and technology in Kenya were identified by the researcher. Respondents were requested to indicate the extent of their agreement on each statement on a scale of 1-5 where; 1= Strongly Disagree; 2 = Disagree; 3= Neutral; 4= Agree and 5= Strongly agree was used. The findings are shown in Table 4.6.

Table 4.6: Knowledge Sharing

	Mean	Std. Dev
In our ministry, employees work in groups to share knowledge	3.53	1.03
We participate in internal training sessions so as to share the knowledge	3.88	.926
Our trainings cover different tasks in various duties so that we can share information	3.93	.774
Our mentors share their field experiences so as to pass information to newer staffs	3.79	1.08
We learn on the job through sharing of duties hence information	4.28	.984
The planned seminars/workshops are used in sharing knowledge on current workplace processes	3.88	1.21
Our employees are trained on different tasks in different jobs to share knowledge	3.97	1.14
In our ministry, employees learn on the job	4.17	.997
We as employees meet informally and learn from one another	3.48	1.08
At the public service of Kenya, new developments are shared through internal memos	4.00	1.19
We use noticeboards where knowledge is shared among all the staffs	4.33	.815
Our ministry has diverse channels of sharing new knowledge both IT/manuals based	3.64	1.28

The findings show that respondents in the ministries worked in groups to share knowledge as show by a mean of 3.53 with standard deviation of 1.03. Respondents indicated that they participated in internal training sessions so as to share the knowledge by a mean of 3.88 with standard deviation of 0.926. The ministries' training covered different tasks in various duties so that respondents can share information as indicated by a mean of 3.93 with standard deviation of 0.774. Respondents mentors shared their field experiences so as to pass information to newer staffs by a mean of 0.774. This agrees with Yu, Yu and Yu (2013) stated that the sharing of information among staff and stakeholders of a business unit or organization are moved from one department to another.

Respondents indicated their agreement that they learnt on the job through sharing of duties hence information as supported by a mean of 4.28 with standard deviation of 0.984. The planned seminars/workshops were used in sharing knowledge on current workplace processes by a mean of 3.88 with standard deviation of 1.21. Ministry employees were trained on different tasks in different jobs to share knowledge as shown by a mean of 3.97 with standard deviation of 1.14. Respondents agreed that at the ministry, the employees learnt on the job given by a mean of 4.17 with standard deviation of 0.997. Cai, Goh, de

Souza and Li (2013) stated that organizations need to emphasize more effectively on knowledge-based resources that are present within the organization.

The study pointed out that respondents agreed that they meet informally and learnt from one another as supported by a mean of 3.48 with standard deviation of 1.08. New developments were shared through internal memos at the public service of Kenya as shown by a mean of 4.00 with standard deviation of 1.19. The ministry used noticeboards where knowledge was shared among all the staffs as indicated by a mean of 4.33 with standard deviation of 0.815. The ministries had diverse channels of sharing new knowledge both IT/manuals based as shown by a mean of 3.64 with standard deviation of 1.28. This agrees with Ogendo (2014) who stated that knowledge transfer has significant effect on organizational performance. Knowledge transfer has significant effect on strategy content. External environment has no significant moderating influence on the relationship between knowledge transfer and strategy content.

4.4.3 Knowledge Application

A scale of 1-5 where; 1= Strongly Disagree; 2 = Disagree; 3= Neutral; 4= Agree and 5= Strongly agree, was used by the researcher to establish the level of agreement on effect of knowledge application on organizational performance. The findings are as shown in Table 4.7.

Table 4.7: Knowledge Application

	Mean	Std. Dev
Our ministry uses knowledge collected to improve its internal processes	3.77	1.05
We use the generated knowledge to improve staff management at workplace	3.99	1.08
The collected knowledge helps in solving everyday work problems	3.91	.759
We gaining insight in running work operations from the created knowledge	4.22	.536
Our improved service delivery is from our created knowledge	3.62	.796
All our stakeholders use our created knowledge to increase service delivery to the citizens	3.84	.886
Using collected information, we have improved communication channels to all staffs	3.94	1.53
Our ministry incorporates updates its work manuals and procedures with new information as it comes	4.57	.575
Updated work procedures and manuals are shared with staff to ensure they are adopted	3.54	.751

Table 4.7 show that the ministries used knowledge collected to improve its internal processes by a mean of 3.77 with standard deviation of 1.05. Respondents agreed that they generated knowledge to improve staff management at workplace by a mean of 3.99 with standard deviation of 1.08. The collected knowledge helped in solving everyday work problems as indicated by a mean of 3.91 with standard deviation of 0.759. Respondents agreed that they gained insight in running work operations from the created knowledge as shown by a mean of 4.22 with standard deviation of 0.536. This is supported by Kinoti (2012) who stated that the success of an organization could be as a result of careful selection of management practices which enabled the easy transfer of knowledge thus contributing to learning and to the alignment of the strategies to meet the goals of the organization.

Respondents indicated that the ministries improved service delivery from their created knowledge as supported by a mean of 3.62 with standard deviation of 0.96. All the stakeholders used their created knowledge to increase service delivery to the citizens as indicated by a mean of 3.84 with standard deviation of 0.886. Respondents indicated that they had improved communication channels to all staffs by using collected information as indicated by a mean of 3.94 with standard deviation of 1.53. This is supported by Maseki (2012) who found that knowledge application greatly affected performance of employees on their duties in the bank and increased the employee competence. It enhanced the bank's ability to produce new innovative products for its customers and the communication process in the bank's profitability.

The ministries incorporated updates to its work manuals and procedures with new information as it came by a mean of 4.57 with standard deviation of 0.575. Updated work procedures and manuals were shared with staff to ensure they were adopted by a mean of 3.54 with standard deviation of 0.751. This is supported by Maina (2015) who stated that putting more emphasis on training and information sharing helps organizations in improving knowledge sharing, institutional setup and communication command

4.4.4 Knowledge Storage

Respondents were requested to indicate they level of agreement on statements selected by the respondents on effect of knowledge storage on organizational performance on a Likert Scale of 1-5. The findings are indicated in Table 4.8.

Table 4.8: Knowledge Storage

	Mean	Std. Dev
The service board has proper mechanisms of storing its work procedures	3.91	1.43
We use advanced systems in storing our created knowledge	3.50	1.00
We have proper mechanism of retrieving stored work procedures and manuals	3.55	.990
The service has adequate servers for storing soft copies of work procedures /manuals	3.91	.676
The knowledge created at the public service of Kenya is stored in diverse locations for back up purposes	3.30	1.00
The knowledge generated at the public service of Kenya has classified information in its databases	4.36	.642
A select group of staffs are the only ones mandated to access classified information	3.99	1.07
Our system has a trail to monitor access to knowledge stored	4.00	.625

Table 4.8 shows that respondents agreed that the service board had proper mechanisms of storing its work procedures as supported by a mean of 3.91 with standard deviation of 1.43. Respondents indicated their agreement that the ministries used advanced systems in storing their created knowledge by a mean of 3.50 with standard deviation of 1.00. Respondents indicated that they had proper mechanism of retrieving stored work procedures and manuals by a mean of 3.55 with standard deviation of 0.990. The ministry had adequate servers for storing soft copies of work procedures /manuals as supported by a mean of 3.91 with standard deviation of 0.676. The organizational manual provides for an organizational structure that stores information that can be accessed and shared among all the staff (Liebowitz & Frank, 2016).

Respondents indicated that the knowledge created at the ministry was stored in diverse locations for back up purposes as supported by a mean of 3.30 with standard deviation of 1.00. The knowledge generated at the ministry had classified information in its databases as indicated by a mean of 4.36 with standard deviation of 0.642. Respondents indicated their agreement that a select group of staffs were the only ones mandated to access classified information by a mean of 3.99 with standard deviation of 1.07. The ministry system had a trail to monitor access to knowledge stored as supported by a mean of 4.00

with standard deviation of 0.625. This agrees with Al-Ghazi (2014) who stated that there was a significant statistical effect of knowledge storage and application on the performance of the organization using the customer perspective of the balance score card.

4.4.5 Performance

Statements of performance of the ministry of devolution, ministry of labor social security and services and the ministry of information communication and technology over the last 5 years were selected the researcher. Respondents were requested to indicate their level of agreement on a Likert scale of 1-5. The findings are indicated in Table 4.9.

Table 4.9: Performance of Public Service

	Mean	Std. Dev
Service delivery to citizens has improved	3.94	.764
The ministries have continuously met its mandate	3.49	.982
Our ministry has improved its efficiency levels in the work processes	3.84	.542
The general public benefits from the outputs in our ministry	3.85	1.11

Table 4.9 shows that knowledge management had resulted into improvement in services delivery with a mean of 3.94 and standard deviation of 0.764, efficiency levels in the work processes with a mean of 3.84 and standard deviation of 0.542 and an increase in general public benefits from the outputs in the ministries with a mean of 3.85 and standard deviation of 1.11. It was however not certain whether the ministries had continuously met their mandates with a mean of 3.49 and standard deviation of 0.942.

The findings in Table 4.9 above thus imply that although knowledge management had improved the service delivery to citizens, the studied ministries however had not significantly met their mandate on a continuous basis. The finding is consistent with According to Karani (2015) who revealed that knowledge management practices have an effect in the performance of the organization in terms of the more knowledgeable employees, better decision-making processes by the organization, improved service delivery to the clients, a reduction in operational costs and an increase in the competitiveness of the organization.

4.5 Regression Analysis

The study carried out regression analysis to test the effect of the relationship between the independent variables (Knowledge Creation, Knowledge Storage, Knowledge Sharing and Knowledge Application) and the dependent variable (Organizational performance). The findings of Model Summary, ANOVA and Regression Coefficients are shown below.

4.5.1 Model Summary

The findings of coefficient of correlation R and adjusted coefficient of determination R^2 are shown in Table 4.10.

Table 4.10: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.897[a]	.805	.801	1.23842

a. Predictors: (Constant), Knowledge Storage, Knowledge Creation, Knowledge Sharing, Knowledge Application
b. Dependent Variable: Performance

The findings in Table 4.10 show that coefficient of correlation R was 0.897 an indication that the variables were highly correlated. The findings pointed out that adjusted R^2 was 0.801 which translates to 80.1% an indication that changes in organizational performance was influenced by the following independent variables; knowledge creation, knowledge storage, knowledge sharing and knowledge application. The residual of 19.9% can be explained by other factors affecting organizational performance that were not carried out in the current study.

4.5.2 ANOVA

The comparison of F $_{Calculated}$ and F $_{Critical}$ were carried out by the researcher to test for the strength of the overall regression model. An ANOVA was carried out at 95% significance level. The findings are shown in Table 4.11.

Table 4.11: ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	1460.105	4	365.026	238.006	.000[b]
Residual	354.281	231	1.534		
Total	1814.386	235			

a. Predictors: (Constant), Knowledge Storage, Knowledge Creation, Knowledge Sharing, Knowledge Application
b. Dependent Variable: Performance

The finding in Table 4.12 show that $F_{Calculated}$ was 238.006 and $F_{Critical}$ was 2.4107. This show that $F_{Calculated} > F_{Critical}$ (238.006>2.4107) an indication that the overall regression model was sufficient for the study. The probability value p=0.00 which is less than 0.05 an indication that at least one of independent variable significantly influenced organizational performance.

4.5.3 Regression Coefficients

In order to determine individual influence of dependent variables on organizational performance, the following coefficients were generated. The findings are indicated in Table 4.12.

Table 4.12: Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	-4.553	.715		-6.366	.000
Knowledge Creation	.063	.017	.136	3.621	.000
Knowledge Sharing	.105	.023	.218	4.507	.000
Knowledge Application	.260	.027	.507	9.801	.000
Knowledge Storage	.092	.029	.146	3.172	.002

a. Dependent Variable: Performance

The resultant equation becomes: **Y= -4.553+ 0.063X$_1$+0.105X$_2$+0.260X$_3$ +0.092X$_4$**

Where: Y= Organizational Performance in the Public Service Sector Organizations of Kenya

X_1= Knowledge Creation

X_2= Knowledge Sharing

X_3= Knowledge Application

X_4= Knowledge storage

The findings show that while holding other factors constant, organizational performance would be at -4.553. A unit increase in knowledge creation while holding other factors constant, organizational performance would be at 0.063. A unit increase in knowledge sharing while holding other factors constant, organizational performance would be at 0.105. A unit increase in knowledge application while holding other factors constant, organizational performance would be at 0.260. A unit increase in knowledge application while holding other factors constant, organizational performance would be at 0.092.

The findings pointed out that knowledge creation had a p value of 0.00<0.05 an indication that the variable significantly influenced organizational performance in the public service of Kenya. This agrees with a study by Ogendo (2014) who stated that knowledge transfer has significant effect on organizational performance. Strategy content has significant intervening influence on the relationship between knowledge transfer and organizational performance.

The findings show that knowledge sharing had a p value of 0.00 which is less than 0.05 an indication that the variable significantly influenced organizational performance in public service of Kenya. This is in support of Ndegwa (2015) who stated that knowledge sharing is statistically significant with a positive moderating effect to organizational performance. Hence, organizations are advices to re-evaluate the state of their firm level performance in terms of their organizational structure, culture, technology, management style and human resources to increase knowledge sharing for innovation and improved performance.

The findings established that the p value of knowledge application was 0.00 which is less than 0.05 implying that the variable significantly influenced organizational performance in public service of Kenya. Knowledge application has a positive significant effect on the performance of audit firms in Kenya as shown by Muhoya (2016) while establishing the effect of knowledge management practices on Kenyan auditing firms.

The findings further established that knowledge storage had a p value of 0.00<0.05 an indication that the variable significantly influenced organizational performance in public service of Kenya. This agrees with a study by Al-Ghazi (2014) who that there is a significant statistical influence of knowledge management in terms of creation, application and storage on organizational performance using the balance score card perspectives.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Introduction

This chapter presents the summary of the findings on the study, conclusion and recommendations are based on the findings. Suggestions for further studies are also given for enhancement of future studies.

5.2 Summary

The main objective of the study was to determine the effect of knowledge management on organizational performance in the public service of Kenya. The study was guided by the following research questions; what is the effect of knowledge creation on organizational performance in the Public Service of Kenya? What are the effects of knowledge sharing on organizational performance in the Public Service of Kenya? How does knowledge application affect organizational performance in the Public Service of Kenya? What are the effects of knowledge storage on organizational performance in the Public Service of Kenya?

The study adopted descriptive statistics to establish effect of knowledge management on organizational performance in the public service of Kenya. The target population of the study was all the employees of the selected Public Service Organizations comprising of all levels of management. The study relied on primary data that was collected by use of structured questionnaire, the collected data was coded into SPSS for analysis and presentation. The findings showed that the data set were suitable for regressing. The regression analysis established that coefficient of correlation R was 0.897 an indication that the variables were highly correlated. Adjusted R^2 was 0.801 an indication that variations in organizational performance was influenced by the independent variables.

5.2.1 Knowledge Creation

The study found out that new knowledge was created at the public service in the organized formal training sessions. Talking with technical experts in a specific field helped in knowledge creation and employees were valued for creation of new technology. The public

service authority patented its new ideas and knowledge created by staffs. The ministries encouraged functional heads to champion creation of new knowledge. The study found out that the ministries had instituted mechanisms to manage knowledge content created for future use and officers were taken on benchmarking visits. This agrees with Khodakarami and Chan (2014) who states that knowledge creation is an activity that occurs throughout daily activities, at work or in social setting. Similarly, Hoon (2013) states that organizations leverage on their ability to create knowledge, innovate, and generate value with new knowledge.

5.2.2 Knowledge Sharing

The study pointed out that staffs learnt to carry out their job by sharing out duties, the ministry planned for seminars to share knowledge on current work place and staffs were trained on different tasks on different job to share knowledge. This is supported by Fullwood, Rowley and Delbridge (2013) who stated that transferring and sharing of knowledge is very important in KM, because organizations struggle with knowledge loss which eventually leads to high employee turnover.

New developments were shared through internal memos and employees learnt on their different roles assigned on the job. Trainings covered different tasks in various duties for staffs to share information. Public service mentors shared their field experiences so as to pass information to newer staffs while noticeboards were used to share knowledge among all the staffs. The ministries had diversified channels of sharing new knowledge both IT/manuals based. This is supported by Ndegwa (2015) who stated that understanding how knowledge can be used to improve performance, knowledge sharing, organizational learning and firm-level institutions are considered to explain superior performance. Similarly, Ogendo (2014) states that knowledge transfer has significant effect on organizational performance.

5.2.3 Knowledge Application
The findings pointed out that the ministries incorporated updates to work manuals and procedures with new information as it came. The ministries gained insight in running work operations from the created knowledge and used the generated knowledge to improve staff

management at workplace. This agrees with Kinoti (2012) who stated that teamwork with organizational communication with participatory decision making have a positive relationship with organizational performance. Similarly, Kombo (2015) established that organizational characteristics mediated the relationship between knowledge strategy and performance.

The stakeholders used public services to create knowledge to increase service delivery to the citizens and collected knowledge that helped in solving everyday work problems. The study further established that the ministries incorporated updates to work manuals, procedures with new information as it come and improved communication channels to all staffs. This is supported by Maseki (2012) who found that knowledge greatly affected performance of employees on their duties in the bank and increased the employee competence.

5.2.4 Knowledge Storage

The study found out that the ministry system had a trail to monitor access to knowledge stored, they had a proper mechanism of retrieving stored work procedures and manuals and used advanced systems in storing their created knowledge. This agrees with Liebowitz and Frank (2016) who states that the organizational manual provides a structure that stores information that can be accessed and shared among all the staff (Liebowitz & Frank, 2016).

The service board had a proper mechanism of storing its work procedures and adequate servers for storing soft copies of work procedures /manuals. The knowledge generated at the ministries had classified information in its databases and knowledge created at the ministries was stored in diverse locations for back up purposes. This agrees with Khodakarami and Chan (2014) who stated that knowledge it is codified and stored in the corporate database for retrieval and application or reuse by globally distributed software development teams of high-tech organizations (Khodakarami & Chan, 2014).

5.3 Conclusion

The study concludes that knowledge creation, sharing, application and storage positively influenced organizational performance of public service in Kenya. This was attributed to the following factors; public service authority patented new ideas and knowledge it created

and encouraged functional heads to champion creation of new knowledge, staffs learnt to carry out their job by sharing out duties, respondents indicated that public service planned for seminars to share knowledge on current work place and staffs were trained on different tasks on different job to share knowledge. Public service gained insight in running work operations from the created knowledge, used knowledge collected to improve its internal processes and used the generated knowledge to improve staff management at workplace. The service board had a proper mechanism of storing its work procedures and had adequate servers for storing soft copies of work procedures /manuals.

5.4 Recommendations

4.4.1   Knowledge Creation

The study recommends that public service ought to talking with technical experts in specific field for knowledge creation and employees ought to be valued. New knowledge ought to be created at the public service in an organized formal training session. The public service authority ought to adopt new ideas and knowledge should be created to encourage functional heads to champion creation of new knowledge. Public service ought to initialize new mechanisms to manage knowledge content created for future use and officers should be taken on benchmarking visits to learn and adopt new ideas.

5.4.2 Knowledge Sharing

The study recommends that new developments ought to be shared through internal memos, employees ought to learn on their different roles assigned on the job. Staffs should learn to carry out their job by sharing out duties. Public service ought to plan for seminars to share knowledge on current work place. Staffs ought to be trained on different tasks on different job to share knowledge. Trainings ought to cover different tasks in various duties for staffs to share information. Public service mentors ought to share their field experiences so as to pass information to newer staffs and public service of Kenya ought to diversify channels of sharing new knowledge both IT/manual based.

5.4.3   Knowledge Application

The study recommends that ministries in Kenya ought to incorporate updates to work manuals and procedures with new information as it comes and improve communication

channels to all staffs. Public service ought to gain insight in running work operations from the created knowledge, use knowledge collected to improve its internal processes and use the generated knowledge to improve staff management at workplace. The stakeholders ought to use public services to create knowledge and to increase service delivery to the citizens, collect knowledge to help in solving everyday work problems and improve service delivery to public service.

5.4.4   Knowledge Storage

The study recommends that public service board ought to have a proper mechanism of storing its work procedures and have adequate servers for storing soft copies of work procedures /manuals. The knowledge generated at the public service of Kenya ought to have classified information in its databases and knowledge created at the public service of Kenya ought to be stored in diverse locations for back up purposes. The public service of Kenya system ought to have a trail to monitor access on knowledge stored, they ought to have a proper mechanism of retrieving stored work procedures and manuals and use advanced systems in storing their created knowledge.

5.5   Suggestions for Further Studies

The current study on effect of knowledge management on organizational performance in the public service of Kenya explained 80.1% variations in organizational performance. Future studies should be carried out to establish other determinants that affects organizational performance on public services. The current study relied on primary data, future studies should carry out similar studies by use of secondary or empirical data for a more precise result. The researcher recommends a similar study to be carried out on different countries.

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Appendix I: Introduction Letter

I am a post graduate student in the K.C.A University undertaking a master of business administration (corporate management). I am in the process of carrying out my research, on the topic: ***EFFECT OF KNOWLEDGE MANAGEMENT ON ORGANIZATION PERFORMANCE IN PUBLIC SERVICE SECTOR IN KENYA***. Your assistance in responding honestly to all the items in the questionnaire is likely to generate data that will improve management of knowledge in government offices in Kenya. Your response will be treated as confidential.

Therefore, **<u>DO NOT</u>** write your name on the questionnaire. Please complete all the items in the questionnaire.

Thank you for your cooperation

Yours sincerely,

VIOLET TERRY WANYAMA

Appendix II: Questionnaire

PART A: BACKGROUND INFORMATION

1) Please tick your Gender   Male [ ]   Female [ ]   Other [ ]

2) What is your highest level of Education?

   Certificate [ ] Diploma   [   ]   First Degree   [   ]

   Masters   [   ]   PhD   [   ]

3) How long have you worked at the public service in Kenya?

   1- 4years   [ ]   4-8 years   [ ]   8- 12 years   [ ]

   12 years and above   [ ]

4) How long have you worked for the Government?

   1- 4 years   [ ]   5-8 years   [ ]   9- 12 years   [ ]

   Above 12 years   [ ]

SECTION B: KNOWLEDGE CREATION

5) Below are several statements regarding knowledge creation and how they relate with organizational performance. Kindly indicate the extent to which you agree or disagree with each on a scale of 1-5 where: 1= Strongly Disagree; 2 = Disagree; 3= Neutral; 4= Agree and 5= Strongly agree.

Statement	1	2	3	4	5
Our staffs understand the value of creating knowledge for survival					
We create new knowledge in our daily work activities					
New knowledge is created at the public service in the organized formal training sessions					
Talking with technical experts in a specific field helps in knowledge creation					
Our employees are valued for creation of new knowledge since it is a human process					
Our service unit creates leverage in innovation through using the new knowledge					
The public service authority patents its new ideas and knowledge it creates					
Our structure encourages creation of knowledge for sustainable advantage					

	1	2	3	4	5
Our ministry encourages functional heads to champion creation of new knowledge					
The service has instituted mechanisms to manage knowledge content created for future use					
Our ministry takes officers on benchmarking visits					
Brain storming is allowed for knowledge creations					

In your opinion, in what other ways has the public service body created knowledge to improve the ability to deliver on its mandate?

_____

_____

SECTION C: KNOWLEDGE SHARING

6) Below are several statements regarding knowledge sharing and how they relate with organizational performance. Kindly indicate the extent to which you agree or disagree with each on a scale of 1-5 where: 1= Strongly Disagree; 2 = Disagree; 3= Neutral; 4= Agree and 5= Strongly agree.

Statement	1	2	3	4	5
In our ministry, employees work in groups to share knowledge					
We participate in internal training sessions so as to share the knowledge					
Our trainings cover different tasks in various duties so that we can share information					
Our mentors share their field experiences so as to pass information to newer staffs					
We learn on the job through sharing of duties hence information					
The planned seminars/workshops are used in sharing knowledge on current workplace processes					
Our employees are trained on different tasks in different jobs to share knowledge					
In our ministry, employees learn on the job					
We as employees meet informally and learn from one another					
At the public service of Kenya, new developments are shared through internal memos					

We use noticeboards where knowledge is shared among all the staffs					
Our ministry has diverse channels of sharing new knowledge both IT/manual based					

7) In your opinion, in what other ways has your ministry shared knowledge to improve the ability to deliver on its mandate?

_____

_____

SECTION D: KNOWLEDGE APPLICATION

8) Below are several statements regarding knowledge application and how they relate with organizational performance. Kindly indicate the extent to which you agree or disagree with each on a scale of 1-5 where: 1= Strongly Disagree; 2 = Disagree; 3= Neutral; 4= Agree and 5= Strongly agree.

Statement	1	2	3	4	5
Our ministry uses knowledge collected to improve its internal processes					
We use the generated knowledge to improve staff management at workplace					
The collected knowledge helps in solving everyday work problems					
We gaining insight in running work operations from the created knowledge					
Our improved service delivery is from our created knowledge					
All our stakeholders use our created knowledge to increase service delivery to the citizens					
Using collected information, we have improved communication channels to all staffs					
Our ministry incorporates updates its work manuals and procedures with new information as it comes					
Updated work procedures and manuals are shared with staff to ensure they are adopted					

9) In your opinion, in what other ways has your ministry applied knowledge to improve the ability to deliver on its mandate?

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SECTION E: KNOWLEDGE STORAGE

10) Below are several statements regarding knowledge application and how they relate with organizational performance. Kindly indicate the extent to which you agree or disagree with each on a scale of 1-5 where: 1= Strongly Disagree; 2 = Disagree; 3= Neutral; 4= Agree and 5= Strongly agree.

Statement	1	2	3	4	5
The service board has proper mechanisms of storing its work procedures					
We use advanced systems in storing our created knowledge					
We have proper mechanism of retrieving stored work procedures and manuals					
The service has adequate servers for storing soft copies of work procedures /manuals					
The knowledge created at the public service of Kenya is stored in diverse locations for back up purposes					
The knowledge generated at the public service of Kenya has classified information in its databases					
A select group of staffs are the only ones mandated to access classified information					
Our system has a trail to monitor access to knowledge stored					

11) In your opinion, in what other ways has the service stored knowledge to improve the ability to deliver on its mandate?

_____

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SECTION F: PERFORMANCE OF THE PUBLIC SERVICE

12) Below are several statements on the performance of the public service over the last five years. Kindly indicate the extent to which you agree or disagree with each on a scale

of 1-5 where: 1= Strongly Disagree; 2 = Disagree; 3= Neutral; 4= Agree and 5= Strongly agree.

Statement	1	2	3	4	5
Service delivery to citizens has improved					
The ministries have continuously met its mandate					
Our ministry has improved its efficiency levels in the work processes					
The general public benefits from the outputs in our ministry					

THANK YOU,

THE END