



NEAR EAST UNIVERSITY
GRADUATE SCHOOL OF SOCIAL SCIENCES
INNOVATION AND AND KNOWLEDGE MANAGEMENT PROGRAMME

**THE IMPACT OF KNOWLEDGE MANAGEMENT CAPABILITY
ON EMPLOYEE PERFORMANCE: A CASE STUDY OF
LEBANESE FRENCH UNIVERSITY**

RAWEEZ SABER ISMAEL

MASTER'S THESIS

NICOSIA

2018

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20165866

MASTER'S THESIS

THESIS SUPERVISOR
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NICOSIA
2018

DECLARATION

I am Raweez Ismael, hereby declare that this dissertation entitled 'The Impact of Knowledge Management Capability on Employee Performance: A Case Study of Lebanese French University' has been prepared myself under the guidance and supervision of "Prof. Dr. Mustafa Sağsan" in partial fulfilment of The Near East University, Graduate School of Social Sciences regulations and does not to the best of my knowledge breach any Law of Copyrights and has been tested for plagiarism and a copy of the result can be found in the Thesis.

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Date

Signature

Raweez Ismael

DEDICATION

This thesis work is dedicated to my supervier, **Prof. Dr. Mustafa Sağsan**, who has been a constant source of support and encouragement during my study.

This thesis is also dedicated to my parents, **Saber Ismael** and **Muzhda Ali** who have always loved me unconditionally and whose good examples have taught me to work hard for the things that I aspire to achieve.

This thesis is also dedicated to **My friends** who encourage and support me.

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ABSTRACT

THE IMPACT OF KNOWLEDGE MANAGEMENT CAPABILITY ON EMPLOYEE PERFORMANCE: A CASE STUDY OF LEBANESE FRENCH UNIVERSITY

This study aimed at evaluating whether knowledge management capabilities have an effect on employee performance at the Lebanese French University – Kurdistan Region of Iraq. This study therefore undertook to analyse the same research area but at Lebanese French University – Kurdistan Region of Iraq. Therefore, for easier comparison, the way this research was done was in line with literature. The researcher distributed 212 questionnaires and collected 201 questionnaires from the office of the University President, various departments and Centres. The SPSS v.23 was the statistical software used to analysis the data collected.

The results indicated that indeed, knowledge management capabilities have an impact on employee performance. Knowledge management capabilities are divided into two – knowledge process capabilities and knowledge infrastructure capabilities. This study found that knowledge infrastructure capabilities have a bigger impact on employee performance compared to knowledge process capabilities. Most of the responses valid in the knowledge process capabilities section but most respondents were generally positive about knowledge infrastructure capabilities and agreed that indeed they are an integral part to employee performance. As a result, this study concluded that more thought, time and effort has to be put in into what makes an organisation's culture, its technology as well as its structure as they could have all the great information in the world but if the infrastructure is weak the knowledge won't add any value to the organisation.

Keywords:

Knowledge, Knowledge management, Knowledge management capability, Knowledge process capability, Knowledge infrastructure capability, Employee performance, Knowledge creation.

Öz

ÇALIŞAN PERFORMANSI ÜZERİNE BİLGİ YÖNETİMİ KAPASİTESİNİN ETKİSİ: LEBANESE FRENCH ÜNİVERSİTESİ ÖRNEK OLAYI

Bu araştırmanın amacı, bilgi yönetimi kapasitesinin Kuzey Irak'taki Kürdistan bölgesel hükümet - Lebanese French Üniversitesi personelinin performansı açısından değerlendirmektir. Dolayısıyla bu araştırma, aynı alanda fakat Kuzey Irak'taki Kürdistan bölgesel hükümet - Lebanese French Üniversitesi çalışanı üzerinde yapılan bir analizdir. Diğer araştırmalarla kıyaslayacak olursak bu çalışmanın yapılma şekli literatürle uyumludur. Araştırmada 212 tane denek kullanılmıştır. Toplanan verileri analiz etmek için SPSSv.23 istatistiksel yazılım programı kullanılmıştır.

Sonuç olarak bu araştırma bilgi yönetimi kapasitesinin gerçekten de çalışan performansı üzerinde etkisi olduğunu göstermiştir. Bilgi yönetimi kapasitesi ikiye ayrılır; Bilgi İşlem Kapasitesi ve Bilgi Altyapı Kapasitesi. Bu araştırma Bilgi Altyapı Kapasitesinin Bilgi İşlem Kapasitesine göre çalışan performansı üzerinde daha büyük etkisi olduğunu da göstermiştir. Bilgi İşlem Kapasitesinde birçok geçerli cevap alınırken Bilgi Altyapı Kapasitesi'nde cevaplayanların çoğunun genellikle pozitif olduğu ve ikisinin de gerçekten çalışan performansının ayrılmaz birer parçası oldukları kabul edilmiştir. Sonuç olarak diyebiliriz ki Bir işletmenin kültüründe teknoloji, işletmenin planlaması kadar önemlidir ve her ikisinin kullanımı için de dünyada geniş bir bilgi birikimini gerektirmektedir. Bir işletmenin kültürüne daha çok fikir, zaman ve gayretin konması gerekmektedir fakat altyapı zayıf ise bilgi işletmeye herhangi bir değer katmayacaktır.

Anahtar Kelimeler:

Bilgi, Bilgi yönetimi kapasitesi, Bilgi işlem kapasitesi, Bilgi altyapısı kapasitesi, Çalışan performansı, Bilgi üretimi.

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LIST OF ABBREVIATIONS

KIC: Knowledge Infrastructure Capability

KMC: Knowledge Management Capability

KPC: Knowledge Process Capability

U.S.A: United States of America

CIPD: Chartered Institute of Personnel and Development.

INTRODUCTION

In recent years, the world has seen a lot of rapid change. The advancements in technology seem to be the main driver behind this revolutionary change now commonly known as globalisation. The world is now more interconnected than ever and advancement in computer technologies makes information flow faster and better than before. Most organisations now have access to the same information as another company in a completely different part of the world at the very same time, so competition is now stiff amongst organisations. As a result, organisations have had to adapt to these rapid changes using new various methods that are supposed to give them a competitive edge over other firms (Hama, 2016, 1).

Most methods have been tried and tested but they failed to adequately provide consistent strategic advantage. However, knowledge management is one concept that seems to provide great results. Nonaka and Nishiguchi (2001, 3) state that because of globalisation and other changes businesses are facing, knowledge has come out on top as a powerful tool that can drastically increase a company's performance.

The changes in technology have moved the world from an industrial era to a more knowledge based economy where knowledge has substantial value (Bharadwaj, Chauhan and Raman, 2015, 422). Dalkir (2005, 2) and Hassan and Al-Hakim (2011) state that knowledge creation as well as its dispersal has become one of the vital elements in a company's survival, stability, competitiveness, growth as well as improvement.

In their book, Wang and Hjelmervik (2001, 9) show how managing this knowledge effectively can optimise an organisation's value by helping its employees cope with rapid change and be innovative. However, Salama (2017, 17) states that the environment is so turbulent and cut-throat that for organisations to be able to survive over a long period of time, they must do more than manage their knowledge. Salama (2017, 71) suggests that organisations should also be willing to increase their learning capacity. Organisations should be able to learn new theories and technologies for them to be competitive in the long run (Uriarte, 2008; Salama, 2017, 71).

For organisations to be able to increase their learning capacity, they have to tap into their knowledge management capabilities (Gold et al., 2001). Knowledge management capability is an organisation's capability to obtain, create, dispense, integrate and apply knowledge that is related to activities as well as resources across different functional boundaries to produce new knowledge (Chuang (2004); Lee and Lee (2007); Tseng and Lee (2014). According to Yang and Chen (2007), this enables the organisation to not only improve its effectiveness as an organisation but also to increase its sustainable competitive edge. Knowledge management capability can be divided into two – knowledge process capability and knowledge infrastructure capability (Gold, Malhotra and Segars, 2001).

Knowledge intensive companies gain their wisdom and knowledge via their business activities. Given that the current global market is competitive, adhering to inflexible and indirect ways can help them to build an environment that enables knowledge management to flourish (Zaied, Hussein and Hassad, 2012). However, it can limit their ability to make knowledge a strategic asset and thus, creating a big corporate problem. Therefore, knowledge management processes are looked at as those that would help to build knowledge as a strategic asset which coupled with infrastructure capabilities will drive firm performance and knowledge effectiveness (Bharadwaj et al., 2015, 426). Knowledge process capabilities come in four sections - acquisition, conversion, application and protection.

According to Zaied et al. (2012) the knowledge management infrastructures are the instruments used by an organisation to grow its knowledge and kindle knowledge creation along with sharing and protecting it within the firm. The knowledge management infrastructure capabilities are divided into three: technology, organisational structure and organisational culture (Bharadwaj et al., 2015, 422).

There seems to be an important relationship between employee performance and knowledge management capability. As a result, this paper sought to explore this relationship and attempt to build a theory that explains the relationship. Also, since there are two types of knowledge management capability, this paper sought to understand which of the types, if any, affect employee performance.

CHAPTER ONE. LITERATURE REVIEW ON KNOWLEDGE MANAGEMENT CAPABILITY

1.1 Introduction

In 1567 Sir Francis Bacon said, 'Knowledge is power', this idiom has passed the test of time and has remained true for centuries. Wars have been won not because of the strength of the army but on the power of knowledge. The value of knowledge in business and the economy as a whole has over the years increased, leading to a new economy, known as the knowledge based economy (Bharadwaj, Chauhan and Raman, 2015, 422). Dalkir (2005, 2) states that the creation as well as the dispersal of knowledge has become a vital factor in competitiveness. Moreover, products – particularly high-technology products have knowledge embedded in them as a valuable derivative commodity. However, Dalkir (2005, 2) adds that although knowledge is slowly being regarded as an intellectual asset or valuable commodity, it is vital to note its differences that separate it from other common valuable commodities. Unlike regular commodities, the use of knowledge does not necessarily mean it's being consumed, nor does its transferral mean it's being lost (Davenport and Prusak (2000, 13); Dalkir (2005, 2). Knowledge is an abundant commodity that paradoxically is very scarce to use, at the end of a business day – much of a company's valuable knowledge loses its value (Dalkir, 2005, 2).

Despite knowledge's paradox characteristics, it is increasingly becoming a highly sort after commodity than the traditional assets that are tangible or physical (Dalkir, 2005, 16). Given that knowledge is a valuable asset that has paradoxical characteristics coupled with the fast-paced economy, very few firms are able to harness it properly (Uriarte, 2008, 8). As a result, companies have had to think outside of the box to truly make it a strategic resource (Salama, 2017, 71). Bharadwaj et al., (2015, 422) argues that the development of marketplaces as well as the increase in global competition has led to many firms reconciling and consolidating their knowledge assets as a way of creating a valuable commodity that is sustainable over time.

The ability to effectively manage all this knowledge has, therefore, in this knowledge economy become very crucial (Dalkir, 2005, 2). Moon and Lee (2014) found results that supported Dalkir (2005). In their study, they concluded that the effectiveness of knowledge management is largely attributed to knowledge sharing processes and company culture. Davenport and Prusak (2000, 7) also state that for a company to achieve a long term strategic and sustainable advantage, they regard knowledge as their most valuable asset. As a result, many firms have introduced knowledge management schemes highlighting the importance of sharing knowledge (Wang, Noe and Wang, 2014). According to Uriarte (2008, 2), knowledge sharing is a fundamental aspect of knowledge management. A company that shares knowledge amongst its staff and management grows stronger while simultaneously giving it a competitive advantage (Uriarte, 2008, 2).

Alvesson and Karreman (2001) and Davenport and Prusak (1998) have argued that even though the quality, source as well as the nature of knowledge has been expressed since the beginning of time according to Takeuchi and Nonaka (1995), the premise of knowledge management is fairly new. However, in a short space of time, managers as well as academic practitioners from various disciplines are now seeing knowledge management as a valid business matter (Singh, Chan and McKeen, 2006, 2). Hull (2000, 49) also adds that knowledge management is not some passing phenomenon but is rather slowly becoming a new form of expertise both in the management as well as organisation realm.

1.2 Knowledge

To fully understand the concept of knowledge management capability, it is necessary to describe what knowledge is. Andriessen and Van den Boom (2007) argue that knowledge is a concept that's so abstract and has no direct reference in the real world. However, Davenport and Prusak (2000, 4) state that generally, most people instinctively know that knowledge constitutes of a lot more than just data or information¹. Andriessen and Van den Boom (2007) stated that knowledge can stay

¹ The difference between data, information and Knowledge is discussed in the following section.

in two places – in people's heads as well as in the world. When one speaks of an individual that is knowledgeable, they mean an intelligent and educated individual. An individual that is not only informed in one or more subject matters but also has a reliable and thorough grasp of the concept (Davenport and Prusak, 2000, 4). They hardly talk about a knowledgeable database or handbook, despite the fact that it could have been created by a knowledgeable person/s.

Like Dalkir (2005), Davenport and Prusak (2000, 4) acknowledge that even though knowledge is valuable, it has features that make it problematic to effectively manage and they therefore try to express this in their definition of knowledge.

Davenport and Prusak (2000, 4) define knowledge as

“...fluid mix of framed experiences, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information.”

Uriarte (2008, 4) argues that the definition of knowledge is not as simple as one would think. It is often self-contextualising and contains several different elements. Knowledge can be formally structured but at the same time be fluid. Knowledge is intuitive and can be very difficult to fully capture in logical terms or in words (Davenport and Prusak, 2000, 4). Knowledge exists everywhere and unlike traditional assets, it's very hard to efficiently and concretely define.

1.3 Types of Knowledge

Dalkir (2005) state that there are essentially two major types of knowledge – tacit and explicit knowledge.

1.3.1 Tacit

According to Dalkir (2005, 8) this type of knowledge is difficult to put into writing or drawings or even articulate properly. Nonaka (1994) and Wang, Noe and Wang (2014) state that tacit knowledge is difficult to articulate because of its personal nature. It is based on an individual's experience with a specific content, their involvement, action and their commitment to it. This type of knowledge is often passed on to others through subtle or informal ways.

In an organisation, this type of knowledge is usually conveyed through mentoring or one-on-one coaching sessions (Maceviciute and Wilson, T. (2005)., Uriarte (2008,

5). However, the extent to which tacit knowledge is dependent on firstly the willingness as well as the ability of the tacit knowledge holder to share it with others. Cho (2011, 2) goes on to say that for competitors this type of knowledge is hard to imitate. For competitors to gather similar tacit knowledge they would have to get involved in similar experiences and actions as the organisation they are trying to imitate and this will take a lot of effort and time.

1.3.2 Explicit

Tacit knowledge is generally from a person's head whereas explicit knowledge is usually found within physical or tangible media such as memos, pictures, audio recordings or even trademarks (Dalkir, 2005, 8). Unlike tacit knowledge that is often passed through informal ways, explicit is communicated in a systematic or formal language that can be contextualised by any individual (Nonaka (1994) and Cho (2011)).

Maceviciute and Wilson (2005) states that explicit knowledge can be distributed, copied and reapplied throughout an organisation. In most firms, this type of knowledge is stored in servers or office storage.

Uriarte (2008) states that both types of knowledge must be equally managed to successfully create knowledge assets that will give the organisation a competitive advantage. They both enable an organisation to effectively respond to evolving challenges and new situations However, tacit knowledge is not often shared or made explicit.

1.4 History of Knowledge Management

Knowledge management is a relatively new phrase in literature according to Uriarte (2008, 32) but Dalkir (2005, 12) argues that although the term only started appearing in journals in the 1970s the concept itself had been around for decades. Seminal papers written on knowledge management by Peter Drucker and Paul Strassman in the brought the concept to the world. In the late 1980s it was then popularised by the work written by Karl-Erik Sveiby and Nonaka and Takeuchi carried the torch in the 1990s. The following sections are going to look at the history of knowledge management, focusing mainly on the first 3 decades when it was gaining traction.

1.4.1 Knowledge management in the 1970s

Several researchers were critical in the early development of knowledge management. These researchers included Peter Drucker, Peter Senge, Chris Argyris and Paul Strassman just to name a few. The current understanding of knowledge creation, its use and diffusion within an organisation is largely due to pioneer work started in the late 1970s by Thomas Allen and Everett Rogers. At MIT, Thomas Allen studied information as well as technology transfer and Everett Rogers at Stanford studies the diffusion of innovation (Cho (2011); Uriarte (2008:32). Dalkir (2005, 13) states that the growing acknowledgement of the vital role played by organisational knowledge led to a lot of uncertainty within organisations. Organisations were now getting more concerned about how to handle the vast increases in the amount of knowledge that was available as well as the simultaneous complexity of processes and products (Uriarte, 2008, 33).

It was during this time that computer technology started to become the solution for many of their problems even though it had contributed to the problem by providing a lot information. An example of this is when Doug Engelbert in 1978 introduced Augment² and other early groupware or hypertext system applications that could interface with other systems and applications (Uriarte, 2008, 33).

1.4.2 Knowledge management in the 1980s

Before the mid-1980s, classical economic theory did not fully recognise the importance of knowledge as an asset that could be used within an organisation. This was, however, not true by the end of the 1980s as knowledge was now seen as a competitive asset (Uriarte, 2008, 34). Nevertheless, during this period most firms still did not have methods or strategies to manage knowledge. During this time researchers such as Matsuda, Syeiby and Peter Drucker were writing about the role played by knowledge in firms. The ideas developed in these papers coupled with the work done in expert systems as well as artificial intelligence, it gave rise to

² Which was short for augmenting human intelligence.

computer based concepts such as knowledge engineering, knowledge acquisition and knowledge based systems (Uriarte, 2008, 34).

It was during this time that the phrase knowledge management started becoming a part of management literature as more and more authors were publishing their work based on this topic (Uriarte, 2008, 36). In 1989, a consortium of companies from the United States of America (USA) the “Initiative for Managing Knowledge Assets”, was started to provide a technological space for knowledge management (Uriarte, 2008, 36). This led to a lot of knowledge management journals being published in prestigious journals such as Harvard Business Review and Sloan Management Review. Simultaneously, Sakaiya’s The Knowledge Value Revolution and Peter Senge’s The Fifth Discipline were one of the first books published on knowledge management and organisational learning (Uriarte, 2008, 36).

1.4.3 Knowledge management in the 1990s

By 1990 a lot of academics and practitioners were talking about the new business practice – knowledge management. Several companies across the world had also started to implement knowledge management programs within their organisations (Uriarte, 2008, 36). However, knowledge management received significant attention in its current form in 1995 among firms. Barton (1995) published a book through the Harvard Business School that documented a case study on a company called Chaparral Steel which had an effective strategy of managing knowledge since the mid-1970s. Nonaka and Takeuchi (1995) also published a book called The Knowledge Creating Company: How Japanese Companies Create the Dynamics of Innovation. This book had information on how knowledge is created, used and disseminated inside an organisation. The book also talked about the contribution made by such knowledge to the distribution of innovation (Uriarte, 2008, 36).

In the mid to late 1990s, a lot of people were now realising that the success of some of the world’s leading firms was due to the valuable knowledge assets of those organisations. As a result of this realisation, knowledge management became a conventional business objective (Kaplan (1996) and Uriarte, 2008, 36). In 1996, a

study led by the American Productivity and Quality Center (APQC) on cross-industry benchmarking was completed (Dalkir, 2005). The study focused on the

- Management of knowledge as a business strategy;
- Management of intellectual asset
- The transferral of knowledge and the best way to do so;
- Knowledge focused on customers;
- Personal responsibility for knowledge;
- The creation of knowledge and innovation (APQC, 1996).

In 1996, James Wolfensohn, the then president of the World Bank announced that the bank would try to be a knowledge bank and their goal was successful that they changed their mission statement to include their new path (Uriarte, 2008, 33). Even though there were many skeptics when Mr Wolfensohn made this announcement, by the end of the 1990s most companies such as Microsoft were following them. A lot of companies such as Arthur Andersen, Booz-Allen and Ernst and Young started receiving a lot of business from big businesses trying to implement knowledge management programs (Uriarte, 2008, 37).

The first generation of knowledge management was when most initiatives and programs had very limited success. It started to look like knowledge management was only great in theory but wasn't applicable in reality (Uriarte, 2008, 38). However, upon further scrutiny, firms realised that it was the way they were approaching knowledge management that was flawed instead of the concept itself. Individuals and organisations focused primarily on the capture of experiences as well as information and make it easy to access to other individuals within the organisation. As a result, knowledge management in the first generation was mainly about knowledge capture (Uriarte, 2008, 41). The first generation of knowledge management also obsessively focused on the technology more than anything else. Their concentration was also just on managing the knowledge and not the lifecycle of the knowledge.

The first generation's way of doing things didn't yield a lot of positive results so the second generation wanted to change this. After the millennium, theorists started to look closely at the way in which knowledge was now only produced but distributed

as well (Uriarte, 2008, 41). Researchers found a link between management and the learning theory, organisations were now being viewed as entities that could learn, after recognising the error the first generation had made, the second generation shifted their focus from technology to people, their behaviours and ways of working (Uriarte, 2008, 41).

1.5 Definitions of Knowledge Management

Several researchers such as Dalkir (2005), Salama (2017) and Demchig (2015) all agree that there is no one definition of knowledge management that is universally accepted. Each author or writer has their own way of defining knowledge management depending on their way of looking at it.

According to Sagsan (2009) Knowledge management is a process where by knowledge in organisation consist of systems of innovation, knowledge processing, knowledge storage and knowledge implementation following a procedure for the purpose of making profit and creating a competitive edge.

Uriarte (2008, 14) simplifies it by saying knowledge management is just the conversion of knowledge from tacit to explicit and dispensing it within the company. Uriarte (2008, 14) however notes that if put into more technical terms, knowledge management can then be defined as an organisation's process of generating value using their knowledge and intellectual based assets. When knowledge is defined in the more technically accurate way, it becomes clear that knowledge management is more than just converting knowledge. It shows that it is about identifying, obtaining, dispensing and maintaining knowledge that is important for a company's strategic advantage (Uriarte, 2008, 14). Gupta, Iyer, Aronson (2000) also define knowledge management in a very similar way to (Uriarte, 2008).

Dalkir (2005, 3) however, states that even though there's no one definition that experts can agree on, a good definition should include both the acquiring and sharing concept of knowledge management along with the value of the intellectual assets. A simplified version of a good definition would be the one of Demchig (2025) who defines knowledge management as:

“deliberate activities taken to handle organization's resources more efficiently in order to improve its performance.”

Another example of a good definition according to Dalkir (2005, 3) would be:

“Knowledge management is the deliberate and systematic coordination of an organization’s people, technology, processes, and organizational structure in order to add value through reuse and innovation. This coordination is achieved through creating, sharing, and applying knowledge as well as through feeding the valuable lessons learned and best practices into corporate memory in order to foster continued organizational learning”

Other experts look at knowledge management from a broader perspective. This results in a number of diverse definitions of knowledge management that are focusing on a certain aspect of the topic (Uriarte, 2008, 13). For example, one might look at the topic from a results oriented view and define knowledge management as having the correct knowledge at the right time and place in a format that is right for the setting (Benjamins, 2001). Another way of looking at knowledge management is from a process oriented view. A process oriented definition would then be the management of processes that identify, form, apply and distribute knowledge (Benjamins, 2001). Uriarte (2008) identifies another aspect of knowledge management, technology. When experts define knowledge, management based on technology they may present a formula. This formula would be business intelligence plus teamwork plus search engines along with intelligent agents would equal knowledge management.

Despite the different definitions of knowledge management, all experts agree that the concept helps organisations to arouse innovation, improve client services, as well as achieve business superiority by accumulating and improving the use, accessibility and availability of knowledge (Demchig (2015, 1).

1.6 Knowledge Management concept

As discussed earlier in section 2.1 of this paper, the economy is now knowledge based. Most companies have knowledge that if used correctly can give them a competitive edge over other companies (Zaied, Hussein and Hassad, 2012, 27). Therefore, how the companies improve their capabilities as an organisation to not only boost their external competitiveness as well as increasing their internal

performance is a huge issue (Zaied, Hussein and Hassad, 2012, 27). This is where the concept of knowledge management provides an effective solution.

Wiig (1995) states that the aim of knowledge management is to help an organisation act intelligently so that it can secure its success while realising the intrinsic value of its knowledge assets. Uriarte (2008) also states that the concept of knowledge management is for an organisation to acquire information and share it to further its objectives. Some features of this concept include data warehousing, which is gathering information from various sources and it is stored in a large server. Another feature is data mining. Data mining is the analysing of data for relationships that have not been identified (Uriarte, 2008).

1.7 Importance of Knowledge Management

Knowledge management is one of the most important aspects in organisations and workplaces today because of these four major drivers - globalisation, organisations becoming leaner, advances in technology and corporate forgetfulness (Dalkir, 2005, 18). Organisations today exist in different places around the world and as a result they are more multicultural and multilingual in nature (Dalkir, 2005, 18). Organisations are also getting leaner. They are doing things faster and doing more than in the industrial era but working smarter with knowledge workers. The workforce is also more mobile as they are no longer expected to be with the same firm forever. This means that organisations now struggle with knowledge continuity and therefore suffer from corporate amnesia (Dalkir, 2005, 18). Lastly, because of technological advances, connectivity has become global and the expected response time has dropped down from weeks to minutes. Individuals are expected to always online all the time and be aware of any developments as it happens (Dalkir, 2005, 18)

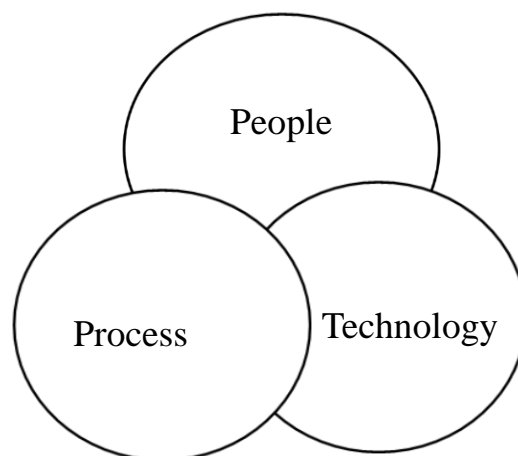
These four major areas have made knowledge management more crucial now compared to the industrial era. The concept deals with the preparation of programs and policies that enables a company to keep pace with the dynamic environment (Hama, 2016, 17). Uriarte (2008, 18) also states that managing knowledge is a critical and necessary skill for fostering innovation in the workplace and for decreasing the number of workers.

Hama (2016, 18) states that knowledge management solves most of the problems faced by organisations. It helps to reduce costs, wasted time or money and lack of efficiency by converting internal and external knowledge to be used in different departments. It helps organisations maintain and improve their performance based on knowledge and experience (Dalkir, 2005, 19). Knowledge management also determines how knowledge is extracted, the quality and amount of the knowledge and the speed at which it will be distributed (Hama, 2016:18). This in turn improves the decision-making process. Decisions are made more efficiently and require less human power. More importantly, it helps organisations move from the industrial era to the new knowledge based economy (Dalkir (2005, 19); Uriarte (2008, 19); Hama (2016, 18).

1.8 Knowledge Management Components

There are three basic components and they are processes, people and technology and they are shown in Figure 2.1 below (Gunjal, 2005, 40). The interaction between these three elements determines the nature, shape and scale of knowledge.

Figure 2.1 – Knowledge Management Components



Source: Gunjal (2005, 40).

1.8.1 Process

The process plays a key role in the development of programs that encourage sharing knowledge and creativity (Zaied, Hussein and Hassad (2012, 28); Hama (2016, 19)). The process also determines the functions as well as the role and overall participation in the management of knowledge programs. Gunjal (2005, 40) and Hama (2016, 19) both agree that the process components involve standard processes for creating knowledge, content management, recovery, methodology as well as standard ways to document case studies and best practices. Gunjal (2005, 40) however clarified that it is vital for processes to be as simple and concise as possible so that they can be understood by all stakeholders.

1.8.2 People

People possess knowledge making them the most important component of knowledge management. The primary source to distribute knowledge from tacit to explicit knowledge within their organisation is people (Hama, 2016, 20). The purpose of individuals in this context is for them to be a knowledge management worker, an operator of information systems, an employee of research as well as development, manager of other workers and departments, team leaders and stakeholders of knowledge management processes (Hama, 2016, 20). To effectively manage knowledge, businesses must rely on people to manage the processes and systems.

1.8.2 Technology

The creation, gathering, publication and storage of knowledge is done using technology. Technology plays a key role in managing knowledge. It helps to standardise, enable, speed as well as simplify knowledge management processes through generating and analysing, sharing and storing, transferring and applying search and recover programs (Hama, 2016, 20). IT knowledge is therefore, something an organisation is always striving to increase.

1.9 Capability

Generally, capability is defined as an individual or an organisation's ability to perform a task or do something in particular. This can be an organisation's capability to employ more people or an individual's ability to read a book faster than the average person. The extent of these abilities depends on the organisation or individual's effort to nurture those abilities. How a person or organisation nurtures those abilities is completely exclusive to them and their goals.

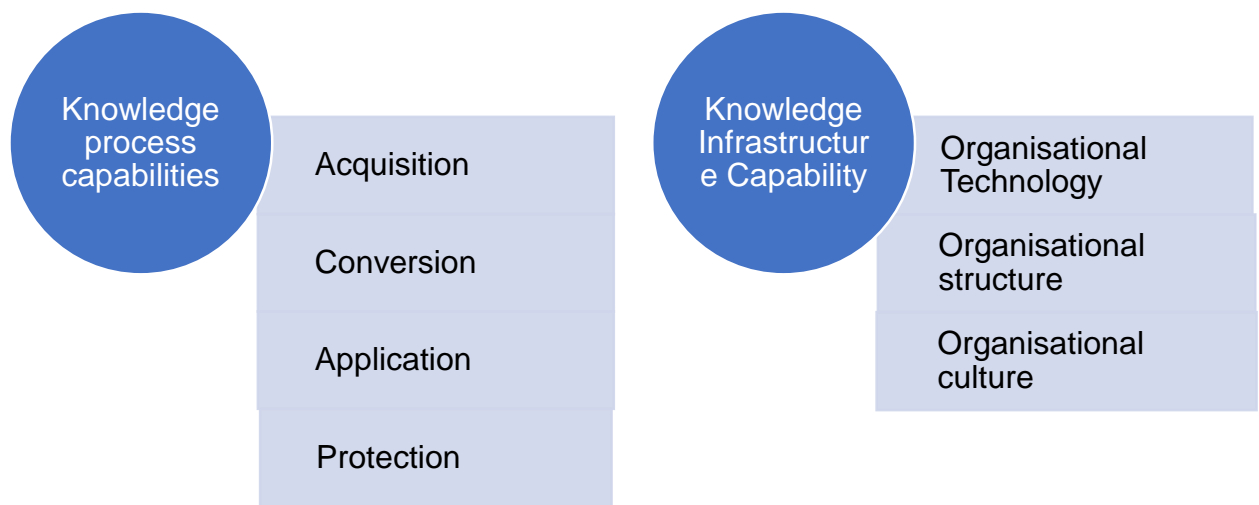
The formal definition of capability is the strategic skills needed to consolidate and apply a project or task successfully (Dalkir, 2005, 17). Capabilities are things that a person knows how to handle very well. The capabilities can be classified as firm competencies under the right conditions. They are possible core competencies and for their potential to be realised, solid knowledge management practices are needed (Dalkir, 2005, 17). Dalkir (2005) state that if a valuable capability is not shared among the employees, the organisation will be very vulnerable should the employees with the valuable capabilities leave.

Capability is a measure of the capacity of an entity within an organization, person and system to achieve its objectives, specially in relation to its overall mission.

1.10 Knowledge Management Capability

Knowledge management capability is an organisation's capability to obtain, create, dispense, integrate and apply knowledge that is related to activities as well as resources across different functional boundaries to produce new knowledge (Chuang (2004); Lee and Lee (2007); Tseng and Lee (2014). According to Yang and Chen (2007), this enables the organisation to not only improve its effectiveness as an organisation but also to increase its sustainable competitive edge. Knowledge management capability can be divided into two – knowledge process capability and knowledge infrastructure capability (Gold, Malhotra and Segars, 2001).

Figure 2.2 – Knowledge Management Capabilities Framework



Source: Constructed from Bharadwaj et al. (2015:423)

Figure 2.2 above shows the knowledge process capabilities and knowledge infrastructure capability and the different elements in them. The former includes acquisition, conversion, application and protection while the latter includes technology, organisational structure and organisational culture (Bharadwaj et al., 2015, 422; Salama, 2017).

In order to effectively compete with others, companies must leverage knowledge that's already available to create new knowledge that puts them in a better position in the market. To make this possible, companies must develop the ability to use previous knowledge to identify the new information's value, adjust it and apply it to produce new knowledge and capabilities (Bharadwaj et al., 2015, 422). The three knowledge infrastructure capabilities enable the firm to complete their goal of maximising social capital (Gold et al., 2001).

To leverage infrastructure, the processes of knowledge management should be available to store, alter and distribute the knowledge throughout the firm (Grant, 1995; Nonaka and Konno, 1998). These processes allow the firm to obtain, restructure and transfer knowledge in the most efficient way possible. Together, knowledge management infrastructures and processes give a useful theoretical

foundation that define significant aspects of the effectiveness of knowledge in a firm (Bharadwaj et al., 2015, 422).

1.10.1 Knowledge Process Capability

Knowledge intensive companies gain their wisdom and knowledge via their business activities. Given that the current global market is competitive, adhering to inflexible and indirect ways can help them to build an environment that enables knowledge management to flourish (Zaied, Hussein and Hassad, 2012). However, it can limit their ability to make knowledge a strategic asset and thus, creating a big corporate problem. Therefore, knowledge management processes are looked at as those that would help to build knowledge as a strategic asset which coupled with infrastructure capabilities will drive firm performance and knowledge effectiveness (Bharadwaj et al., 2015, 426).

Knowledge processes that are very distinct are formed in a life cycle model that allows further analysis of requirements for the support of managing knowledge every step of the way (Gold et al., 2001). The fact the firms use both external and internal knowledge sources is used to create the processes in a knowledge management lifecycle (Zaied et al., 2012). Knowledge must be made available to every concerned person in the firm. Therefore, a knowledge management cycle starts with acquisition of knowledge that must be organised, recorded and/or formalised to transform it to a form that's reusable (Bharadwaj et al., 2015, 426). After it has been transformed, it must be shared with everyone within the organisation. After distribution, its then used by everyone to accomplish company goals (Gold et al., 2001). Gold et al. (2001) grouped this process into four dimensions – acquisition, conversion, application and protection.

Withn an organizations knowledge processes inevitably plays vital role. Organisation 's process are focused towards obtaining, sharing, storing, and using knowledge. Knowledge is applied to formulate and refine the requirements, strategies and processes advanced to execute duties within the organisation.

1.10.1.1 Acquisition

Acquisition can be used to mean buying or getting an asset such as land or shares. It can also mean developing or learning a new hobby or skill. In the knowledge process capability concept, acquisition is the first step and this involves obtaining the knowledge that will then be converted, applied and stored.

Acquisition knowledge management processes are oriented towards getting knowledge. However, before knowledge is acquired, the firm must have a detailed account of the knowledge it has available and existing knowledge gaps. This process is called knowledge audit. Simultaneously with knowing its current knowledge status, a firm ought to make efforts to get knowledge and produce new knowledge by using the same processes and tools (Bharadwaj et al., 2015, 427). There are many words that can be used to describe this process, such as, identify, seek, capture and obtain. Despite the different names, they all have a mutual theme – knowledge accumulation. Knowledge can also be created from existing knowledge and this is known as innovation. Innovation is another facet of knowledge acquisition. This facet of acquisition requires intensive effort in addition to a lot of experience in identifying and capturing new knowledge (Drucker, 1966). Creating new knowledge requires collaboration either between the organisation and its network of business partners or just amongst individuals (Inkpen and Dinur, 1998).

Another aspect of acquisition is effectively using existing knowledge and finding more innovative ways to create new knowledge. Benchmarking and collaboration are just two of the different ways an organisation can ensure it is effectively using knowledge already circulating while creating some of their own (Gold et al., 2001, 190). Benchmarking is when an organisation compares itself against the industry titans. This enables the company to not only discover other great knowledge management practices other organisations have but it also helps it fill any gaps they might have in their own existing knowledge management practice. Once these differences have been identified, the organisation can then use this information to restructure their existing knowledge (Gold et al., 2001, 190).

As mentioned throughout this paper, knowledge sharing is important for a company looking to improve its performance. This is because knowledge can be created

through not only sharing existing knowledge but also sharing personal expertise and experiences (Gold et al., 2001, 190). For knowledge to be efficiently shared it requires collaboration and this happens on two levels. The first level is sharing knowledge between individuals or employees either from the same department or from different departments (Davenport and Klahr, 1998). This type of knowledge brings different individual aspects or preferences such as preferred tools and methods and even cognitive styles coupled with different experiences as well as cultural backgrounds into a melting pot to create new knowledge or find another way of applying existing knowledge (Gold et al. 2001, 190). When individuals work as a team and collaborate, they not only create new knowledge but it also creates a personal learning experience for the individuals (Inkpen and Danur, 1998).

The other level of collaboration is a company sharing its knowledge with another firm/s (Leonard, 1995). According to Grant (1995) collaboration between firms is important for the effective acquisition of knowledge. Inkpen and Danur (1998) show that joint ventures or partnership between companies that enable the sharing of technology and sometimes even personnel, assists in not only creating knowledge but also accumulating it for future use. However, Gold et al. (2001, 190) states that an organisation's absorption capacity will partly determine its ability to obtain knowledge as not all organisations have the required skills and expertise to innovate and create new knowledge.

1.10.1.2 Conversion

The art of changing a variable from one state to another different state is known as conversion. For example, changing water to ice is a form of conversion. The same concept is applied in knowledge management. Knowledge can be converted from tacit to explicit knowledge or vice versa. Knowledge is converted for different reasons. In some cases, it converted from one form to another to make it easier to apply at different levels of the organisation and in other instances it is to make the knowledge easier to distribute. Whatever the reasons, this process of converting knowledge from one state to another is what is known as conversion.

Zaied et al., (2012) describes conversion as the process of changing knowledge obtained from both internal and external sources into useful forms that can be applied to improve business performance and productivity. Gold et al., (2001, 191) adds on by saying that the main use of conversion-oriented processes is to make knowledge useful. Knowledge doesn't have any value if it can't be used productively. To effectively convert knowledge, an organisation must be able to organise, combine, construct and manage or distribute the knowledge (Gold et al., 2001, 191). It is therefore paramount that an organisation has a stable framework at hand that deals with the restructuring of its knowledge assets (Davenport and Klahr, 1998). According to Gold et al., (2001) if this common framework doesn't exist, there won't be any common knowledge dialogue within the organisation and it would be very difficult to manage.

According to Sa'nchez and Palacios (2008) knowledge conversion can be viewed as a social process whereby individuals that possess different knowledge within them come together to share and possibly create new knowledge or make their knowledge a different form. This is when individuals meet and exchange tacit knowledge or convert it to explicit knowledge. This process can be done by organisations as well and it enlarges the accumulated knowledge and enhance the organisation's performance.

The different departments within an organisation can gather their own knowledge and keep it in their respective departments. The knowledge must be consolidated to not only avoid misrepresentation of the organisation to the outside world but to also reduce redundancy. Most importantly, the knowledge must be combined so that everyone within the organisation is working towards the same goals with the same information (Davenport and Klahr, 1998). Consolidating the knowledge should also be done to replace outdated knowledge and make the organisation run more smoothly and effectively. Gold et al., (2001, 191) states that as a result, the organisation must make knowledge consolidation a top priority.

1.10.1.3 Application

When an individual or employee is looking to get a new job or a promotion, they put in a formal request to be considered for that particular position. This is known as an application. In knowledge management however, the term application means something different. The first two steps of knowledge process capability involve getting the knowledge (acquisition) and changing it into a useful form (conversion), this third step involves actually using the knowledge that has been acquired and converted.

Application processes are procedures focused on knowledge usage. A great knowledge management is useless if workers aren't using the same knowledge and aren't able to see the impact of knowledge assets on the business (Zaied et al., 2012). However, Gold et al., (2001, 191) states that even though using knowledge is vital to a company's efficiency, very little research has been made on the different outcomes if knowledge isn't used effectively. Most organisations, if not all, just think that effective knowledge application is implied and there's no need to explicitly look at it and work at improving it if need be (Gold et al., 2001, 191). Nonaka and Takeuchi (1995) concur by saying that an organisation has an ability to create knowledge but after the creation of knowledge, effective application of the knowledge is then assumed.

In order to have a competitive advantage over other companies, an organisation must be able to locate or create, structure and apply knowledge efficiently. To do this, effective storage systems have to be put in place so that employees can quickly access the knowledge and use it effectively (Gold et al., 2001, 191). More importantly, this knowledge as well as any expertise acquired from using this knowledge must be shared.

It is critical for knowledge management to help the company to use the obtained knowledge to adjust if need be the strategic direction of the firm, solve problems while improving efficiency (Bharadwaj et al., 2015, 427). A regular review is, therefore, essential to know what has not worked and what has during the knowledge management lifecycle. This also helps organisations to get rid and replace outdated knowledge (Bharadwaj et al., 2015, 427). Davenport and Klahr

(1998) go on to say that effective application is very important as it not only reduces redundancy and costs, it improves a firm's efficiency and performance.

1.10.1.4 Protection

Protection can come in various forms such as how most houses have alarms or gates to protect the people from outside threats. The same concept is applied in this knowledge process capability aspect. Protection involves making sure that the knowledge acquired, converted and applied within the organisation is safe from outside forces or individuals that should not have access to it. Zaied et al. (2012) defines protection as the process of securing knowledge assets and keeps it safe. It is only accessed by individuals that are authorised to access that information.

Of course, knowledge should be shared within an organisation and its vital for its efficiency and performance but for the knowledge to be an asset and provide the company with a competitive edge, there's some information that should not be shared with the public and sometimes even with the employees (Gold et al, 2001, 192).

For example, the reason why most businesses like Coca-Cola and McDonalds' are still successful after decades of being in business is because very few people know the secret ingredient in their products. If these organisations didn't protect some of the vital knowledge they know from illegal use, a number of companies would have tried to imitate their products by now and they would have lost their competitive edge. Protection also doesn't necessarily mean completely restricting access to the knowledge. Firms can also choose to share their knowledge assets with the very few members of the public that they feel have the same values as them through a private equity sell for example.

Protection isn't however just restricted to organisations. Individuals also protect their privacy or information they feel would make them lose their competitive advantage over other individuals. For example, if an individual finds a way to make a lot of money they rarely share it with the world. Another example is artists who keep their music or movies private until they are ready to release them to the world. If they

didn't protect the knowledge they converted to a piece of art such as a song or movie, they would not only lose money from the project but it would devalue their brand. Therefore, it is vital for knowledge to be protected (Porter-Liebskind, 1996).

Even though many researchers such as Zaied et al. (2012) and Porter-Liebskind (1996) state that knowledge protection is a key element in improving performance and having a distinct competitive advantage, there's not a lot of literature on the topic (Gold et al., 2001, 192). Many individuals and practitioners assume that patents and trademarks can provide adequate protection. However, Porter-Liebskind (1996) states that because not all knowledge assets can be properly defined, let alone be defined to fall under a certain category protected by property rights or laws, these types of knowledge assets are left exposed.

As a result, companies should take actionable steps to protect their knowledge by redesigning jobs, having employee conduct rules in place or aligning incentives (Gold et al., 2001, 192). Also with the improvement of technology, organisations can now track the access and use of important knowledge within the firm as another actionable step to protect their knowledge (Gold et al., 2001, 192). Protecting knowledge might be difficult but it is important if a company wants to keep the elements that make the knowledge vital. The more unique or rare a piece of knowledge is, the more value it brings to an organisation (Gold et al., 2001, 192).

1.10.2 Knowledge Infrastructure Capability

According to Zaied et al. (2012) the knowledge management infrastructures are the instruments used by an organisation to grow its knowledge and kindle knowledge creation along with sharing and protecting it within the firm. The knowledge management infrastructure capabilities are divided into three: technology, organisational structure and organisational culture as shown in figure 2.2 above (Bharadwaj et al., 2015, 422).

In an organisation setting, knowledge infrastructure capabilities, are restructured or changed when they are no longer able to adequately provide their core functions which are to coordinate, direct and control, when the structure of the organisation or

its processes are changed (Paisittanand, Digman and Lee, 2007, 388). As a general system, organisational programs or activities need an infrastructure because it is fundamental to its function. Some scholars that specialise in strategy implementation even suggested that infrastructure is a supportive capability when implementing knowledge management activities (Paisittanand, 2007, 388).

The role played by a control system that's formal in an implementation strategy process was studied by Daft and McIntosh (1984). In their study, they found that a more formal control system helps the organisation to effectively manage their inputs, outputs and control their functions as well (Paisittanand, 2007, 388). Broadbent et al., (1999) propose that knowledge infrastructure capability is very fundamental a business process' architecture. An appropriate infrastructure capability is also very important in an organisation's task to be better than its competition.

Every organisation has its own unique goals and strategies in place and an effective infrastructure will help them achieve their objectives more efficiently. A poor knowledge infrastructure has the potential to hinder any knowledge management practice or strategy to be implemented which consequently affect the organisation's performance.

1.10.2.1 Organisational Technology

Over the last few decades, technology has been significantly evolving and constantly improving. Technology now affects how, why, what and when everything is done. It has become a huge part of not only people's lives but organisations too. In knowledge management terms, this paper defines technology as that division of knowledge that specifically uses advanced machinery or devices engineered from scientific knowledge, for example smartphones or laptops and desktops. However, technology does not only consist of hardware, it includes software too such as applications and programs that enable the devices to be used efficiently. An example of this is Microsoft Windows, Linux and Android just to name a few.

Gold et al. (2001) and Zaied et al. (2012, 28) refer to technology as a technical system found inside an organisation. This system determines how knowledge is dispensed in the firm and how it can be accessed. Technology has no physical

limits and can overcome space and time barriers that would have otherwise been limiting factors in knowledge management activities. It is a crucial element that is vital in creating new knowledge through mobilising social capital. Fragmented flows of knowledge and information can be integrated through linking forms of communication and knowledge (Teece, 1998). Barriers to communication that occur naturally within the organisation can be eliminated by linking knowledge and communication systems (Gold et al., 2001, 187). Technology is multifaceted, therefore, an all-inclusive technological structure that supports the different types of knowledge and forms of communication is important in an organisation.

Technology also acts as a storage unit where knowledge can be kept and efficiently recovered (Chua, 2004). The technology infrastructure used in Organisational Knowledge Management Systems (OKMS) is touchable and acts as a helper to carry out knowledge management activities in the company (Bharadwaj et al., 2015, 422).

Technology infrastructure is made up of software, hardware, middleware and protocols that allow for programming and exchanging knowledge electronically. According to Bharadwaj et al. (2015, 422), OKMS is made up of four types of technology infrastructure. The first one is knowledge-oriented technologies, these are your web browsers and groupware that process knowledge work and enable knowledge to be shared within the company (Bharadwaj et al., 2015, 423).

The second technology infrastructure is the function-oriented technology. These include robotics, office automation and desktop computers that support the day-to-day activities like processing data, knowledge creation and sharing the knowledge while collecting more data (Bharadwaj et al., 2015, 423). Another technology infrastructure is the specialty-oriented technology. These support highly specific functions in the organisation and generally require a lot of expertise. For example, expert systems software and computer aided manufacture (CAM) or computer aided design (CAD) (Hibbard, 1997; Davenport, De Long, and Beers, 1998). The last technology infrastructure is the social networking technology. This type of infrastructure is used with internet and it carries out information throughout the organisation (Nieves and Osorio, 2013; Panahi, Watson and Partridge, 2013).

Knowledge management solutions are built using technology infrastructure as a foundation. It includes storage for structured data such as data warehousing, management and generation. It also houses unstructured data such as documents and manages the content (Bharadwaj et al., 2015, 423). The groupware is part of the infrastructure as it supports the partnership needed to effectively share knowledge. Yeh, Lai and Ho (2006) go on to say that information technology that supports and organises knowledge management include knowledge platforms, databases, integrated performance support system and performance evaluation management system. Information technology helps knowledge management in four major ways. Firstly, it acquires the knowledge, the knowledge is then defined, stored, categorised, indexed and linked to digital items that are related to knowledge (Bharadwaj et al., 2015, 423). Thirdly, information technology seeks and identifies content that's related to each other. Lastly, information technology expresses the content to fit different utilisation backgrounds (Bharadwaj et al., 2015, 423).

OKMS that are technology-centred use one technology or blend several key technologies like messaging, web browsers, document management, groupware and push technology, just to name a few (Bharadwaj et al., 2015, 423). The internet and intranet are the most common form of infrastructure and they play a crucial role in the management of knowledge.

Leonard (1995) and Gold et al., (2001, 188) states that there are different technological dimensions that make an effective knowledge management system. These include knowledge discovery, opportunity generation, business intelligence, distributed learning, knowledge mapping, collaboration as well as protection or security. Knowledge discovery is self-explanatory, these are technologies that enable a firm to both internally and externally identify new knowledge. Technology also allows for the tracking and accumulation of knowledge about customers, suppliers, business partners and other stakeholders, this is known as opportunity generation (Gold et al. 2001, 188).

Another dimension of technology is business intelligence, this allows companies to gather knowledge or information about the global economic environment as well as its competition. Technologies that are geared towards distributed learning and

collaboration enable firm personnel to form relationships and partnerships with other individuals from other departments or companies. This eliminates geographical or structural restrictions that may have made this communication impossible (Leonard, 1995). Technology can also be used to track sources and forms of knowledge within an organisation. This creates a database of the existing knowledge and this is known as knowledge mapping (Gold et al., 2001, 188). Knowledge mapping makes it easier to get rid of outdated knowledge and reduces redundancy.

In addition to all the above, organisations should ensure that all the knowledge that put effort into creating and applying in the organisation to create a competitive advantage is safe. Technology based systems are a great way of protecting knowledge as there are more available options now. In the old days, knowledge was kept in files kept in a storage room under lock and key. In the 21st century, with the advancement in technology one can opt to keep the information in a machine or device that is password protected. Nowadays one can even individualise their device so that on top of a password one would need to provide their finger prints or have voice activated passwords to ensure that their knowledge can only be accessed by them and other intended people. Knowledge can also be kept safe in a file hosting service such as Dropbox and Google Drive which allow the knowledge to be accessed from anywhere in the world by its intended users.

1.10.2.2 Organisational Structure

The structure of an organisation is usually individualised to suit that a company's personal needs and goals. Generally, it provides clarity within the organisation as it states what each job entails and at what level within the organisation hierarchy it is and who the holder of that job reports to. Therefore, every employee goes in knowing where they stand within the organisation.

Burns and Stalker (2009) state that to control their activities an organisations need different kinds of structure that will allow the organisations to adapt and react to changes and uncertainties in the environment. Changes in the environment can be analysed through a PESTEL analysis, where changes in the factors found in the

PESTEL analysis may either stabilize or destabilize the environment of a given company.

Organisations facing a dynamic and uncertain environment may have to develop or maintain an organic organizational structure, whereas companies operating in a stable environment may benefit from developing or maintaining a mechanistic organizational structure (Burns and Stalker, 2009).

Structure is defined as processes, procedures, policies and rules, incentive systems, pecking order of reporting relationships and departmental limits that form designs inside the organisation (Gold et al., 2001). Maturana and Varela (1980) state that structure is the actual dynamic or static mechanisms in addition to the relationships between them. Organisations often group their workers based of work process as well as function, skills and knowledge, output, time or place (Mintzberg, 1994). A company's structure is mostly determined by the diversity within the environment.

Organisational structure is defined as the description of jobs to be done in an organisation and the relationship amongst the jobs (Mintzberg, 1994). For a successful knowledge management implementation, organisational structure is the second most important element (Gold et al., 2001). Holsapple and Joshi (2000); Bose (2004); also concur with Gold et al. (2001), their studies also site structure as one of the critical factors for knowledge management.

Structure is meant to rationalise individual units or functions in a company but often it has the unintended consequence of hindering partnership and knowledge sharing across firm boundaries (Gold et al. (2001, 188), Bharadwaj et al. (2015:424)). O'Dell and Grayson (1998) give an example of how organisations that have structures that foster individualistic behaviour such that locations and divisions are put in place so that employees keep information to themselves, hinder knowledge to be managed effectively across the whole organisation. Initially these organisations would be wanting to optimise knowledge sharing. This may be effective in the short term but in the long run it has a negative effect on all the other business components which will impede the business as a whole.

It is, therefore, important for organisational structure to be flexible and not as rigid, to encourage partnership and sharing. Over the years, managers have realised that rigid bureaucratic structures tend to restrict the flow of information and slow down some processes (Bharadwaj et al., 2015, 424). As if that's not enough, these types of procedures often take a lot of time for knowledge to filter through every level within the organisation (Bharadwaj et al., 2015, 424). As a result, researchers such as Omar and Rowland (2004) and Al-Alawi, Marzooqi and Mohammed (2007) argue that knowledge sharing thrives if it is supported by a structure that allows information to flow smoothly between divisions.

This paper does not want to promote one form of organisational structure over the other but to effectively manage knowledge, Gold et al. (2001) state that there are two organisational structures that have stood out from the rest. Sanchez and Mahoney (1998) provide a system based approach that uses a modular product design coupled with an organisational structure with a modular design. They argue that this form of organisational structure has a lot of strategic flexibility because it reduces synchronization as well as adaptation costs (Gold et al., 2001, 188).

Another organisational structure identified by Gold et al. (2001, 188) as a distinct structure is the hypertext structure developed by Nonaka and Takeuchi (1995). Their organisational structure allows up to five stages of knowledge creation processes to effectively occur within the organisation. Gold et al. (2001, 188) states that generally this type of organisational structure is a combination of an informal self-organising structure and a more hierarchical formal structure. However, the same structure can be recreated through implementing a formal organisational structure but adding elements of flexibility into it (Gold et al., 2001, 188).

The channels as to which knowledge will flow through and how it will be accessed can be determined by a number of factors (Leonard, 1995). These include the organisation's way rewarding employees and what and how they incentivise their workers accompanied with existing policies and procedures. These factors can hinder the effective management of knowledge. One way of dealing with this is structuring or restructuring incentives programs so that the creation and generation of new knowledge is sufficiently rewarded (Gold et al., 2001, 189). O'Dell and

Grayson (1998) concur and add that even the sharing of the created knowledge with other individuals in other departments or functions should be incentivised.

Overall, Gold et al. (2001, 189) a firm's organisational structure, incentive programs along with structural dimensions in knowledge management make an organisation's all-inclusive knowledge management structure.

1.10.2.3 Organisational Culture

Individuals are generally raised in a family or environment with specific beliefs, ideas, idioms and other customs that form a certain culture which forms their habits and experiences. Every culture is different and unique. The culture of an organisation is also formed the same way and is mutually exclusive to that company. No organisational culture is the same. Standing C and Benson S, (2000) highlighted that knowledge management initiatives and implementation affect the organisational culture through cultural transformation depending on the impact of the knowledge management expected.

To efficiently leverage knowledge management, organisational culture is very important. According to Bharadwaj et al. (2015, 425), it is considered to be both an enabler and an inhibitor for knowledge management to be effective. The culture of an organisation has a key influence on knowledge management, more precisely, on the effectiveness of knowledge in an organisation (Chase, 1997 and Holsapple and Joshi, 2000). Li et al (2011) states that organisational culture has a greater influence on the profitability, customer satisfaction, employee satisfaction and the firm's performance. They also alluded that there is what they called knowledge-centred culture is defined by the employees values and norms that leads to organisational knowledge.

The term culture was first given a formal description by Tylor (1871). Tylor (1871) defines culture as

‘that complex whole which includes knowledge, belief, art, morals, law, custom, and any other capabilities and habits acquired by man as a member of society’.

Organisational culture is similar to societal culture which the organisation operates within (Steven, 1989). This point of view considers organisational culture as a micro-culture within the culture of a certain nation or society. Many authors have since then defined organisational culture as a mix of value, behaviour model, core belief and emblem. Organisational culture represents the value system of a firm and will become the workers' norm. Innovation is nurtured through the interaction of individuals. Communication between organisations, departments and individuals is the foundation for creating new ideas, therefore, it has the potential to create new knowledge (Leonard, 1995).

A firm's organisation culture is a unique entity that is different from other organisations (Yeh et al., 2006). Lemken, Kahler and Rittenbruch (2000) state that an organisation's cultural elements may differ from their respective societies. Although there might be differences between one's personal culture and organisational culture, it is imperative that employee interaction is encouraged both informally and formally. This ensures that contacts, perspectives and experiences are not only shared by people that share the same culture or that are within the same department but rather with everyone in the organisation (O'Dell and Grayson, 1998). Nonaka and Takeuchi (1995) state that this type of interaction is very important as it enables tacit knowledge to be converted to explicit knowledge or for tacit knowledge to be shared among individuals.

Essentially, it facilitates individual knowledge to be turned into organisational knowledge (Inkpen and Danur, 1998). A good organisational culture also allows individuals to have the ability to create their own personal knowledge sharing network and be able to organise their own knowledge themselves. They should also be able to find solutions to problems that might arise along the way and come up with innovative ideas to use existing knowledge or create new knowledge (Gold et al., 2001, 190).

Given that organisational culture plays a crucial role in knowledge management, it is imperative to know how to develop and influence knowledge culture within an organisation. Knowledge culture is defined as a way of organising life that facilitates and motivates people to create, share and use knowledge for the greater good of

the organisation . The existence of a knowledge culture is important for knowledge management to be successful in an organisation because it signals a managerial commitment to knowledge management activities and fosters the sharing of tacit knowledge to improve the quality of decision making (David and Fahey, 2000).

D'Aveni (1995) and Leonard (1995) argue that corporate vision is a crucial element of organisational culture. An organisation's vision is its road map of what it wants to achieve in the long-term and sets out its future goals and objectives. A good company vision is one that penetrates through the entire organisation and motivates employees to work beyond their job descriptions and day-to-day activities, giving them a sense of belonging and purpose (Leonard, 1995; Gold et al., 2001, 189). Overall, a company's vision is supposed to provide a clear and concise purpose for the organisation and any problems that arise should be sorted making sure that the organisation remains on the same course (Gold et al., 2001, 189).

A company's vision does not only include a written statement that is usually hanged in the company foyer but it should also incorporate an organisational value system (O'Dell and Grayson, 1998). More importantly, employees should feel like they are involved and contribute in the fulfilment of the company's vision (O'Dell and Grayson, 1998: Gold et al., 2001, 189).

A company's vision is coupled with a system of a firm's standards or values which the type of knowledge is required within the organisation and what type of knowledge based behaviour that is encouraged, tolerated and unaccepted in the firm (Leonard, 1995; Gold et al., 2001, 189). Written mission and vision statements explicitly encourage the creation and application of knowledge in an organisation. However, the written values that encourage knowledge related behaviours are trust and openness (Von Krogh, 1998). Generally, the elements of an organisation that promote a healthy and effective knowledge management practice should be emphasised in the organisation's vision and value system (Gold et al., 2001, 190).

1.10.2.3.1 People and Culture

The above discussion about culture has been mainly centred around organisational culture which was in line with the type of knowledge infrastructure capability being

discussed. However, this paper thought it should briefly discuss the relationship between culture and individuals given that the paper is centred around knowledge management capabilities influencing employee performance.

Uriarte (2008, 21) states there's an ongoing debate about which variable or factor influences knowledge management more. Some researchers argue that technology is a top contender. This paper finds it difficult to completely disagree with this statement given the extensive discussion about technology and its importance and uses in section 2.12.2.1.

However, when one thinks about who operates the technology and make it come to life, one tends to sway to say that people are a vital element in the grand scheme of knowledge management. Uriarte (2008, 22) argues that knowledge management practices that are technology oriented tend to often fail. Not to mention, the cost associated with having a technology oriented knowledge management system in place. Of course, technology plays a vital role in knowledge management but there are other important factors as well such as the culture that exists in the organisation and how efficiently the employees are managed (Uriarte, 2008, 22).

As discussed in section 2.4.1 of this paper, tacit knowledge is found within individuals. Sharing of this type of knowledge is vital to the overall success of knowledge management activities or systems (Inkpen and Danur, 1998 and Nonaka et al., 2006). As a result, Uriarte (2008, 22) argues that any deviation from the normal workforce composition can have rather significant implications on the performance of a firms. Zhang (2012) states that therefore, knowledge management processes should not only encompass the material and processes but also the individuals that generate the knowledge. This is what known as the people and culture knowledge management enabler (Uriarte, 2008, 22).

To be an enabler, people and culture need three vital factors and these are the restructuring of organisational structure, human resource practices that correspond with it and an organisational culture that matches (Uriate, 2008, 22).

Organisational structure determines the way decisions are made and by whom. An organisational structure describes the job functions and where they fall in the

organisation hierarchy and make individuals accountable for certain material, resources and personnel too (Uriarte, 2008, 22). Depending on the organisation's goals and objectives, organisational structures vary. Organisational structures are unique to each firm and can be either horizontal or vertical. Given that organisations are geared towards different outcomes, organisational structures are tailored towards that. One firm's structure might be centred around knowledge sharing and another will be leveraged towards improving knowledge management practices. A horizontal structure is more likely to be found in an organisation where innovation as well as creativity is extremely vital to the success of the organisation. In that case, a horizontal structure will empower each individual employee to make them feel like they belong and they are equal which facilitates a teamwork environment that fosters the effective management of knowledge and the sharing of it (Uriarte, 2008, 22).

The second aspect that is vital to people and culture is the management of human resource practices. This includes obtaining or recruiting knowledge workers and then evaluating their performance, developing them and rewarding them for their work (Uriarte, 2008, 22). If these human resource practices are carried out effectively, the impact of not only knowledge creation and sharing as well as knowledge management practices on the firm will be significantly improved (Inkpen and Danur, 1998).

The process of recruiting can significantly contribute to the effective application of knowledge management in an organisation. Nowadays, organisations are implementing backward integration in their recruitment practices. Instead of waiting for students to finish studying and then hope that they hear about their organisation is a thing of the past. They now go to universities and ask students to do their thesis or research projects based on knowledge relating to their organisation (Uriarte, 2008, 22).

This creates awareness to the students about the organisation and ensures effective recruitment the following year. Refining the recruitment process like this ensures that the company hires individuals that have the right knowledge, experience, expertise and mindset that will fit in the organisation (Uriarte, 2008, 22). This allows

the company to hire people that will automatically fit into the organisation's culture and create knowledge that's at par or better than the one that was previously created.

Organisational culture is third component to making people and culture an effective enabler of the management of knowledge. For a reliable organizational culture to blossom, it is imperative that a climate that encourages openness and trust and also nurtures learning and research is not only appreciated but also supported in any way possible. Concurrently, an environment that nurtures knowledge sharing must either be created or maintained within the organisation and the motivation of employees should be made top priority (Uriarte, 2008, 22).

CHAPTER TWO. LITERATURE REVIEW ON EMPLOYEE PERFORMANCE

2.1 Introduction

Companies retire a part of their workforce every year. These individuals will be from different departments and many of them will be managers according to Tajali, Farahani and Baharvand (2014, 59). Therefore, one of the problems an organisation faces will be using these individuals' knowledge prior to them retiring (Khani, 2004). As a result, management of human resources becomes a crucial strategy in every organisation as it can determine how successful an organisation becomes (Whately, 2004, 1).

An organisation's performance depends on the use of employees' explicit knowledge as well as their tacit knowledge. As a result, a proper environment for employees to transfer their knowledge and create sharing conducive relationships between them is important (Tajali, 2014, 60; Whately, 2004, 1). Knowledge management along with other human investment management strategies and management techniques are one of the tools that most firms use to enable employees to communicate, share information and improve the organisation's performance (Far, 2001).

2.2 Definition of Performance

In simple form performance is a process of carrying out a task or a function that could either be work related or in an artistic sense like performing a play or concert. Every job function is different and as a result, their performance is completely subjected to them and their job requirements.

Performance management varies in every organisation, therefore, the measurement of performance and its definition differs from firm to firm. It is, however, important to have a general understanding of the word performance even though it might be difficult to measure or even define it (Whately, 2004, 8). Whately (2004, 8) simply describes performance as the recording of outcomes realised by teams or individuals. However, Whately (2004, 8) goes on further to say that performance is not that simple, it is not only concerned with results but also with the

manner in which the work is done. Brumbrach (1998) agrees with Whately (2004, 8) that both results and behaviour equal performance. The performance of an individual or team is a by-product of their behaviour/s. Behaviour transforms performance from concept into action (Brumbrach, 1998). Whately (2004, 8) also adds on by saying that behaviour is not only an instrument to get results but it is also an outcome on its own and can be independently judged. It is the result of both the physical and mental effort applied to a certain job/activity.

2.3. Performance Management

Performance management is not a relatively new concept in organisations but it has been gaining a lot of traction in the literature. This paper defines performance management as the management of the way employees do their job. Performance management assess whether they are on track with their job descriptions and functions and if they are contributing to the overall performance of the organisation.

Tajali (2014, 60) defines performance management as the assessment of the insight of knowledge as well as the actual capabilities and potential of employees to ensure that there's always a continual improvement of their abilities while creating an environment that encourages teamwork that benefits the organisation. Armstrong (2009, 1) offers a slightly different definition. The author defines performance management as a systematic process that improves an organisation's performance by developing not only the team's performance but also the individuals'. This is done through using an agreed upon framework of set goals, competency requirements as well as other organisation specific standards (Armstrong, 2009, 1).

How a company's human resources perform is at the centre of why some firms fail and why some succeed. Although most firms have a performance management system in place, majority are from having a sophisticated one (Whately, 2004, 1). A periodic assessment of employees' performance and contribution is required for organisations (Whately, 2004, 1). This responsibility is a burden for managers but has serious consequences as explained by Ghorpade and Chen (1995) below:

“Performance appraisal is a serious activity whose conduct is fraught with consequences for both the individual and the organization. From the organization's

perspective, a faulty assessment can result in false positive (rewarding bad performance) as well as false negative (failing to reward good performance) errors. From the individual's perspective, results of performance appraisals have implications for the future relationship with the employing organisations".

Most managers and individuals as well only think about performance appraisal once a year. However, Armstrong (2009, 2) argues that it should be implemented daily by line managers so that it becomes an organic process of management rather than a yearly exercise. To effectively meet the company's goals and targets that will essentially make it successful, performance management must be an on-going process (Armstrong, 2009, 2).

A company's approach to performance management is unique to that organisation as it depends on its structure, technology, growth phase, leadership style, staffing requirements etc. A company's performance management system must be tailored to it as diversity guarantees that performance evaluation and the definition of performance itself is different in each company (Whately, 2004, 1; Kelly, 2012, 11).

Although an organisation should create its own unique performance management system there is a standard framework to which organisations base their performance management systems. Kaplan and Johnson (1987) state that the old traditional management systems are now outdated because they don't give an organisation the ability to acquire relevant information when they want to make decisions. Otley (1999) therefore, suggests that a new performance management system be put in place that can enable organisations to get critical information on time and produce their own.

Otley (1999) argues that for an organisation to say they have an effective performance management system it should play two major roles and they are:

- Ensure employees follow the set policies and procedures every second of the day so that they act in line with the organisation interest;
- Motivate employees to work with the organisation's interests at the forefront.

Neely, Gregory and Platts (1995) also state that there are some actionable processes embedded in performance management that improve performance. Smith and Goddard (2002) also agree that the old traditional management system which was a top down approach doesn't work anymore and they propose that a performance management system should involve elements of the organisational culture, strategy and goals. Bititci, Carrie and Devitt (1997) also mention that performance management should highlight procedures that are planning and review related that are also interlinked to the organisation's mission as well as objectives. Bititci et al. (1997) concur that performance management should include a link between company objectives and strategies along with its anticipated performance.

Performance management has been gaining a lot of traction recently among scholars and they all generally agree that including an efficiency and effectiveness aspect to the concept provides more insight into the performance level of a firm. Research has seen that the traditional management system doesn't work anymore according to Johnson and Kaplan (1987) and Saudi and Haizam (2014, 38) proposes that a new management system should be implemented.

Saudi and Haizam (2014, 38) states that the literature shows that the new performance management system was adopted early by the private sector and then the public sector followed in line. The new performance management system includes things like having a Balanced Scorecard measure and Total Quality Management (TQM). Hood (1995) and Lapsley and Pallot (2000) state that this new performance management has been an effective tool in reforming the government division over the last ten years.

The most successful element of the new performance management is the Balanced Scorecard as it combines both qualitative as well as quantitative measures. The Balanced Scorecard also acknowledges the public's stakeholders' expectations (Saudi and Haizam, 2014, 38). Despite the success of the new performance management in the public sector there's not a lot of research done about the impact.

2.3.1 Types of Performance Management

The following section is going to cover the different types of performance management managers have at their disposal. These include assessment centres, management by objective, 360 degree appraisals, absolute rating techniques and relative rating techniques (Paile, 2012, 14).

2.3.1.1 Assessment Centre

This type of performance management is an all-inclusive method that involves a number of different ways of being assessed. This has an advantage of giving the employee more areas to excel in unlike just focusing mainly on one area of the job that they might or might not be good at. This type of performance management is usually done at an offsite or within the company grounds and can take the whole day because of all the different things that need to be done to provide a comprehensive assessment.

Assessment centres are an evaluation method that involves a standardised appraisal of behaviour using multiple raters and measures such as leaderless group discussions, in-basket questionnaires, simulations, ability tests and personality questionnaires (Erasmus, Swanepoel, Schenk, van der Westhuizen and Wessels., 2005, 279). According to Thornton and Rupp (2006, 4), assessment centres are a flexible and all-inclusive tool that can be used to assess as well develop employees in the global work environment.

2.3.1.2 Management by Objective

Some individuals are goal oriented and so they respond better to being assessed based on specific goals or objectives. The goals and objectives will not just be set by the organisation alone but the employee has an input into goals and objectives they have to meet. Therefore, this concept involves the employee being evaluated according to objectives they are aware from the very beginning.

This type of performance management usually focuses on motivating individual performance but it's processes allow it to evaluate performance as well (Paile, 2012, 17). Management by Objectives (MBO) involves subordinates and superiors jointly

creating, discussing and coming up with an action plan. Supervisors help their subordinates reach the goals they have set and both parties review the extent to which those goals have been achieved (Erasmus et al., 2005, 279). This method of performance management assesses how well employees have accomplished certain goals and objectives that are crucial for the job to be done successfully (Robbins and DeCenzo 1993, 301). Newstrom (2007, 284) concur, they state that MBO provide a different form of results-oriented appraisals as both the supervisor and subordinate agree beforehand on the specific goals that should be met.

2.3.1.3 360 Degree Appraisals

The first two performance management measures, as great as they are in their own way, they have one common element – they are done by one or a group of individuals that are usually the employee's managers or directors or superiors. They evaluate the employee based on how they see the employee as a subordinate and not in another context. The 360-degree appraisal allows the employee to be evaluated not only by their superiors but by other individuals as well that have a connection with the employee.

This type of performance management is defined by Erasmus et al. (2005, 280) as an individual's work performance being assessed by multiple raters or sources. According to Robbins and DeCenzo (1999, 308) the 360-degree appraisal is a performance management that pursues feedback from different sources like team members, peers, bosses, customers, suppliers and even oneself.

Chubb, Reilly and Brown (2011, 15) state that out of 100 employers, about 25 to 33 of them are using this type of performance measurement system or some version of it. They gather information from different stakeholders like customers, business partners, accomplices and colleagues. This information is gathered through both formal and informal ways. The formal way of gathering the information could be using progress reports and an informal way could be using suggestion boxes or books where customers can write whether they were satisfied with the service given to them by the employees.

Finn (2007) argues that for this method of assessment to work, the feedback has to be consistent and more often than not especially if its informal feedback. Research on performance measurement systems indicate that the flow of information is significantly improved by the 360-degree appraisal system (Garavan and Morley, 1997). In their survey, the Chartered Institute of Personnel and Development (CIPD) discovered that less than half of the workforce can confirm that their superior or manager provides them with regular performance feedback and they found that those that always received constant feedback were happier with their job (CIPD, 2009).

This type of performance measurement does bring about a certain stigma with it, that the evaluation won't be fair as employees will be evaluated by their co-workers turned friends and also some individuals might not want to be honest or brutal in their evaluation as they might not want another employee writing a bad employee just to pay them back or spite them.

Reilly, Smither and Vasibopoulos (1996) argue that even though unfairness is a huge cause for concern in this type of assessment, it can be reduced by the co-workers what it is exactly they need to evaluate. Managers' evaluation from direct reports can be empowering for other employees and as a measure against reprisal from managers, ratings can be consolidated into one rating or an overall rating for the manager (Sillup and Klimberg, 2010; Chubb et al, 2011, 15).

Sillup and Klimberg (2010) also states that when employees evaluate themselves, they feel more motivated to improve and are less concerned about being 'judged' unfairly. Despite the disadvantages of using a 360-degree appraisal system, research indicates that an employee being evaluated by different individuals gives an all-inclusive perspective of the employee and decrease the chances of them being evaluated unfairly (Longenecker et al., 1987; Sillup and Klimberg, 2010).

Sillup and Klimberg (2010) did a research on this performance measurement. They studied five companies that were based in the United States of America (U.S.A) and using the 360-degree appraisal system on an annual basis. They found that in each organisation, an estimated 87 percent of individuals – both evaluators and employees had gotten adequate training about the 360-degree appraisal system. In

addition, only 15 percent of the evaluators did not help their employees set objectives while the other 85 percent helped them (Sillup and Klimberg, 2010). However, contrary to the essence of the 360-degree appraisal system, the evaluators that actually asked for feedback from peers was only 20 percent.

Nevertheless, Hofstede (1993) argues that this type of performance appraisal might be suitable for one setting and not necessarily agree fit well in another setting. For example, it might be suitable for an environment like the U.S.A and might not necessarily be as successful if applied in Senegal (Bailey, Chen and Dou, 1997).

2.3.1.4 Absolute Rating Techniques

The absolute rating techniques involves using the essay method, graphic scales, critical incidents and checklists. The simplest method among all of them is the essay method according to DeCenzo and Robbins (1999, 295).

In the essay method, the employee's weaknesses, strengths, potential, prior performance and ways of improving are expressed in writing by the evaluator. A report for each employee is required from the rater (DeCenzo and Robbins, 1999, 295). According to Paile (2012, 16), certain points of the report may be mandatory but the report format is left at the discretion of the evaluator. The evaluators' writing skills are what makes this method a success (Erasmus et al., 2005, 278).

The critical incidents method focuses on the core elements that are the difference between the job between done efficiently and being done dismally (DeCenzo and Robbins, 1999, 296). Erasmus et al. (2005, 278) concurs, they state that if an organisation uses the critical incidents method, the rater must constantly record typical job behaviours that can lead to failure or success in real time. This method's basis for appraisal focusses on behaviour rather than on traits and as a result it has the potential of providing meaningful feedback.

The graphic rating scales is a gauge for a certain characteristic or trait and this method involves the rater indicating the extent to which a ratee has those certain traits on a range between two poles (Paile, 2012, 16). Erasmus et al. (2005, 278) explains further by saying that there's a basic format to this method but companies make it their own by taking into account stuff like the individuals being rated, the

definition dimensions and they define their own points on the scale. Clark (1988, 238) states that this method is usually used to evaluate an individual's quantity and quality of work performance but it also looks at the personality traits like how reliable that worker is and their co-operation.

In this last method of absolute rating techniques, the rater has a list that has descriptions of job-related behaviours and this list is known as the behaviour checklist. Raters then use this checklist to evaluate an individual by ticking the behaviours they possess (Erasmus et al., 2005, 278). Once the checklist has been ticked by the evaluator, the human resources department then scores the checklist and weighs it against the important factors that lead to a job being done efficiently (DeCenzo and Robbins, 1999, 296).

2.3.1.5 Forced ranking/ Relative Rating Technique

This type of ranking system is a bit different from the ones previously discussed. This involves employees being put a rating scale and evaluated from worst to best purely based on one person's assessment of them. Similar to the 360-degree appraisal, it has a lot of concerns about unfairness surrounding it.

Clark (1988, 237) states that the straight ranking method involves the evaluator making a general judgement about an employee's performance then ranks each worker from best to worst. Erasmus et al. (2005, 277) agrees and states that relative rating techniques can be put into three groups – straight ranking, paired comparison and subsequently forced distribution. The ranking of individuals from the worst performance to the best based on certain performance factors or overall merit is what is known as straight ranking (Paile, 2012, 15).

Paired comparison involves ranking individuals in relation to how they compare to their peers on a one on one basis (DeCenzo and Robbins, 1999, 300). However, Erasmus et al. (2005, 278) explains this theory a bit differently. They claim that the evaluator doing a paired comparison only looks at one individual employee at a time and doesn't compare with others. The number of times the employee is judged and found to be better than other employees is what determines the ranking of that employee.

Erasmus et al. (2005, 278) states that with forced distribution, the assessor has to categorise each employee based on set of performance factor categories. Clark (1988, 237) argues that this method is designed to overcome mainly two challenges: firstly, most methods discussed in this section focus on overall performance but forced distribution includes a number of other factors which provides a holistic view of that employee's performance; secondly, compared to other techniques, forced comparison allows individuals to be ranked equally which is difficult to do using other methods (Paile, 2012, 14).

In conclusion, the forced ranking technique is generally involves comparing the ranking of two employees. The major disadvantage of this seemingly simple method is that if the first employee to be ranked performs dismally, the rankers' expectations can fall and the following employee might be overrated when their performance could have been just average (Paile, 2012, 19).

Overall, the 360-degree appraisal is the best method of evaluating employee performance according to Paile (2012, 19). The author explains that this is because this method uses a multifaceted approach to evaluate an employee. The feedback comes from various sources that are in constant contact with the employee. Its major advantage is that it limits favouritism or nepotism within the workplace and brings an unprecedented fairness to the process. Its disadvantage, however, is that it's a long process because it involves a lot of people and might take a while to complete. Nevertheless, Paile (2012, 19) argues that it's still worth it.

2.4 Employee Performance

Employees are an integral part of a company's competitive advantage especially in the service industry (Pfeffer, 1994: Zhang, 2012, 16). William (2010, 61) therefore, argues that a well-motivated employee will perform better and this translates to them having greater productivity and their quality of service is better. Subsequently, the better the quality of service offered by a company in addition to more productivity, it will ultimately lead to the company having a bigger profit margin. Employee performance plays a huge role in making an organisation successful and improved

employee performance directly improves the firm's performance as well (Zhang, 2012, 17).

Originally, employee performance was just what they did or didn't do. Nowadays however, its more than that. Gungor (2011) states that employee performance can be their presence as work, quality and quantity of output, the output's timeliness, their cooperation etc. During a specific time, the number of recorded results for each job can defined as employee performance (Deadrick and Gardner, 1997). If employee performance is contextualised this way, it is represented as a distribution of achieved results and performance can be measured using any tool that can adequately describe an employee's cross sectional pattern of performance (Zhang, 2012, 17).

Contrary to Deadrick and Gardner (1997). Darden and Babin (1994) describe employee performance as a rating system utilised in a lot of companies to evaluate and judge an employee's output and their abilities. A great employee performance is usually associated with improved customer perception of the quality of service. On the other hand, an increase in customer complaints consequently leading to them switching brands is linked with poor employee performance (Zhang, 2012, 17).

Overall, employee performance can simply be a worker's expected activities and how well they are executed. However, to effectively manage a worker's performance, managers and/or personnel directors have to have a deep understanding of that employee's duties within the organisation (William, 2010:12; Zhang, 2012, 17). Mastery of an employee's job description provides a foundation for evaluating and improving performance (William, 2010, 12). If this foundation is lacking, it doesn't create a relationship between performance evaluation and improving the employee performance in the firm (William, 2010, 12). This relationship is crucial as it also affects company performance (Zhang, 2012, 17).

2.4.1 Employee Performance Measurement

Most companies have expectations that they want their employees to meet and they are different depending on the job title and description. Depending on the performance management system the company has in place, some employees get

to discuss the goals that they are supposed to meet as an employee. Employee performance measurement involves assessing whether the employees are meeting the goals set for them and that they are acting in line with the organisational goals.

“If you can’t measure it, you can’t manage it”

- Peter Drucker

According to Zhang (2012, 18), the quote above is the basis for organisations having performance measurement systems such as Total Quality Performance Management or the Balanced Scorecard. Platts and Sobotka (2010) state that this approach connects measures across the firm to translate objectives from higher levels to activities in the lower levels. More importantly, performance specifications should be very clear and leave no room for misinterpretation. The specifications from high up should not include elements that are beyond an individual employee’s control (Zhang, 2012, 18). On the same token, supervisors should be adequately trained to give meaningful, productive and constructive feedback on a regular basis. Employees should also have appropriate and adequate training as well as developmental opportunities to be able to handle performance weaknesses that might have been identified through the evaluation (Donnell and O’Brien, 1999). The assessment of an employee ought not to focus on the personality of the employee but rather their work performance along with their behaviour (Donnell and O’Brien, 1999).

In his study, Huselid (1995, 638) says that individual employee performance can be affected by human resource management practices as they influence employees’ skills as well as their motivation. These practices, through the structure of the organisation influence how employees improve the way they do their jobs (Huselid, 1995, 638). Huselid (1995, 639) used labour turnover and productivity as his measures of employee performance when he tested the relationship between employee performance and human resource practices. The rate at which an employer loses or gains employees is what is known as the labour turnover (Zhang, 2012, 18). Sheridan (1992) and Arnold and Feldman (1982) state that this turnover is influenced by the perceived notions of an organisation’s culture like its compensation level, organisational tenure, organisational commitment, education,

presence of a union and so on. Employees can leave their job when the benefits of going outweigh the reasons for staying (March and Simon, 1958).

Another measure popular measure of employee performance is labour productivity according to Whately (2004). Productivity includes both effectiveness as well as efficiency according to Bhatti (2007) and Qureshi (2007). The output of the worker/s per time unit is generally used as the standard measure of labour productivity. Gust and Marquez (2004) state that labour productivity's growth rate is almost equal to the spread between the growth rate of the number of hours worked and the output growth rate.

Highly effective firms like to involve employees in their decision-making process. This results in a higher performance as they are more willing to find a solution to company problems if they are part of the goal setting and decision making (Zhang, 2012, 18). Innovations in the information technology sphere are continuously being upgraded and they can impact labour productivity which can potentially change a company's competitive advantage (Mukhopadhyay, Lerch and Mangal, 1994).

This chapter has mentioned output a lot but it was never understood what it is. In their paper, Gust and Marquez (2004) state that labour and capital produce output, therefore, labour productivity growth depends on the growth rate of multifactor productivity and the rate at which capital deepens. Capital deepening is the rise in the ratio between labour and capital, that is, an increase in the capital amount which includes tangible assets like machines and infrastructure as well as the organisation's structure. At a given technology level, workers' ability to produce more output is raised by capital deepening. If multifactor productivity increases, it can be interpreted as an advancement in technology. However, it can also reflect any random development that can cause efficiency to increase. For example, improvement in the channels used to distribute services and goods or the reorganisation of duties/ tasks in an organisation (Zhang, 2012, 18).

2.5 The Relationship between Knowledge Management Capability and Employee Performances

Researchers such as Gold et al. (2001), Kikoski and Kikoski (2004) and other researchers mentioned in the literature, after analysing knowledge management agree that knowledge is a major element in a company's success and its competitive advantage. As a result, employees have realised the influence of knowledge assets and the power they have if they leverage certain knowledge in the business environment (Jasinskis, 2014).

To reiterate, knowledge management capability is defined in section 2.12 of this paper as an organisation's capability to obtain, create, dispense, integrate and apply knowledge that is related to activities as well as resources across different functional boundaries to produce new knowledge (Chuang (2004); Lee and Lee (2007); Tseng and Lee (2014). According to the literature discussed in this paper thus far, employees play an integral part in making sure that the organisation is able to operate a knowledge management capability program or activity. Therefore, employee performance has a direct effect on the success of knowledge management practices implemented in an organisation and these management programs affect the organisation's performance (Chelladurai, 2006, 234)

There seems to be an important relationship between employee performance and knowledge management capability. As a result, this paper sought to explore this relationship and attempt to build a theory that explains the relationship. Also, since there are two types of knowledge management capability, this paper sought to understand which of the types, if any, affect employee performance more and thus the research questions are:

- Is there a concrete relationship between knowledge management capabilities and employee performance?
- If a relationship does exist, which knowledge management capability impacts employee performance the most?

To stay in line with the research questions, this paper is going to discuss the literature of the relationship between knowledge management capabilities on

employee performance in two main sections. There are two types of knowledge management capability and one would assume that their impact on employee performance varies. As a result, their impact on employee performance will be discussed separately. On the other hand, structured knowledge is ready for using the organization's products, services and work processes that gains competitive advantage, increases innovative capacity and research& development in organizations (Sagsna, 2006).

2.5.1 Knowledge Infrastructure Capability on Employee Performance

Technology, organisational culture and organisational structure make up knowledge infrastructure capability. Each variable and its contribution or lack thereof will be discussed in detail in the following sections.

2.5.1.1 Technology and Employee Performance

Technology is always changing and evolving faster than anything in this day and age. Almost every day, one hears of significant technological changes that affect our livelihood in some form or another. So, it's only natural for companies to be trying to keep up with the pace. The technological improvements have an impact on the policies and strategies of an organisation (Hampel and Martinsons, 2009). Knowledge is shared in organization through social and technical communication infrastructures (Sağsan, 2006)

According to Madsen et al. (2005) advancement in technology is not the only challenge a firm faces, other challenges include a new leadership or management, rapid growth and improving employee efficiency. Bernerth (2004) states that out of all these challenges improving employee efficiency is usually put at the bottom of the list because people think that by dealing with all the other factors, it will eventually improve the efficiency of its employees. Although somewhat true, employee attitudes and their behaviours are an important source of untapped wealth that should be developed in order to improve the performance of the organisation (Bernerth, 2004; Imran, 2014, 58).

In his study, Imran (2014, 58) found that most companies encouraged employees to be involved in the management, while working towards implementing technological advancements. Imran (2014, 58) went on to say that companies invest in training for their employees so that they can improve the knowledge they produce as well as their skill set prior to introducing them to any new developments in technology. Technology is a tool or an object for establishing information systems and it enables us to produce new information orderly (Sagsan, 2009)

The process of reshuffling and combining knowledge is what is described by Mumford (2000) as technological advancement. Technological advancement has an effect on how the firm performs (Mumford, 2000). Pavitt (1990) states that advancements in technology come from internal development. The internal development stems from employee capability (Pratt, 1990 cited in Imran, 2014, 58). As a result, there's a relationship between employee performance and technology (Huselid, 1995).

Dauda and Akingbade (2011) argue that for technology to increase a firm's performance it is operated by human resources that integrate it with other resources and then it can be used ethically to increase productivity.

Employees are made more effective and the firm is made more efficient by advancements (Lawless and Anderson, 1996). Advancements in technology have been shown to significantly increase the performance of a firm (Li and Deng, 1999). Chi et al. (1989) state that employees are in a better position to quickly get or create new knowledge as well as additional development competencies through training. If employees are motivated, it has a direct effect on the advancements in technology (Hennessey and Amabile, 1998). The performance of employees is closely linked to advancements in technology and the advancement itself can be effectively managed through employees (Imran, 2014:59).

Nohria and Gulati (1996) and Hitt et al. (1997) agree with the other researchers and state that technology and employee performance have a positive relationship. Foster (1986) concluded that technology is important employee performance to be improved.

2.5.1.2 Organisational Structure and Employee Performance

Cummings and Berger (1976) argue that organizational structure has an influence on all business activities including employee performance. The organisational structure includes an organisation's rules and regulations, reporting relationships as well as the organisational hierarchy (Herath, 2007). Organisational structure is a way of controlling employees and organising them towards implementing the organisation's goals (Nonaka and Takeuchi, 1995).

Fattahiyan et al., (2013) found that organisational structure has a positive relationship with employee performance. Other researchers such as Gold et al. (2001), Magee (2002) and Hofstede (1980), also found that there is a relationship between organisational performance and employee performance.

2.5.1.3. Organisational Culture and Employee Performance

The literature has seen a shift towards the examination of organisational culture on employee performance (Uddin, Luva and Hossain, 2013, 63). Organisational culture can be used to measure an organisation's economic performance (Hofstede 1980; Hostede et al., 1990 and Magee, 2002). However, since organisational cultures vary across organisations, the impact of organisational culture on the performance of a firm also varies since some certain traits offer a bigger competitive advantage than others via casual ambiguity (Peters and Waterman, 1982 and Barney, 1986).

The world is constantly changing and the requirements or employee expectations are also changing with it (Uddin et al., 2013, 63). The culture of the organisation also changes along with the developments in the world. Therefore, a supportive or flexible culture is encouraged by Ritchie (2000), it enables employees to perform better and productivity is increased.

Studies done in the very beginning of this inquest found that there's a relationship between employee performance and culture. Magee (2002) indicated that an organisation's practices are intrinsically connected to its culture, therefore, an organisation's performance depends on its culture. Hellriegel and Slocum (2009)

even argue that organisational culture can significantly increase a company's performance if what sustains a culture can be thoroughly understood.

An organisation's culture enables employees to be familiar with the company's current strategies and methods of operation as well as its history. This gives employees a sense of direction about where the company is coming from and is going and their expected as well as acceptable organisational attitudes, behaviours, attitudes and norms (Uddin et al., 2013, 64). Ferris et al. (1998) states that some of the existing theoretical models emphasise that an effective human resource program or system is founded on these supporting values and as a result, the system has the ability to produce a positive effect on employee behaviours as well as attitudes which work towards improving the organisation's performance.

Uddin et al. (2013, 64) also point out that there's a correlation between an organisation's culture and how it's employees performs. The employee performance then translates into outcomes such as an increase in sales or customer satisfaction (Magee, 2002). Renn and Vandenberg (1995) also show that there's a link between employee performance and organisational culture in their study.

Contrary to other findings, March and Sutton (1997) states that most firms view performance as a dependent variable that tries to identify other independent variables that cause a variation in it. However, Martin and Siehl (1990) argues that there's indeed a theoretical link between performance and culture and the latter has an effect on the former. In his seminal paper, Bowen et al, (1989) explained the variation the effectiveness of performance, highlighting the role played by culture as a nurturer, supporter and enhancer of performance in organisations. Kopelmal et al. (1990) further adds on by saying the culture in an organisation adds to the organisation of assignments and as a result, minimises the inefficiency of efforts created by employees.

2.5.2 Knowledge Process Capability on Employee Performance

Knowledge infrastructure capabilities generally deal with managing internal knowledge and leveraging to have a competitive advantage. Internal knowledge is extremely important in improving a company performance but so is external

knowledge. Knowledge process capability is generally skewed towards either restructuring or creating new knowledge from both internal and external sources and keeping it safe (Gold et al., 2001, 190).

There are four different types of knowledge process capabilities and this paper would like to believe that compared to knowledge infrastructure capabilities, employees are directly more involved in these processes. The four factors of knowledge process capability are acquisition, conversion, application and protection.

2.5.2.1 Effect of Acquisition on Employee Performance

The first element of knowledge process capability – acquisition involves acquiring knowledge. There are many terms that researchers use when describing this process capability – capture, identify, seek, collaborate and integrate just to mention a few (Gold et al., 2001, 190). They all however, mean the same thing, that knowledge is accumulated. Acquisition also extends to meaning reinventing existing company knowledge and make it something new or applying it differently and this is the innovation aspect of the acquisition process capability.

The accumulation of knowledge is usually nurtured or easier in an environment where collaboration is encouraged be it between individuals or companies. In either case, employees play a vital role in carrying out the acquisition process. In addition, it is this knowledge that these employees acquire that they use in not only improving their performance but the organisation as well. Thus, if knowledge is not accumulated accurately by the employees their performance suffers. It also stands to reason that if employees in one department perform badly at acquiring knowledge that is then shared throughout the organisation it affects every employee that uses that knowledge and in a negative way.

So one would strongly argue that the acquisition of knowledge has a huge impact on employee performance. If the wrong or inadequate information is acquired it is then converted and applied into organisation and used by each employee in an attempt to increase their performance. If inadequate information is used then

employees cannot meet their objectives and their regular performance appraisal will be bad.

Fattahiyan, Hoveida, Siadat and Talebi (2013) studied the knowledge management capabilities' effect on performance and they found that knowledge acquisition had an impact on performance. Nonaka (1991) also concluded that knowledge creation directly affects employee performance.

2.5.2.2 Effect of Conversion on Employee Performance

Existing literature recognizes different magnitudes of knowledge management that are capable of driving performance (Choi and Lee 2002; Dröge, Claycomb and Germain, 2003; Sabherwal and Sabherwal, 2005). Knowledge conversion as well as application have been the focus of many research papers over the years (Yusoff and Daudi, 2010; Abdul, Yahya, Beravi and Wah, 2008; Mohrman, Finegold and Mohrman, 2003; Ajmal and Koskinen, 2008). All these researchers agree that knowledge conversion and application have the potential to improve performance.

In 1991, Nonaka studied socialisation, externalization, combination, internalization – commonly known as SECI, which are the four steps of knowledge conversion (Muathe and Kilika, 2015, 434). In the study knowledge conversion was defined as the movement of knowledge from tacit to explicit and vice versa (Nonaka and Takeuchi, 2004). In his study, Nonaka (1991) stated that tapping into the ideologies and subjective insights as well as intuition of employees, more commonly known as tacit knowledge will have a significant impact on knowledge creation which catapults or translates into an improvement in performance.

Tseng (2010) used SECI to measure knowledge conversion similar to Nonaka (1991). In his study, Tseng (2010) discovered that knowledge conversion generally has a positive effect on performance. However, the socialisation part of the SECI doesn't affect performance. On the contrary, Fattahiyan et al., (2013) indicated that performance isn't affected by knowledge conversion.

2.5.2.3 Effect of Application on Employee Performance

In section 2.12.1.3 of this paper, application was defined as the usage of the knowledge. This is a vital step in knowledge management but researchers only

started researching it more in the 21st century. Before then it was just assumed proper application was inherent when knowledge was created (Gold et al. 2001, 191). But as Gasik (2011) puts it, organisations don't benefit from the fact that knowledge exists but from its effective application.

In 2005, Glisby and Holden discovered that knowledge management practices have an effect on the organisation when applied to supply chain processes. These knowledge management practices include the creation, recovery, transfer, application and storage application (Alavi and Leidner 2001; Gunasekaran and Ngai, 2007). McKeen, Zack and Singh (2006) also studied the link between knowledge management practices and performance and found similar results to Glisby and Holden (2005). McKeen et al. (2006) used a 5 point Likert scale and found that there's a positive relationship between performance and the knowledge management practices.

Knowledge application was found to influence performance by Yusoff and Daudi (2010). They used a Likert scale that had 7-points. The scale, regression analysis as well as the correlation analysis produced the same results, that knowledge application has a positive relationship with employee performance. However, their results were tainted by the low response of their questionnaire which was only 38 percent.

Fattahiyan, et al. (2013) also found that knowledge application has a positive relationship with performance.

2.5.2.4 Effect of Knowledge Protection on Employee Performance

Knowledge protection is crucial in developing a competitive advantage. If knowledge isn't protected properly it can lead to increased costs, loss of customers and maybe even loss of business if competitors gain that competitive advantage that was embedded in the knowledge. Glisby and Holden (2005), McKeen et al. (2006) and Fattahiyan, et al. (2013) all found that there's a positive relationship between performance and knowledge protection.

CHAPTER THREE. GENERAL FRAMEWORK OF THE RESEARCH

3.1 Background of Study

Salama (2017, 71) states that according to a Resource-based view (RBV) theory, which was created in the literature for strategic management, organisations compete based on their resources and how capable they are at managing those resources. Organisations have access to the same information/resources because of globalisation but what sets a company apart from the rest is how they redesign and utilise those resources (Bitar and Hafsi, 2007). Barney (1991) argue that to improve a company's performance, it's capabilities are crucial, both inside and outside the organisation.

Dalkir (2005, 17) states that capabilities are possible vital skills and a sound knowledge management practice is needed to fully realise their value. Therefore, knowledge management capability is an organisation's capability to obtain, create, dispense, integrate and apply knowledge that is related to activities as well as resources across different functional boundaries to produce new knowledge (Chuang (2004); Lee and Lee (2007); Tseng and Lee (2014). According to Yang and Chen (2007), this enables the organisation to not only improve its effectiveness as an organisation but also to increase its sustainable competitive edge. Knowledge management capability can be divided into two – knowledge process capability and knowledge infrastructure capability (Gold, Malhotra and Segars, 2001).

The value a company gets by having the right knowledge management capability has been documented in a number of researches such as Zaied et al. (2012); Salama (2017) and Nguyen and Neck (2009). Very few researchers have specifically looked at the impact of knowledge management capability on employee performance. Thus, this paper is going to look at this area in detail.

This paper tries to construct a theoretical framework that explains the practical relationship between knowledge management capabilities and employee performance. Singh, Chan and McKeen (2006, 3) and Hazlett et al. (2005) suggesting accomplishing this goal by building a theory that explains knowledge management capabilities and their effect on employee performance. The theory is

built upon previous literature that cover certain elements and the relationship between the elements.

3.2 Research Problem

Companies could be in different parts of the world and have access to the same type of information. This makes competition amongst the companies stiffer and they have to be more innovative with how they use the data in order to gain a competitive advantage over the other firms (Hama, 2016, 1). The changes in technology have moved the world from an industrial era to a more knowledge based economy where knowledge has substantial value (Bharadwaj, Chauhan and Raman, 2015, 422). Dalkir (2005, 2) and Hassan and Al-Hakim (2011) state that knowledge creation as well as it's dispersal has become one of the vital elements in a company's survival, stability, competitiveness, growth as well as improvement.

To create the knowledge and use it efficiently in a way that it realises its fullest potential, companies must possess vital capabilities which are being used to implement a sound knowledge management practice (Dalkir, 2005, 17). Chuang (2004); Lee and Lee (2007) and Tseng and Lee (2014) state that an organisation's capability to obtain, create, dispense, integrate and apply knowledge related to certain activities and their respective resources across different platforms to produce new knowledge is what is known as knowledge management capability. According to Yang and Chen (2007), this enables the organisation to not only improve its effectiveness as an organisation but also to increase its sustainable competitive edge. Knowledge management capability can be divided into two – knowledge process capability and knowledge infrastructure capability (Gold, Malhotra and Segars, 2001).

Knowledge management is a well-known concept but experts, practitioners and academics can't agree not only on the definitions but on some of the concepts (Martin, 2005; Tarekegn, 2017, 2). Generally, very little empirical research exists on the relationship between performance and knowledge management (Kalling, 2003; Zack et al., 2009), let alone the relationship between employee performance and knowledge management capabilities. Researchers talk about the importance of

knowledge management on people but they never really examine the relationship between the two.

Tarekegn (2017, 2) states that when there's no sound knowledge management practice in an organisation – two problems are highlighted: corporate amnesia and organisational memory loss. When knowledge is not properly shared within an organisation and an employee leaves, its likely to cause corporate amnesia as valuable knowledge workers would have left with their resources (Al-Ali, 2003). Also, when one part of the organisation does not know what's happening in other business areas, organisational memory loss occurs. Organisational memory loss can also occur when a department forgets knowledge gained from previous experiences or programs.

To survive, companies have to improve their employee performance and knowledge management is a critical tool for doing this. What this paper would like to know is, what happens to employees when there's no sound knowledge management practice or if the organisation they work for does not foster that creativity within them that enables them to learn and create new knowledge.

The value a company gets by having the right knowledge management capability has been documented in a number of researches such as Zaied et al. (2012); Salama (2017) and Nguyen and Neck (2009). Very few researchers have specifically looked at the impact of knowledge management capability on employee performance. Thus, this paper is going to look at this area in detail.

This paper tries to construct a theoretical framework that explains the practical relationship between knowledge management capabilities and employee performance. Singh, Chan and McKeen (2006, 3) and Hazlett et al. (2005) suggested accomplishing this goal by building a theory that explains knowledge management capabilities and their effect on employee

Knowledge management capability is made up two aspects – knowledge process capability and knowledge infrastructure capability (Gold, Malhotra and Segars, 2001). The key to understanding the failure or success of knowledge management capabilities on employee performance is to assess each of these two concepts individually and collectively. Therefore, the main research question was:

What impact does Knowledge management capabilities have on employee performance?

This led to other sub-questions which are:

- Is there a concrete relationship between knowledge management capabilities and employee performance?
- If a relationship does exist, which knowledge management capability impacts employee performance the most?

3.3 Research Hypothesis

The hypothesis of the paper was based on the research questions and the research model in figure 4.1 below.

The main hypothesis (H1) is:

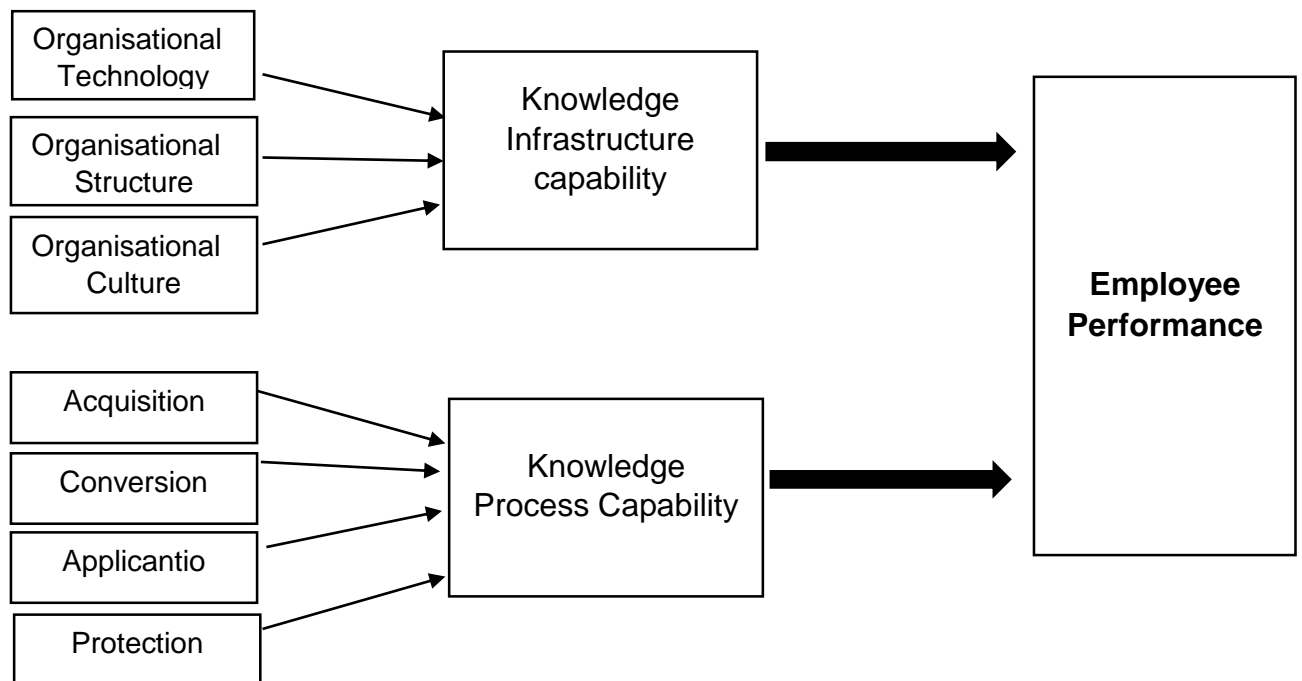
Knowledge management capability has an impact on employee performance (H1);

H1 leads to several other sub-hypotheses which are:

- ❖ Knowledge infrastructure capability improves employee performance (H1a);
- ❖ Knowledge process capability improves employee performance (H1b);
- ❖ Knowledge infrastructure capability improves employee performance better than knowledge process capability (H1c);
- ❖ Knowledge process capability improves employee performance more than knowledge infrastructure capability (H1d).

This research attempted to find a relationship between employee performance and knowledge management capability. Given that knowledge management capability is divided into two – Knowledge process capability and Knowledge infrastructure capability. This information coupled with the literature discussed in Chapters 2 and 3, this research came up with the research model in Figure 4.1 below. Employee performance is the dependent variable and the different types of knowledge management capability are the independent variables based on the literature.

Figure 4.1 - Research Model



3.4 Research Objectives

The main purpose of this study is to evaluate the effect of knowledge management capabilities on employee performance. Therefore, the objectives of this research are to:

- Build a theory that explains the relationship between knowledge management capabilities on employee performance.
- Find out which aspect of knowledge management capability – knowledge process capability and knowledge infrastructure capability, has the biggest impact on employee performance.
- Test whether there's a limit to the extent to which knowledge management capabilities can affect employee performance.

3.5 Importance of the study

The current economy is heavily reliant on knowledge and the importance of knowledge assets and knowledge workers is increasing every day. Employees play

a huge role in creating, redefining and distributing knowledge within the organisation and outside. All the technology in the world would be rendered useless if there isn't at least one person to operate it and ensure that information flows smoothly to every level within the organisation.

However, very little research has been done on the impact of knowledge management capabilities on employee performance. This research will, therefore, fill that void in literature and help others understand the relationship between employee performance and knowledge management capabilities. This paper will also try to determine which of the knowledge management capabilities affect employee performance the most.

The role of this research was also to add to the university's current knowledge of the impact of knowledge management capabilities on employee performance. The information, strategies and recommended knowledge management practices could add significant value to the Lebanese French University – Kurdistan Region of Iraq. This information can be used by other researchers and colleagues to further their own studies and could also give the university itself a competitive advantage by having knowledge on an area that is hardly researched on in Kurdistan Region of Iraq.

3.6 Methodology

The following section of this chapter covers the research design, description of the population and the population sample, the methods as well as the tools used to carry out the research.

This thesis' methodology is a clear and concise research design that has employee performance as the dependent variable and knowledge management capabilities as independent variables. This research design came about as a result of the analysis of the literature discussed in this research as well as the theory behind knowledge management.

To achieve the research objectives, this research found that a questionnaire was the best tool. The manner in which the researcher obtained the data, analysed it

and interpreted it are discussed in detail in this chapter. SPSS V.23, was the statistical software used to analyse the data collected.

3.7 Research Population

Kurdistan Region has a number of private universities but Lebanese French University is one of the best. It is well known that is a private university that is a leading the pack in the industry. Its campus is located in the Kurdistan region in Iraq in Erbil on 100 meter street, near Mosul road, Nasr roundabout.

The university was established in September of 2007 and in just a little over a decade, it has grown to be a giant. It is an institution that caters to everyone both the young and mature can find a place here and get world class education without leaving the country. The university offers a great range of programmes in different fields such as Legal Administration, Law, General Education, Business Administration, French Language, Accounting and Finance, Marketing, Information Technology, Diplomacy and International relations and Fin Arts. Post graduate degrees in Accounting, Business Administration, Finance and Information Technology are also offered. In addition, the university also collaborates with other universities from different parts of the world typically with the United Kingdom and France.

The university has 4 colleges namely:

- Law and International Relations college
- Administration and Economics College
- Education and Languages College
- Information Technology Department

Within these 4 colleges, there are 12 departments: Department of Law, Department of Legal Administration, Department of Diplomacy and International Relations, Department of Business Administration, Department of Accounting and Finance, Department of Marketing, Department of Tourism Administration, Department of General Education, Department of English, Department of French, Department of Fine Arts, Department of Information Technology.

There are also five centres: Research and Strategic Studies Centre, English Learning Training Centre, Faculty Development Centre, Computer Service Centre and Communications & Marketing Centre.

Besides all these great attributes that the Lebanese French University has, this researcher chose the university because of its location. The Kurdistan region is filled with hard working people, majority of whom are in the public sector. An analysis of the impact of the knowledge management capabilities on employee performance using this population was ideal as it gave the researcher access to a wide range of people with different characteristics resulting in a robust study.

3.8 Research Sample

The questionnaire was distributed in the office of the University President, various departments and Centres. 212 questionnaires were distributed and from those 212, 11 did not respond so the study only had 94.8% respondents. None the less, it was enough for a robust study. Among the 94.8% respondents, there were people that held Secondary certificate, Diploma, Bachelor degree, Masters level and PhD. The research sample also included individuals from both genders and a wide range of ages.

3.9 Data Collection

To achieve the objectives laid out in this study, certain information and data was required to answer the main questions and sub-questions. Data was also needed to test the different hypotheses and to do that: several methods were implemented.

- **Theoretical Side**

The theory of this paper was gathered from several sources that were relevant to the material. These sources included

- Books
- Journals
- Articles
- Newspapers
- Thesis and Dissertations as well as

- The Internet.

- Practical side

To acquire the data and information needed to examine the relationship between knowledge management capabilities and employee performance, a questionnaire was found to be the most appropriate instrument. This questionnaire was then distributed by the researcher in the University's various departments, centres and the office of the University President.

- Time limits

The distribution and collection of the questionnaire took 17 days from the 27th of February 2018 to 16 March 2018.

- Spatial Limits

The research was unfortunately limited to the Lebanese French University – Kurdistan Region of Iraq.

3.10 Questionnaire design

In order to accomplish the study's objectives and answer the research questions, data was needed. The data was obtained via a questionnaire and it was this questionnaire that was distributed all over the University to obtain the research data. The questionnaire was designed in a way that it was divided into four sections. In the first section the respondents had to answer 7 questions relating to their demographics such as their gender, age and marital status. The questionnaire then went on to ask questions relating to knowledge process capability. This section covered the four variables of knowledge process capability, i.e., acquisition, conversion, application and protection. Statements about knowledge process capability were 25. The next section then went on to explore the 3 variables of knowledge infrastructure capability and these are organisational technology, organisational structure and organisational culture. This third section had 15 statements. Lastly, 8 statements about employee performance were found at the end of the questionnaire. Overall, the questionnaire had 55 statements, 87.27% of

the questionnaire asked information relating to knowledge management capability and the remaining 12.76% covered the demographic information of the respondents. The design of this questionnaire was adapted from Dalkir (2005), Uriarte, 2008 and Bharadwaj et al. (2015).

Table 4.1: Questionnaire Design

Number	Field	Number of statements
1	Demographic information	7
	Knowledge Management Capabilities	
2	Knowledge Process Capability	
	Acquisition	6
	Conversion	6
	Application	7
	Protection	6
3	Knowledge Infrastructure Capability	
	Organisational Technology	4
	Organisational Structure	7
	Organisational Culture	4
4	Employee Performance	8
	Total	55

A likert scale with five points was used to interpret the questionnaire by the researcher. This is shown in Table 2 below.

Table 4.2: Likert scale

Level	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Points	5	4	3	2	1

3.11 The Research Tool

Out of the 212 questionnaires sent out, 201 people responded. This represented about 94.8% of the population sample. This gave the study quite a number of information and data to interpret. To interpret the data, tools such as graphs, pie charts and tables showing the percentages, count and means of the data were used. According to Uriarte (2008), these tools are appropriate for analysing such form of data and give us a lot of information.

3.12 Results

The next section of this chapter is going to cover the results obtained from this study of the impact of knowledge management capabilities on employee performance. Chapters 2 and 3 covered an extensive part of the literature relating to the topic at hand. Various journals and books reported and documented different results pertaining to their research area. The following results section is therefore going to cover the results that were discovered from distributing the research questionnaire at the University. A lot of valuable data was obtained and was efficiently and effectively analysed to give us the results below. The SPSS software was the major analysis tool in this study to give us roust results.

3.12.1 Demographic Information

The first section to be analysed was the demographic information of the respondents. In the demographic section, it included questions like the respondents' gender, age, marital status, level of education and experience. The demographic part of the questionnaire also asked two additional questions which were: General Justification and Current job title. Unfortunately, none of the 201 respondents opted to answer those questions so the analysis of the demographics of the population sample centred around the five answered questions.

3.12.2 Gender

The researcher first analysed the gender of the respondents and tried analysing this variable along with the other elements such as age and education for a more robust

analysis and to get a better understanding of the people that participated. The researcher thought just looking at the gender alone or any other variable on its own won't give us much information but looking at gender combined with other variables gave us a better overview of the data.

Table 4.3 below shows us the gender in this study.

Table 4.3: Gender

Gender	Number	Percentage
Male	127	63.18%
Female	74	36.82%
Total	201	100%

Table 4.3 above shows that there were 127 males and 74 females surveyed to make a total of 201 respondents. Overall, there were more male respondents than females. Males were almost double the percentage of females as they made up 63.18% of the population sample and females were only 36.82% of the respondents.

3.12.2.1 Gender and Age

Gender and age was a good starting point for analysing gender's relationship with other demographic factors. Table 4.4 shows these first two statistics of the people that participated in this study, i.e., their age and gender.

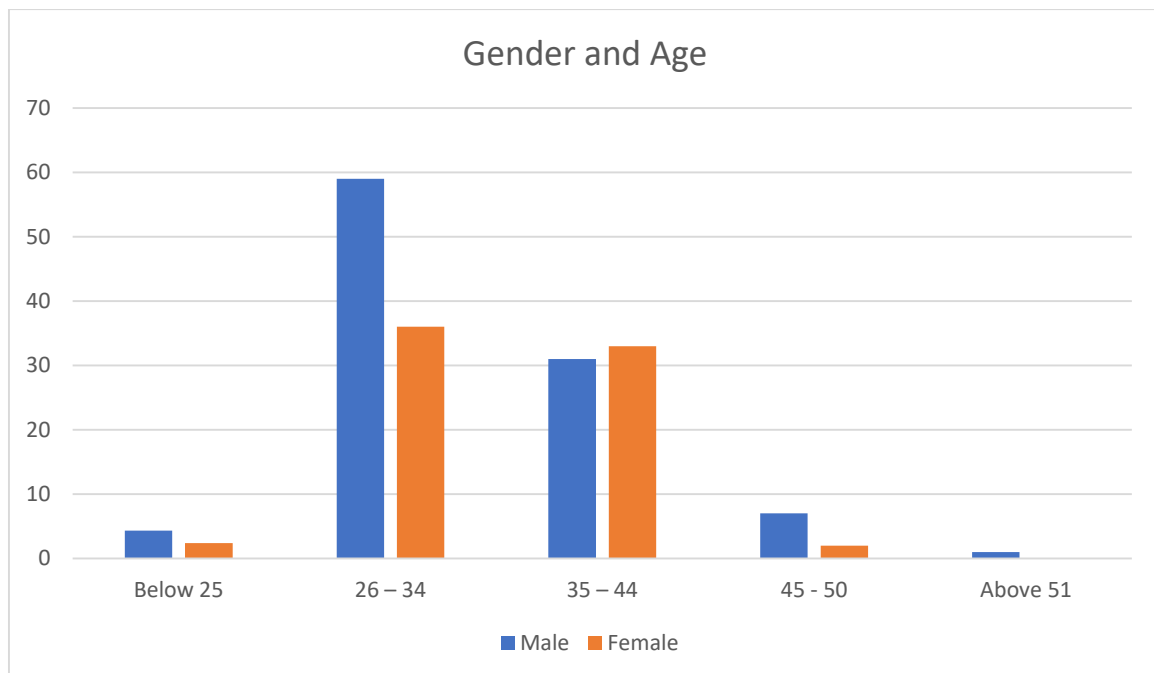
Table 4.4: Gender and Age

Age Category	Gender		Total	Percentage		Total
	Male	Female		Male	Female	
Below 25	29	3	32	22.83%	4.05%	15.92%
26 – 34	59	36	95	46.46%	48.65%	47.26%
35 – 44	31	33	64	24.41%	44.59%	31.84%
45 - 50	7	2	9	5.51%	2.7%	4.48%

Above 51	1		1	0.78%	%	0.78%
Total	127	74	201	100%	100%	100%

Most of the participants were aged between 26 to 34 years. This group was made up of 59 males and 36 females which made a total of 47.26% of the population sample. The next large group was aged between 35- 44 and this was made up of 31 males and 33 females making a total percentage of 31.84%. The age group below 25 was the next fairly large group of respondents. These relatively young age group consisted of more males than females, there were 29 males below 25 and only 3 females that were in the same category. The older people did not participate as much. Only 9 people that responded were aged between 45 and 50 and only one was above 51. Figure 4.1 below collaborates with table 4.4 above.

Figure 4.1: Gender and Age



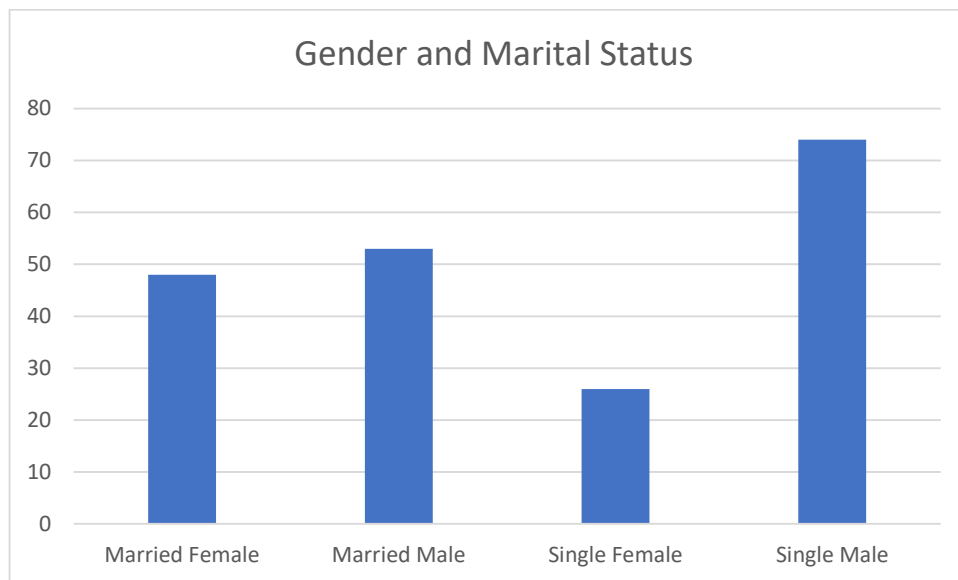
3.12.2.2 Gender and Marital Status

The next variables to be analysed were marital status along with gender. In table 4.5 below, it shows the statistics relating to these two variables. Figure 4.1 then offers a more visually appealing outlook on these two variables that corresponds with table 4.5.

Table 4.5: Gender and Marital status

Marital Status	Gender		Total	Percentage		Total Percentage
	Male	Female		Male	Female	
Single	74	26	100	58.27%	35.14%	49.75%
Married	53	48	101	41.73%	64.86%	50.25%
Total	127	74	201	100%	100%	100%

Figure 4.2: Gender and Marital status



The respondents were split in half in terms of marital status. 101 people were married while 100 were not. Most of the males were single and were 58.27% of the male population that participated. Single males were the largest group in this sample followed by married males. Amongst the females, the single ones were almost half of the married ones. Singles females were only 26 while 48 of them were married.

3.12.2.3 Gender and Level of Education

Table 4.6 below shows the level of education the respondents had and their gender.

Table 4.6: Gender and Education

Education	Gender		Total	Percentage		Total
	Male	Female		Male	Female	
Secondary certificate	12	3	15	9.45%	4.05%	7.46%
Diploma level	31	14	45	24.41%	18.92%	22.39%
Bachelor's degree	44	31	75	34.65%	41.89%	37.31%
Master's level	29	20	49	22.83%	27.03%	24.38%
PhD	11	6	17	8.66%	8.11%	8.46%
Total	127	74	201	63.18%	36.81%	100%

The majority of the population sample were males with Bachelor's degrees. Males with bachelors' degrees made up 34.65%. Females with bachelors' degrees were 41.89%. The majority of the male population sample was well educated with 22.83% with a master's level, 24.41% with a diploma, 8.11% with a PhD and 9.45% with a secondary certificate.

The females were also educated with 27.03% of them with a Master's level, 18.92% with a diploma, 8.11% with a PhD and 4.05% with a secondary certificate.

3.12.2.4 Gender and Experience

Table 4.7 below shows the relationship between gender and experience in this study.

Table 4.7: Gender and Experience

Experience	Gender		Total	Percentage		Total
	Male	Female		Male	Female	
Less than 2 years	23	9	32	18.11%	12.16%	15.92%
2-5 years	42	34	76	33.07%	45.95%	37.81%
6-10 years	41	25	66	32.28%	33.78%	32.84%
Over 10 years	21	6	27	16.54%	8.11%	13.43%
Total	127	74	201	63.18%	36.82%	100%

Most of the respondents had more experience between 2 to 10 years. 45.95% of the females had about 2 to 5 years' experience. 33.78% of the females had about 6 to 10 years' experience. While 12.16% of the females had less than 2 years of experience and 8.11% had over 10 years' experience. The males with less than 2 years' experience were 18.11%, those with 2 to 5 years' experience were 33.07%, 32.28% had 6 to 10 years' experience and 16.54% had over 10 years' experience.

3.12.3 Marital status

Table 4.8 below shows the statistics of the respondents' marital status.

Table 4.8: Marital Status

Marital Status	Count	Percentage
Single	100	49.75%
Married	101	50.25%
Total	201	100%

Out of the 201 participants, 100 were single and 101 were married. The single people made 49.75% of the participants and the married people were 50.25% of the population sample.

3.12.3.1 Marital status and Age

Table 4.9 below shows the statistics of the marital status and age of the respondents.

Table 4.9: Marital status and Age

Age	Marital status		Total	Percentage		Total
	Single	Married		Single	Married	
Below 25	26	6	32	26%	5.94%	15.92%
26 – 34	55	40	95	55%	39.6%	47.26%
35 - 44	17	47	64	17%	46.53%	31.84%
45 - 50	2	7	9	2%	6.93%	4.48%
Above 51		1	1		0.99%	0.5%
Total	100	101	201	49.75%	50.25%	100%

Table 4.9 shows that 55% of the single people were aged between 26 and 34, 26% of the single people were below 25, 17% were between 35 and 44 and 2% were between 45 and 50. Majority of the married people were between 35 and 44 making up 46.53% of the sample, 39.6% were between 26 and 34, 6.93% were aged between 45 and 50, 5.94% were below 25 and only one married person was over 51.

3.12.3.2 Marital status and Education

Table 4.10 below shows marital status and education.

Table 4.10: Marital status and Education

Education	Marital status		Total	Percentage		Total
	Single	Married		Single	Married	
Secondary certificate	11	4	15	11%	3.96%	7.46%
Diploma level	17	28	45	17%	27.72%	22.39%
Bachelors' degree	41	34	75	41%	33.66%	37.31%
Master's level	23	26	49	23%	25.74%	24.37%
PhD	8	9	17	8%	8.91%	8.46%
Total	100	101	201	49.75%	50.25%	100%

Table 4.10 indicates that the level of education was almost the same among the single and married people. 11% of the single people only had a secondary certificate, 17% had a diploma, 41% had a bachelor's degree, 23% had a Masters' and 8% had a PhD. Almost 4% of the people had a secondary certificate, 27.72% had a diploma, 33.66% had a bachelors' degree, 25.74% had a masters' level and 8.91% had a PhD.

3.12.3.3 Marital status and Experience

Table 4.11: Marital status and Experience

Experience	Marital Status		Total	Percentage		Total
	Married	Single		Married	Single	
Less than 2 years	8	24	32	7.92%	24%	15.92%
2 - 5 years	35	41	76	34.65%	41%	37.81%
6 - 10 years	44	22	66	43.56%	22%	32.84%
Over 10 years	14	13	17	13.86%	13%	8.46%
Total	101	100	201	50.25%	49.75%	100%

Table 4.11 shows that out of the 101 married people, 7.92% had less than 2 years of experience, 41% had 2 to 5 years' experience, 22% of them had experience between 6 to 10 years and 13% had over 10 years' experience. On the other hand, 24% of the single people had work experience of less than 2 years, 41% had only 2 to 5 years of experience, 22% had work experience between 6 to 10 years and 13% had over 10 years of experience.

3.12.4 Age

Table 4.12 shows the age range of the respondents.

Table 4.12: Age

Age	Count	Percentage
Below 25	32	15.92%
26-34	95	47.26%
35 – 44	64	31.84%
45- 50	9	4.48%
Above 51	1	0.5%
Total	201	100%

Majority of the respondents were aged between 26 to 34 years, this group made up 47.26% of the population sample. The people aged between 35-44 made up the second largest group, making them 31.84% of the sample. The age group of 25 years and below made up almost 16% of the population sample. Those aged between 45 and 50 were only 4.48% of the population sample and the one person above 51 amounted to only 0.5% of the sample.

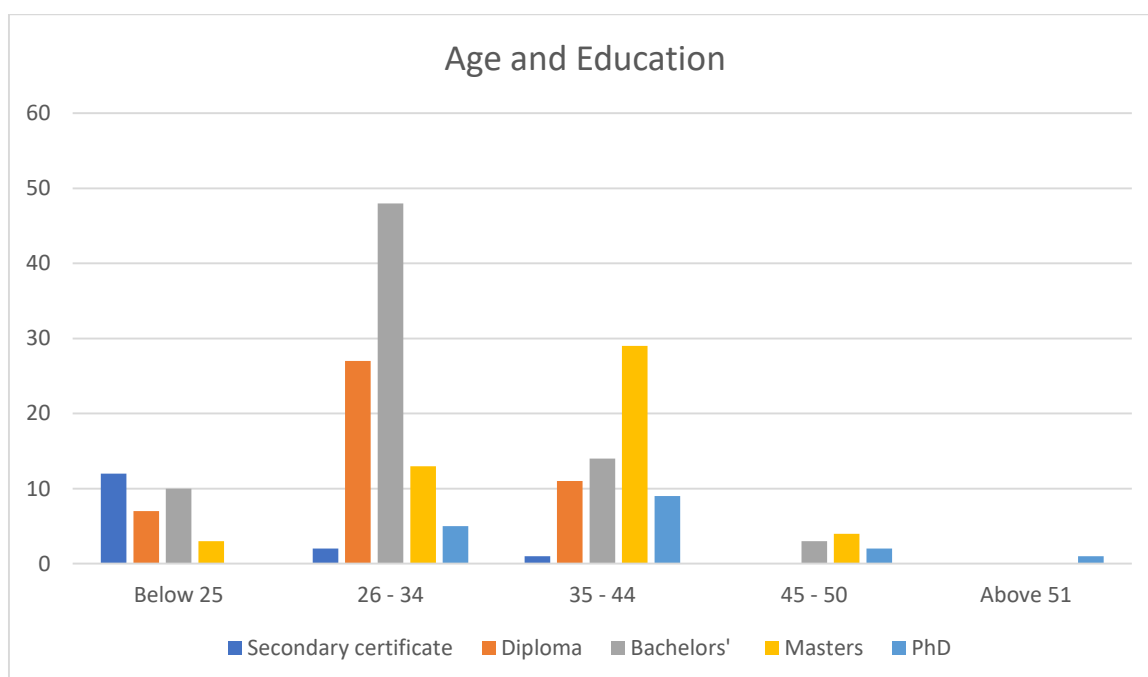
3.12.4.1 Age and Education

Table 4.13:Age and Education.

Education	Age					Total
	Below 25	26 -34	35 - 44	45 -50	Above 51	
Secondary certificate	12	2	1			15
Diploma	7	27	11			45
Bachelors	10	48	14	3		75
Masters	3	13	29	4		49
PhD		5	9	2	1	17
Total	32	95	64	6	1	201

Table 4.13 and Figure 4.3 below show that majority of the respondents were between 26 and 34 and they had a bachelors' degree. The next large group was aged between 35 and 44 and they had a Masters as the highest obtained degree. 27 people aged between 26 and 34 had a diploma 13 people in the same age group had a Masters and 5 had a PhD while only 2 had a secondary certificate.

Figure 4.3: Age and Education



3.12.4.2 Age and Experience

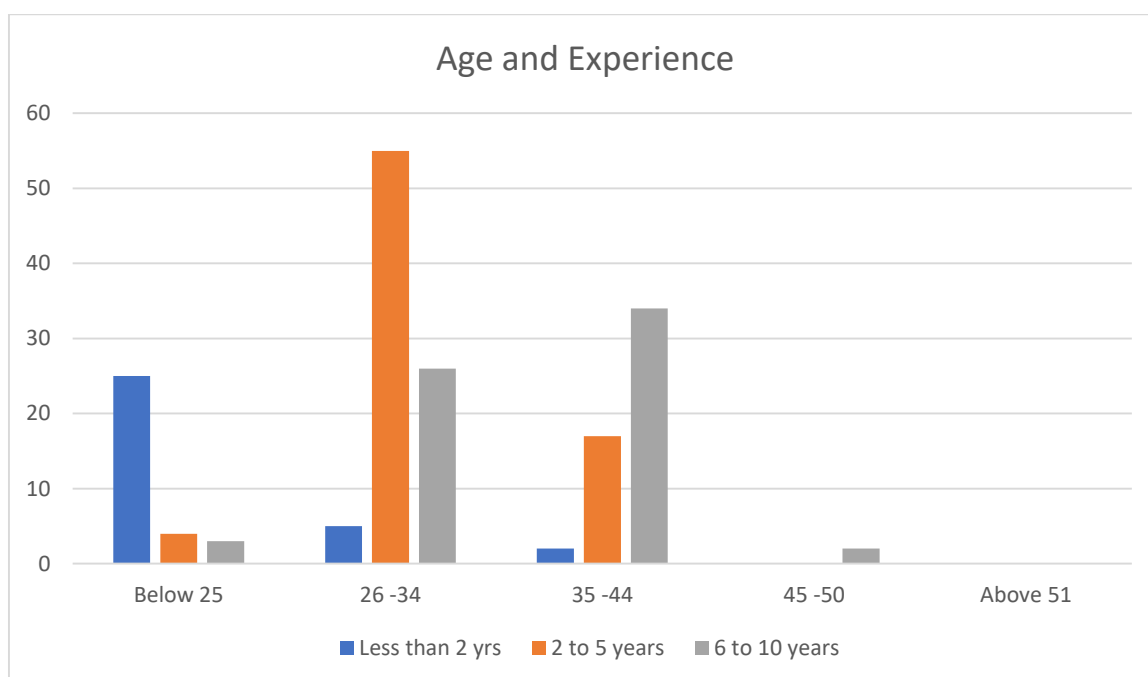
Table 4.14 below shows the statistics of the age and experience of the respondents.

Table 4.14: Age and Experience

Experience	Age					Total
	Below 25	26 -34	35 - 44	45 -50	Above 51	
Less than 2 years	25	5	2			32
2 – 5 years	4	55	17			76
6- 10 years	3	26	34	2		65
Over 10 years		9	11	7	1	28
Total	32	95	64	9	1	201

Table 4.14 majority of the respondents had experience between 2 to 5 years and they were aged between 26 and 34, they were a total of 55 people. The next large group was aged between 35 and 44 and had 6 to 10 years. Overall, 76 respondents had 2 to 5 years' experience.

Figure 4.4: Age and Education



3.12.5 Education

Table 4.15 shows the education statistics.

Table 4.15: Education

Education	Count of Education	Percentage
Bachelor's degree	75	37.31%
Master's level	49	24.38%
Diploma	45	22.39%
PhD	17	8.46%
Secondary certificate	15	7.46%
Total	201	100%

Table 4.15 shows that majority of the respondents had a bachelors' degree. These people made up 37.31% of the population sample. 24.38% had a Masters. 22.39% had a Diploma, 8.46% had a PhD and 7.46% of the respondents had a secondary certificate.

3.12.5.1 Education and Experience

Table 4.16 shows the relationship between education and experience.

Table 4.16: Education and Experience

Experience	Education					Total
	Secondary	Diploma	Bachelors	Masters	PhD	
Less than 2 years	14	4	10	4		32
2 – 5 years		23	31	17	5	76
6- 10 years	1	18	24	19	4	66
Over 10 years			10	9	8	27
Total	15	45	75	49	17	201

Figure 4.5: Education and Experience

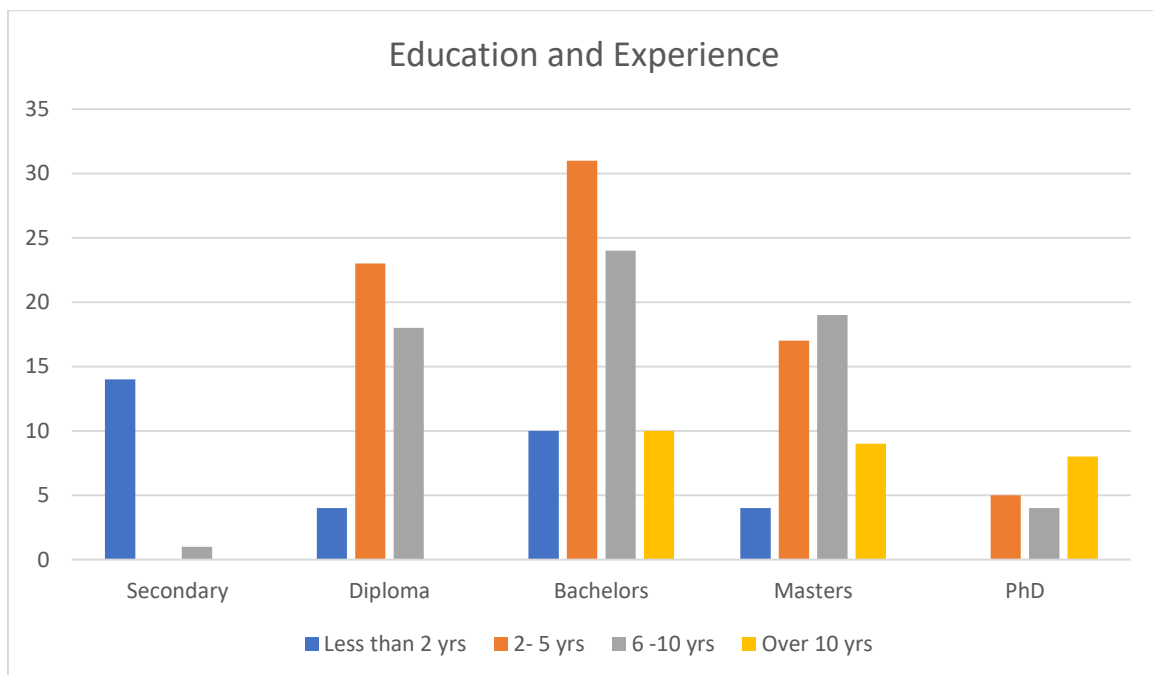


Table 4.16 and figure 4.5 shows that only 15 people had a secondary certificate, 45 had a diploma, 75 had a bachelors', 49 had had a Masters and 17 had a PhD.

3.12.6 Experience

Table 4.17 shows experience statistics.

Table 4.17: Experience

Experience	Count of Experience	Percentage
less than 2 years	32	15.92%
2 - 5 years	76	37.81%
6 - 10 years	66	32.84%
Over 10 years	27	13.43%
Total	201	100%

Table 4.17 shows that 15.92% of the respondents had less than 2 years of experience. 37.81% had 2 to 5 years' worth of experience and 32.84% had 6 to 10 years' worth of experience and 13.43% had over 10 years of experience.

3.13 Questionnaire Reliability

To measure the reliability of the questionnaire, the Cronbach's alpha was used. The Cronbach's alpha is a tool that is used to analyse the internal consistency or reliability of a set of items or statements in this case. Statistically, the Cronbach's alpha is a function of the number of items that are run in a test, average covariance amongst the pair of items and the overall variance of the total score.

Cronbach's alpha ranges from 0 to 1 according to George and Mallery (2003). George and Mallery (2003) state that the closer the alpha is to 1, the more reliable the items in the scale are. If the items are not correlated and are entirely independent from each other, alpha will be 0. They further state that if the alpha is greater than 0.9 then it is excellent, greater than 0.8 is good, greater than 0.7 is acceptable, greater than 0.6 is questionable and greater than 0.5 is poor. Anything less than 0.5 will be unacceptable.

Goforth (2015) states that many academics and researchers prefer and recommend an alpha coefficient that ranges from 0.65 to 0.8 and even higher in a lot of cases.

Table 4.18 shows this study's questionnaire reliability and how it surpasses the expected range in all sections.

Table 4.18: Questionnaire Reliability

Variables		Cronbach's Alpha	Number of items	Reliability
Knowledge Process Capability	Acquisition	0.914	6	Excellent
	Conversion	0.912	6	Excellent
	Application	0.894	7	Good
	Protection	0.918	6	Excellent
Knowledge Infrastructure Capability	Organisational Technology	0.880	4	Good
	Organisational Structure	0.942	7	Excellent
	Organisational Culture	0.872	4	Good
Employee Performance		0.931	8	Excellent

Table 4.18 shows that this study's questionnaire was designed in a very reliable manner as all of the Cronbach's alphas are between 0.8 and 1, they are within the good and excellent range. 5 out of the 8 sections are extremely reliable and the other 3 are good.

3.13.1 Descriptive statistics of the variables

Table 4.19: Descriptive statistics of variables

Variable	Mean	Variance	Std. Deviation	N of Items
Knowledge process capability	82.99	276.510	16.629	25
Knowledge infrastructure capability	49.99	134.390	11.593	15
Employee Performance	27.98	39.190	6.260	8

Table 4.19 above shows that the knowledge process capability has a mean of 82.99, variance of 276.5 and standard deviation of 16.63. It has 25 statements asking

questions relating to knowledge process capability. These set of items have the highest set of descriptive statistics compared to the other variables meaning that the respondents were more likely to be affected by knowledge process capabilities than any other variables. The knowledge infrastructure capabilities had on average a 50% chance of having an impact on the respondents and their performance. Knowledge infrastructure capabilities had a mean of 49.99, variance of 134.390 and a standard deviation of 11.6. Employee performance showed the least desirable statistics as they had a mean of 27.98, a variance of 39.190 and a standard deviation of 6.26. However, given that employee performance had the least number of questions, that could have been a factor.

The following section is going to cover the different sections' descriptive statistics starting with knowledge process capability followed by knowledge infrastructure capability and employee performance.

3.13.2 Descriptive statistics for Knowledge Process Capability.

Table 4.20: Descriptive statistics for Acquisition questions

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
Acquisition1	Strongly Disagree	5	1.80	1.304	.583	.18	3.42	1	4
	Disagree	20	2.60	1.095	.245	2.09	3.11	1	5
	Neutral	63	3.08	.829	.104	2.87	3.29	1	5
	Agree	81	3.42	.722	.080	3.26	3.58	2	5
	Strongly Agree	32	3.62	.871	.154	3.31	3.94	2	5
	Total	201	3.22	.908	.064	3.10	3.35	1	5
Acquisition2	Strongly Disagree	5	1.80	1.304	.583	.18	3.42	1	4
	Disagree	20	2.65	.933	.209	2.21	3.09	1	5
	Neutral	63	3.27	.745	.094	3.08	3.46	2	5
	Agree	81	3.41	.703	.078	3.25	3.56	2	5
	Strongly Agree	32	3.56	1.134	.200	3.15	3.97	1	5

Acquisition3	Total	201	3.27	.894	.063	3.15	3.40	1	5
	Strongly Disagree	5	1.80	1.304	.583	.18	3.42	1	4
	Disagree	20	2.75	.851	.190	2.35	3.15	2	4
	Neutral	63	3.17	.708	.089	3.00	3.35	2	5
	Agree	81	3.32	.686	.076	3.17	3.47	2	5
	Strongly Agree	32	3.59	.911	.161	3.27	3.92	2	5
	Total	201	3.22	.821	.058	3.11	3.34	1	5
Acquisition4	Strongly Disagree	5	1.80	1.304	.583	.18	3.42	1	4
	Disagree	20	2.60	.821	.184	2.22	2.98	1	4
	Neutral	63	3.16	.653	.082	2.99	3.32	2	5
	Agree	81	3.41	.738	.082	3.24	3.57	2	5
	Strongly Agree	32	3.47	1.016	.180	3.10	3.83	2	5
	Total	201	3.22	.850	.060	3.10	3.34	1	5
Acquisition5	Strongly Disagree	5	1.60	.894	.400	.49	2.71	1	3
	Disagree	20	2.55	.759	.170	2.19	2.91	1	4
	Neutral	63	3.25	.822	.104	3.05	3.46	2	5
	Agree	81	3.44	.689	.077	3.29	3.60	2	5
	Strongly Agree	32	3.53	.950	.168	3.19	3.87	2	5
	Total	201	3.26	.869	.061	3.14	3.38	1	5
Acquisition6	Strongly Disagree	5	1.60	.894	.400	.49	2.71	1	3
	Disagree	20	2.40	.681	.152	2.08	2.72	1	4
	Neutral	63	3.40	.708	.089	3.22	3.58	2	5
	Agree	81	3.48	.673	.075	3.33	3.63	2	5
	Strongly Agree	32	3.59	.798	.141	3.31	3.88	2	5
	Total	201	3.32	.823	.058	3.20	3.43	1	5

In the acquisition section, most of the respondents generally agreed with the question. On average only about 5 respondents strongly disagreed with the question and that's a very small number when the population sample is 201 people. The mean even ranged from 3 to 4 meaning that generally everyone agreed with the questions.

Table 4.21: Descriptives for Conversion									
		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
Conversion1	Strongly Disagree	5	1.40	.894	.400	.29	2.51	1	3
	Disagree	20	2.70	.923	.206	2.27	3.13	2	5
	Neutral	63	3.40	.752	.095	3.21	3.59	2	5
	Agree	81	3.58	.756	.084	3.41	3.75	2	5
	Strongly Agree	32	3.78	.941	.166	3.44	4.12	2	5
	Total	201	3.41	.908	.064	3.29	3.54	1	5
Conversion2	Strongly Disagree	5	1.60	1.342	.600	-.07	3.27	1	4
	Disagree	20	2.80	.951	.213	2.35	3.25	2	5
	Neutral	63	3.32	.618	.078	3.16	3.47	2	4
	Agree	81	3.58	.722	.080	3.42	3.74	2	5
	Strongly Agree	32	3.81	.738	.130	3.55	4.08	3	5
	Total	201	3.41	.832	.059	3.29	3.52	1	5
Conversion3	Strongly Disagree	5	1.60	1.342	.600	-.07	3.27	1	4
	Disagree	20	2.55	.686	.153	2.23	2.87	2	4

	Neutral	63	3.27	.700	.088	3.09	3.45	1	5
	Agree	81	3.46	.775	.086	3.29	3.63	1	5
	Strongly Agree	32	4.06	.564	.100	3.86	4.27	3	5
	Total	201	3.36	.867	.061	3.24	3.48	1	5
Conversion4	Strongly Disagree	5	1.60	1.342	.600	-.07	3.27	1	4
	Disagree	20	2.40	.503	.112	2.16	2.64	2	3
	Neutral	63	3.16	.787	.099	2.96	3.36	1	5
	Agree	81	3.42	.705	.078	3.26	3.58	1	5
	Strongly Agree	32	3.69	.896	.158	3.36	4.01	2	5
	Total	201	3.23	.872	.061	3.11	3.36	1	5
Conversion5	Strongly Disagree	5	1.60	1.342	.600	-.07	3.27	1	4
	Disagree	20	2.55	.826	.185	2.16	2.94	2	5
	Neutral	63	3.27	.807	.102	3.07	3.47	1	5
	Agree	81	3.41	.738	.082	3.24	3.57	1	5
	Strongly Agree	32	3.72	.888	.157	3.40	4.04	2	5
	Total	201	3.28	.897	.063	3.16	3.41	1	5
Conversion6	Strongly Disagree	5	1.80	1.789	.800	-.42	4.02	1	5
	Disagree	20	2.75	.910	.204	2.32	3.18	1	4
	Neutral	63	3.17	.814	.103	2.97	3.38	1	5

	Agree	81	3.41	.803	.089	3.23	3.58	1	5
	Strongly Agree	32	3.59	1.132	.200	3.19	4.00	2	5
	Total	201	3.26	.955	.067	3.13	3.39	1	5

On the conversion question in the knowledge process capabilities, most of the respondents agreed with the questions they were asked. The maximum value in the likert scale was 5 and it meant strongly agreed. Most of the respondents strongly agreed with this question and they didn't deviate much from the mean. They were 6 questions in total and most respondents answered the first two questions - My organisation has processes for filtering knowledge and my organisation has processes for transferring organizational knowledge to individuals with some general disagreement. Most of the respondents were either neutral because maybe they were not aware of the processes or disagreed.

Table 4.22: Descriptives for Application Questions

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
Application1	Strongly Disagree	5	1.80	1.789	.800	-.42	4.02	1	5
	Disagree	20	2.55	.826	.185	2.16	2.94	1	4
	Neutral	63	3.33	.803	.101	3.13	3.54	1	5
	Agree	81	3.74	.803	.089	3.56	3.92	2	5
	Strongly Agree	32	3.69	1.091	.193	3.29	4.08	2	5
	Total	201	3.44	.984	.069	3.30	3.57	1	5
Application2	Strongly Disagree	5	1.80	1.789	.800	-.42	4.02	1	5
	Disagree	20	2.55	.887	.198	2.13	2.97	1	4
	Neutral	63	3.24	.837	.105	3.03	3.45	1	5
	Agree	81	3.56	.837	.093	3.37	3.74	2	5

Application3	Strongly Agree	32	3.50	1.016	.180	3.13	3.87	2	5
	Total	201	3.30	.971	.068	3.17	3.44	1	5
	Strongly Disagree	5	1.80	1.789	.800	-.42	4.02	1	5
	Disagree	20	2.50	.946	.212	2.06	2.94	1	4
	Neutral	63	3.37	.703	.089	3.19	3.54	2	5
	Agree	81	3.47	.776	.086	3.30	3.64	2	5
	Strongly Agree	32	3.47	1.077	.190	3.08	3.86	2	5
Application4	Total	201	3.30	.928	.065	3.17	3.43	1	5
	Strongly Disagree	5	1.80	1.304	.583	.18	3.42	1	4
	Disagree	20	2.35	.745	.167	2.00	2.70	1	4
	Neutral	63	3.46	.779	.098	3.26	3.66	2	5
	Agree	81	3.37	.782	.087	3.20	3.54	2	5
	Strongly Agree	32	3.50	1.078	.191	3.11	3.89	2	5
	Total	201	3.28	.928	.065	3.15	3.41	1	5
Application5	Strongly Disagree	5	4.00	.707	.316	3.12	4.88	3	5
	Disagree	20	3.75	.639	.143	3.45	4.05	3	5
	Neutral	63	3.62	.728	.092	3.44	3.80	2	5
	Agree	81	3.72	.575	.064	3.59	3.84	3	5
	Strongly Agree	32	3.59	.560	.099	3.39	3.80	3	5
	Total	201	3.68	.632	.045	3.59	3.76	2	5
	Strongly Disagree	5	1.60	1.342	.600	-.07	3.27	1	4
Application6	Disagree	20	2.60	.883	.197	2.19	3.01	1	4
	Neutral	63	3.30	.835	.105	3.09	3.51	2	5
	Agree	81	3.40	.719	.080	3.24	3.55	2	5
	Strongly Agree	32	3.56	1.105	.195	3.16	3.96	2	5
	Total	201	3.27	.926	.065	3.14	3.40	1	5
	Strongly Disagree	5	1.60	1.342	.600	-.07	3.27	1	4
	Disagree	20	2.75	.851	.190	2.35	3.15	2	4
Application7	Neutral	63	3.33	.783	.099	3.14	3.53	2	5
	Agree	81	3.53	.838	.093	3.35	3.72	2	5
	Strongly Agree	32	3.44	1.045	.185	3.06	3.81	2	5
	Total	201	3.33	.934	.066	3.20	3.46	1	5

They were 7 questions in total in the application section. There was a lot of deviation from the average which 3 – the neutral response. Respondents either generally strongly agreed or disagreed.

Table 4.23: Descriptives for Protection Questions

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
Protection1	Strongly Disagree	5	1.60	1.342	.600	-.07	3.27	1	4
	Disagree	20	2.50	.607	.136	2.22	2.78	2	4
	Neutral	63	3.27	.846	.107	3.06	3.48	2	5
	Agree	81	3.51	.793	.088	3.33	3.68	2	5
	Strongly Agree	32	3.59	1.103	.195	3.20	3.99	2	5
	Total	201	3.30	.949	.067	3.17	3.43	1	5
Protection2	Strongly Disagree	5	1.60	1.342	.600	-.07	3.27	1	4
	Disagree	20	2.65	.671	.150	2.34	2.96	2	4
	Neutral	63	3.19	.715	.090	3.01	3.37	2	5
	Agree	81	3.57	.757	.084	3.40	3.74	2	5
	Strongly Agree	32	3.75	.762	.135	3.48	4.02	2	5
	Total	201	3.34	.857	.060	3.22	3.46	1	5
Protection3	Strongly Disagree	5	1.40	.894	.400	.29	2.51	1	3
	Disagree	20	2.65	.875	.196	2.24	3.06	2	5
	Neutral	63	3.33	.823	.104	3.13	3.54	2	5
	Agree	81	3.48	.726	.081	3.32	3.64	2	5
	Strongly Agree	32	3.69	.896	.158	3.36	4.01	2	5
	Total	201	3.33	.896	.063	3.21	3.46	1	5
Protection4	Strongly Disagree	5	1.40	.894	.400	.29	2.51	1	3
	Disagree	20	2.80	.834	.186	2.41	3.19	2	5
	Neutral	63	3.32	.877	.110	3.10	3.54	1	5
	Agree	81	3.44	.791	.088	3.27	3.62	2	5
	Strongly Agree	32	3.66	.865	.153	3.34	3.97	2	5
	Total	201	3.32	.911	.064	3.20	3.45	1	5

Protection5	Strongly Disagree	5	1.40	.894	.400	.29	2.51	1	3
	Disagree	20	2.60	.821	.184	2.22	2.98	2	5
	Neutral	63	3.33	.861	.109	3.12	3.55	1	5
	Agree	81	3.44	.707	.079	3.29	3.60	2	5
	Strongly Agree	32	3.62	.942	.166	3.29	3.96	2	5
	Total	201	3.30	.901	.064	3.18	3.43	1	5
Protection6	Strongly Disagree	5	1.40	.894	.400	.29	2.51	1	3
	Disagree	20	2.70	.865	.193	2.30	3.10	2	5
	Neutral	63	3.30	.710	.089	3.12	3.48	2	5
	Agree	81	3.46	.759	.084	3.29	3.62	2	5
	Strongly Agree	32	3.72	1.054	.186	3.34	4.10	2	5
	Total	201	3.32	.900	.063	3.20	3.45	1	5

The protection section had 6 questions. There was also a lot of deviation from the mean in this question. Most people were generally neutral, agreed or disagreed. However very few people hardly strongly disagreed.

3.13.3 Descriptive statistics for Knowledge Infrastructure Capability

Table 4.24: Descriptive for Knowledge Infrastructure Capability

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
OrgTech1	Strongly Disagree	4	1.00	.000	.000	1.00	1.00	1	1
	Disagree	26	2.81	.849	.167	2.46	3.15	2	5
	Neutral	77	3.10	.836	.095	2.91	3.29	2	5
	Agree	72	3.68	.668	.079	3.52	3.84	2	5
	Strongly Agree	22	3.73	1.032	.220	3.27	4.18	2	5
	Total	201	3.30	.922	.065	3.17	3.43	1	5
OrgTech2	Strongly Disagree	4	1.00	.000	.000	1.00	1.00	1	1
	Disagree	26	2.96	.958	.188	2.57	3.35	2	5
	Neutral	77	3.04	.715	.082	2.88	3.20	2	5
	Agree	72	3.90	.695	.082	3.74	4.07	3	5
	Strongly Agree	22	4.18	1.006	.215	3.74	4.63	2	5

OrgTech3	Total	201	3.42	.967	.068	3.29	3.56	1	5
	Strongly Disagree	4	1.00	.000	.000	1.00	1.00	1	1
	Disagree	26	2.65	.745	.146	2.35	2.95	2	4
	Neutral	77	2.94	.732	.083	2.77	3.10	2	5
	Agree	72	3.65	.653	.077	3.50	3.81	2	5
	Strongly Agree	22	4.32	.839	.179	3.95	4.69	2	5
	Total	201	3.27	.931	.066	3.14	3.40	1	5
OrgTech4	Strongly Disagree	4	1.00	.000	.000	1.00	1.00	1	1
	Disagree	26	2.73	.827	.162	2.40	3.06	2	4
	Neutral	77	2.95	.841	.096	2.76	3.14	1	5
	Agree	72	3.67	.732	.086	3.49	3.84	2	5
	Strongly Agree	22	4.09	.971	.207	3.66	4.52	2	5
	Total	201	3.26	.977	.069	3.13	3.40	1	5
OrgStructure1	Strongly Disagree	4	1.00	.000	.000	1.00	1.00	1	1
	Disagree	26	2.85	.881	.173	2.49	3.20	2	5
	Neutral	77	2.96	.768	.088	2.79	3.14	2	5
	Agree	72	3.74	.731	.086	3.56	3.91	2	5
	Strongly Agree	22	4.32	.839	.179	3.95	4.69	3	5
	Total	201	3.33	.971	.069	3.20	3.47	1	5
OrgStructure2	Strongly Disagree	4	1.00	.000	.000	1.00	1.00	1	1
	Disagree	26	2.81	.981	.192	2.41	3.20	2	5
	Neutral	77	3.06	.784	.089	2.89	3.24	1	5
	Agree	72	3.85	.763	.090	3.67	4.03	2	5
	Strongly Agree	22	4.27	.550	.117	4.03	4.52	3	5
	Total	201	3.40	.976	.069	3.27	3.54	1	5
OrgStructure3	Strongly Disagree	4	1.00	.000	.000	1.00	1.00	1	1
	Disagree	26	2.58	.902	.177	2.21	2.94	1	4
	Neutral	77	3.12	.760	.087	2.94	3.29	2	5
	Agree	72	3.71	.592	.070	3.57	3.85	3	5
	Strongly Agree	22	4.18	.733	.156	3.86	4.51	2	5
	Total	201	3.33	.913	.064	3.21	3.46	1	5
OrgStructure4	Strongly Disagree	4	1.00	.000	.000	1.00	1.00	1	1
	Disagree	26	2.62	.898	.176	2.25	2.98	1	5
	Neutral	77	3.06	.848	.097	2.87	3.26	2	5
	Agree	72	3.76	.702	.083	3.60	3.93	2	5
	Strongly Agree	22	4.05	.844	.180	3.67	4.42	3	5
	Total	201	3.32	.975	.069	3.19	3.46	1	5

OrgStructure5	Strongly Disagree	4	1.00	.000	.000	1.00	1.00	1	1
	Disagree	26	2.69	.884	.173	2.34	3.05	1	4
	Neutral	77	3.04	.880	.100	2.84	3.24	1	5
	Agree	72	3.75	.727	.086	3.58	3.92	2	5
	Strongly Agree	22	3.91	.868	.185	3.52	4.29	3	5
	Total	201	3.30	.976	.069	3.17	3.44	1	5
OrgStructure6	Strongly Disagree	4	1.00	.000	.000	1.00	1.00	1	1
	Disagree	26	2.85	1.008	.198	2.44	3.25	1	4
	Neutral	77	2.87	.833	.095	2.68	3.06	1	5
	Agree	72	3.75	.727	.086	3.58	3.92	2	5
	Strongly Agree	22	4.18	.795	.169	3.83	4.53	3	5
	Total	201	3.29	1.003	.071	3.15	3.43	1	5
OrgStructure7	Strongly Disagree	4	1.00	.000	.000	1.00	1.00	1	1
	Disagree	26	2.62	.941	.185	2.24	3.00	1	4
	Neutral	77	3.05	.793	.090	2.87	3.23	1	5
	Agree	72	3.67	.751	.088	3.49	3.84	2	5
	Strongly Agree	22	3.86	.990	.211	3.42	4.30	2	5
	Total	201	3.26	.962	.068	3.13	3.40	1	5
OrgCulture1	Strongly Disagree	4	1.00	.000	.000	1.00	1.00	1	1
	Disagree	26	2.46	.761	.149	2.15	2.77	1	4
	Neutral	77	3.10	.788	.090	2.93	3.28	1	5
	Agree	72	3.76	.760	.090	3.59	3.94	2	5
	Strongly Agree	22	4.09	.868	.185	3.71	4.48	2	5
	Total	201	3.32	.975	.069	3.19	3.46	1	5
OrgCulture2	Strongly Disagree	4	1.00	.000	.000	1.00	1.00	1	1
	Disagree	26	2.62	.752	.148	2.31	2.92	2	5
	Neutral	77	3.03	.858	.098	2.83	3.22	1	5
	Agree	72	3.79	.749	.088	3.62	3.97	2	5
	Strongly Agree	22	4.50	.598	.127	4.24	4.76	3	5
	Total	201	3.37	1.012	.071	3.23	3.51	1	5
OrgCulture3	Strongly Disagree	4	1.00	.000	.000	1.00	1.00	1	1
	Disagree	26	2.73	.778	.152	2.42	3.04	2	5
	Neutral	77	2.97	.760	.087	2.80	3.15	2	5
	Agree	72	3.74	.628	.074	3.59	3.88	2	5
	Strongly Agree	22	4.55	.596	.127	4.28	4.81	3	5
	Total	201	3.35	.948	.067	3.22	3.48	1	5
OrgCulture4	Strongly Disagree	4	1.00	.000	.000	1.00	1.00	1	1

Disagree	26	2.46	.582	.114	2.23	2.70	1	3
Neutral	77	3.13	.522	.059	3.01	3.25	2	4
Agree	72	3.92	.666	.078	3.76	4.07	2	5
Strongly Agree	22	4.64	.658	.140	4.34	4.93	3	5
Total	201	3.45	.932	.066	3.32	3.58	1	5

In the knowledge infrastructure section, most respondents did not generally agree on the same thing. Its either they were in strong agreement or strongly disagreed. This section had a lot of deviation from one extreme end of the scale to the other.

3.13.4 Descriptive statistics for Employee Performance

Table 4.25: Descriptives for Employee Performance

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
EmployeePerf1	Strongly Disagree	5	1.60	1.342	.600	-.07	3.27	1	4
	Disagree	20	2.50	.607	.136	2.22	2.78	2	4
	Neutral	63	3.32	.714	.090	3.14	3.50	2	5
	Agree	81	3.53	.672	.075	3.38	3.68	2	5
	Strongly Agree	32	4.12	1.070	.189	3.74	4.51	2	5
	Total	201	3.41	.918	.065	3.28	3.54	1	5
EmployeePerf3	Strongly Disagree	5	1.00	.000	.000	1.00	1.00	1	1
	Disagree	20	2.30	.571	.128	2.03	2.57	2	4
	Neutral	63	3.16	.515	.065	3.03	3.29	2	4
	Agree	81	3.81	.654	.073	3.67	3.96	2	5

	Strongly Agree	32	4.84	.369	.065	4.71	4.98	4	5
	Total	201	3.55	.984	.069	3.42	3.69	1	5
EmployeePerf4	Strongly Disagree	5	1.00	.000	.000	1.00	1.00	1	1
	Disagree	20	2.45	.605	.135	2.17	2.73	2	4
	Neutral	63	3.16	.627	.079	3.00	3.32	2	4
	Agree	81	3.70	.697	.077	3.55	3.86	2	5
	Strongly Agree	32	4.59	.615	.109	4.37	4.82	3	5
	Total	201	3.48	.960	.068	3.35	3.62	1	5
EmployeePerf5	Strongly Disagree	5	1.00	.000	.000	1.00	1.00	1	1
	Disagree	20	2.45	.605	.135	2.17	2.73	2	4
	Neutral	63	3.41	.638	.080	3.25	3.57	2	4
	Agree	81	3.56	.652	.072	3.41	3.70	2	5
	Strongly Agree	32	4.50	.672	.119	4.26	4.74	3	5
	Total	201	3.49	.912	.064	3.36	3.61	1	5
EmployeePerf6	Strongly Disagree	5	1.00	.000	.000	1.00	1.00	1	1
	Disagree	20	2.30	.571	.128	2.03	2.57	2	4
	Neutral	63	3.49	.592	.075	3.34	3.64	2	5
	Agree	81	3.68	.668	.074	3.53	3.83	2	5
	Strongly Agree	32	4.56	.716	.127	4.30	4.82	2	5
	Total	201	3.56	.942	.066	3.43	3.69	1	5
EmployeePerf7	Strongly Disagree	5	1.00	.000	.000	1.00	1.00	1	1
	Disagree	20	2.45	.605	.135	2.17	2.73	2	4
	Neutral	63	3.41	.733	.092	3.23	3.60	2	5
	Agree	81	3.63	.621	.069	3.49	3.77	2	5

EmployeePerf8	Strongly Agree	32	4.62	.660	.117	4.39	4.86	3	5
	Total	201	3.54	.949	.067	3.41	3.67	1	5
	Strongly Disagree	5	1.00	.000	.000	1.00	1.00	1	1
	Disagree	20	2.55	.826	.185	2.16	2.94	2	5
	Neutral	63	3.30	.754	.095	3.11	3.49	2	5
	Agree	81	3.43	.865	.096	3.24	3.62	2	5
	Strongly Agree	32	4.31	.780	.138	4.03	4.59	2	5
	Total	201	3.38	.994	.070	3.24	3.52	1	5

They were 8 questions in the employee performance section. The response in this section was generally positive and there was not much deviation from the mean. In most of the questions, respondents generally ranged from being neutral to either agreeing or strongly agreeing and occasionally some people disagreed.

3.14 Correlation analysis

Table 4.26: Pearson's correlation coefficients of the study variables

	KMC	KIC	KPC	EP
Pearson correlation	1	0.567***	0.548***	0.679***
Sig		0.000	0.000	0.000
N	201	201	201	201
Pearson correlation	0.598***	1	0.675***	0.754***
Sig	0.000		0.000	0.000
N	201	201	201	201
Pearson correlation	0.543***	0.499***	1	0.674***
Sig	0.000	0.000		0.000
N	201	201	201	201
Pearson correlation	0.564***	0.574***	0.489***	1
Sig	0.000	0.000	0.000	
N	201	201	201	201

*Correlation is significant at 0.01 level

The aim of the correlation test is to explain the strength and direction of the relationship between the studied variables. Therefore, to examine the associations between the independent variables and the dependent variables, Pearson correlation coefficient was used in the present study. Furthermore, the relationships among the predictors included in this research study were tested. Table 4.26 shows that all independent variables have the statistically significant positive correlation with the dependent variable.

3.15 Regression analysis

This study is going to implement multiple regression analysis to analyses the impact between dependent and independent variable. Regression is a measure of the relationship between the dependent variable, e.g., knowledge process capability and knowledge infrastructure and the independent variable. This way of analysis highlights the importance of each variable in forecasting the dependent variable.

3.16 Hypothesis Remarks

Chapters 2 and 3 covered in extensive detail the literature relating to knowledge management capabilities and employee performance. The literature however was based on research done in other countries and other parts of the world. This study therefore undertook to analyse the same research area but at Lebanese French University – Kurdistan Region of Iraq. Therefore, for easier comparison, the way this research was done was in line with literature. Several hypotheses were formulated and tested. The results of those hypothesis are outlined below in table 4.26.

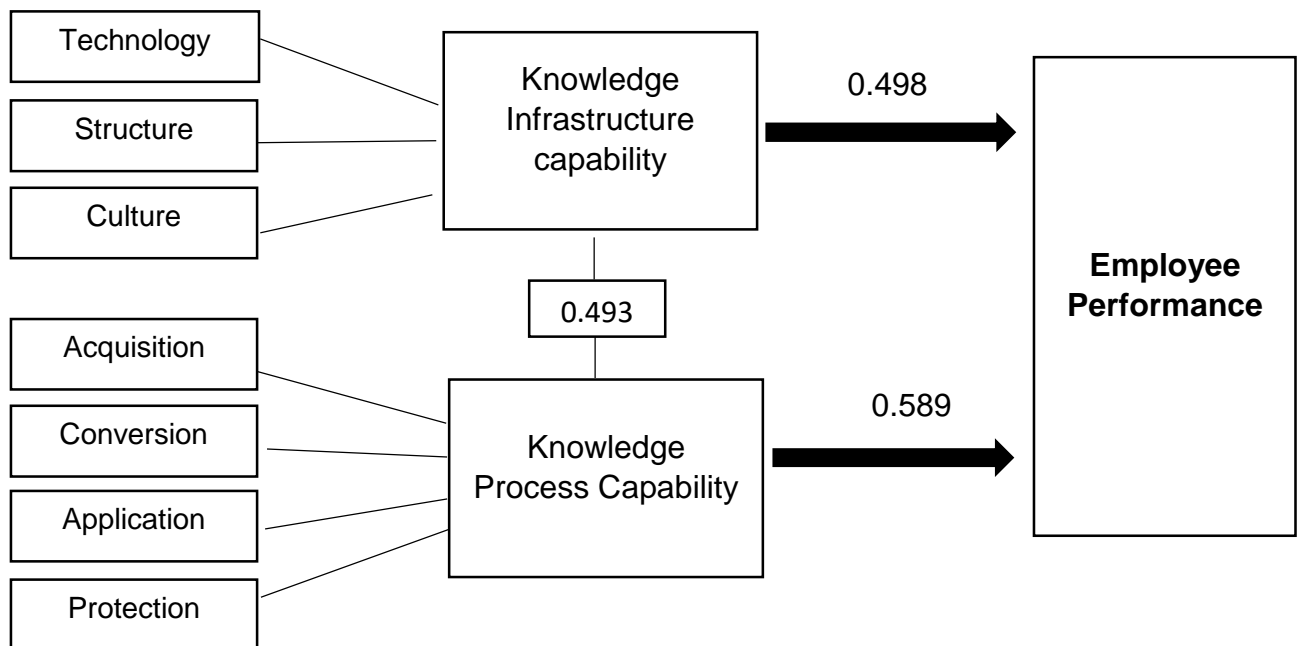
Table 4.27: Hypothesis Remarks

N	Hypothesis	Impact	Sig	R-squared	Remarks
1	H1	KMC and Employee Performance	.000	0.455***	Accepted
2	H1a	KIC and employee performance	.000	0.498***	Accepted
3	H1b	KPC and Employee Performance	.000	0.589***	Accepted
4	H1c	KIC and KPC	.000	0.507***	Accepted
5	H1d	KPC and KIC	.000	0.493***	Accepted

According to the Table 4.27, r-squared is 0.455 which shows that 45.5 % of the dependent variables is affected by the independent variables. The column (Sig) indicates the P-value should be less or equal to 0.05 so that the significant impact between the independent and dependent variable can be deduced. According to Sig

values presented in table 4.27, the significant impact of knowledge management capability and employee performance ($r=0.455^{***}$, $p<0.000$), is confirmed (H1). The significant impact between knowledge infrastructure capability and employee performance ($r=0.498^{**}$, $p<0.000$), is confirmed (H1a). The significant impact between knowledge process capability and employee performance ($r=0.589^{***}$, $p<0.000$), is confirmed (H1b). The significant impact between KIC and KPC ($r=0.507^{**}$, $p<0.000$), is confirmed (H1c). The significant impact on KPC and KIC ($r=0.493^{***}$, $p<0.000$), is confirmed (H1d). Thus, all the hypotheses were being accepted Table 4.27.

Figure 4.6: Conceptual Research Model



3.15 Findings

This study found that all the variables that were tested as independent variables have a positive relationship with the dependent variables. Some variables have more impact on the dependent variable than others. For example, in this study, employee performance was the main dependent variable. The main research question was whether knowledge management capabilities affected employee performance and table 4.26 shows that it does.

However, because knowledge management capability can be divided into two, sub-research questions further asked which one of the two (Knowledge Process Capability (KPC) and Knowledge Infrastructure Capability (KIC)) has more impact on employee performance more than the other. As shown in Table 4.26, this study found that even though both affect employee performance, KPC has more impact on employee performance than KIC. Even the descriptive statistics and means ran in this study also showed the same result. The respondents generally agreed with the knowledge process capability questions more than they did with knowledge infrastructure capabilities.

Coefficient values

The coefficients of the knowledge infrastructure capability and knowledge process capability is as follows.

Table 4.28: Coefficient values

Variables	Adjusted R Square	Coefficient Value
KIC	0.357	0.000
KPC	0.344	0.000

R square shows the level of variance explained by the research model. It indicates that if the new variables, are added R squared will increase regardless of the variable significance. Adjusted R squared calculate the significance from those

variables which are significant. Adjusted R squared shows that 36% of variation of the effect of knowledge infrastructure capability to the employee performance. The table above also depicts that the value of regression equation for predicting the dependent variable from independent variable. In this case the dependent variable is employee performance and the independent variable is knowledge process capability. A unit increase of the knowledge process capability causes a 0.34 or 34 % increase of the employee performance is predicted.

The significant value should be less than or equal to 0.05 in order to deduce the impact of the independent and dependent variables in the model. The value is used to determine if knowledge infrastructure capability and knowledge process capability had an effect to employee performance. The significant value is 0.00 for both knowledge infrastructure capability and knowledge process capability to employee performance. The values are less than 0.05. It means that there is a statistically significant variation between conditions means are not likely due to change.

CHAPTER FOUR. CONCLUSIONS AND RECOMMENDATIONS

4.1 Conclusion

Dalkir (2005, 17) states that capabilities are possible vital skills and a sound knowledge management practice is needed to fully realise their value. Therefore, knowledge management capability is an organisation's capability to obtain, create, dispense, integrate and apply knowledge that is related to activities as well as resources across different functional boundaries to produce new knowledge (Chuang (2004); Lee and Lee (2007); Tseng and Lee (2014)).

Companies retire a part of their workforce every year. These individuals will be from different departments and many of them will be managers according to Tajali, Farahani and Baharvand (2014, 59). Therefore, one of the problems an organisation faces will be using these individuals' knowledge prior to them retiring. As a result, management of human resources becomes a crucial strategy in every organisation as it can determine how successful an organisation becomes (Whately, 2004, 1).

Employees are an integral part of a company's competitive advantage especially in the service industry (Pfeffer, 1994: Zhang, 2012, 16). William (2010, 61) therefore, argues that a well-motivated employee will perform better and this translates to them having greater productivity and their quality of service is better. Subsequently, the better the quality of service offered by a company in addition to more productivity, it will ultimately lead to the company having a bigger profit margin. Employee performance plays a huge role in making an organisation successful and improved employee performance directly improves the firm's performance as well (Zhang, 2012, 17).

This study aimed at evaluating whether knowledge management capabilities have an effect on employee performance at the Lebanese French University – Kurdistan Region of Iraq. The results indicated that indeed, knowledge management capabilities have an impact on employee performance. Knowledge management capabilities are divided into two – knowledge process capabilities and knowledge infrastructure capabilities. Knowledge process capabilities consist of the acquisition, conversion, application and protection of information. Knowledge infrastructure

capabilities are therefore the infrastructures that hold the information, i.e., organisational technology, organisational structure and organisational culture.

The main research question of this study was: **Does Knowledge management capability has an impact on employee performance.** This study found that knowledge management capability does have an impact on employee performance. This study found that knowledge infrastructure capabilities have a bigger impact on employee performance compared to knowledge process capabilities. Most of the responses varied in the knowledge process capabilities section but most respondents were generally positive about knowledge infrastructure capabilities and agreed that indeed they are an integral part to employee performance. This answered all of the sub-questions the researcher had.

The study's objectives were also met as the researcher was able to establish a relationship between knowledge management capability and employee performance. This study had also set out to find out which of the two variables of knowledge management capability affect employee performance and it was found to be knowledge infrastructure technology. Another objective the study had was to find out if there was an extent to which knowledge management capabilities impacted employee performance and it was found that yes there was an extent to which knowledge management capabilities can affect employee performance.

One aspect of this study that we can't ignore is the human aspect. There's a popular saying that says that you can take a horse to the river but you can't force it to drink. Same applies with knowledge management capabilities and employee performance. Employees can have all the right tools and skills at their disposal and they might still not fully increase their performance level to their fullest potential because of other reasons that are beyond the scope of knowledge management capabilities.

4.2 Limitations

- ❖ Only 212 questionnaires were sent out but the sample population is bigger than that, so the 212 respondents only represent less than a quarter of the sample population.
- ❖ When dealing with qualitative analysis, respondents can be less than honest and just fill in the questionnaire just to get it over and done with instead of answering objectively.
- ❖ Some information in the questionnaires was missing.
- ❖ This is a cross sectional study which focuses on few respondents because of time horizon. Conclusion was drawn from the few people who represented the population size.

4.3 Recommendations

From the results and literature written out in this research paper, this study made the following recommendations.

Implications to the University

- ❖ Most of the participants were generally neutral or disagreed with the knowledge process capabilities of this questionnaire because perhaps they don't really that what they do every day is a part of gathering data and applying it in certain scenarios. So, the University must work at educating its workers and students alike to know and discern useful information and for them to actually know other ways of collecting data besides their usual.
- ❖ The University should invest more in the infrastructure of technology as it has a huge impact on the livelihoods of its stakeholders and more importantly the performance of the staff.
- ❖ The university must also work at having knowledge sharing or knowledge creating sessions as this a critical component of employee performance.
- ❖ The university should have classes or training sessions with employees and train them how to fully utilise the organisation's knowledge infrastructure capabilities to efficiently and effectively add value to the organisation.

- ❖ Lebanese French University need to create an infrastructure of technology to establish an effective connectivity
- ❖ Knowledge management is a critical aspect of any type of business, so the university has to teach knowledge management in all the colleges and departments to ensure that its students leave the university knowing about knowledge management practices and can integrate into the workforce more swiftly and smoothly.

Practical implications

- ❖ Introduction of knowledge process capabilities to employees is essential. To fully improve employee performance the staff have to be aware of the knowledge process capabilities.
- ❖ Employees are different and they need different needs based on their career level, age, experience and other factors. As a result, what improves the performance of one employee is different than what motivates and improves the employees of another. So, managers and supervisors alike and the whole management team have to figure out what works for their people and if there are any that need help or more resources at their disposal.
- ❖ In institutions of higher education, Knowledge management must be used as the basis for sharing knowledge of the educational activities.

Implications to the future researchers.

- ❖ This study gives an opportunity for a longitudinal study which involve a large number of respondents. The conclusion can be drawn from a large population gives reliable and a clear picture of effects knowledge management.
- ❖ The researchers can discover the gaps which need more research for the purpose of providing literature in the business industry.

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Turkish Republic of Northern Cyprus
Near East University
Faculty of economics and administrative sciences
Innovation & Knowledge management department

Research questionnaire

Dear participant

First of all, I would like to inform you that, this questionnaire is designed to investigate, the impact of knowledge management capability on employee performance - Lebanese French University in Kurdistan Region of Iraq. Please cooperate with us to indicate the required information, and use this information for the purposes of scientific research (master thesis) in the Department of Innovation and Knowledge Management in Near East University of Turkish Republic of Northern Cyprus, Your answers are the most important and have a vital role to the success of the study's significance. Please read all materials attached questionnaire and choose the answer that reflects the actual condition.

Your participation in this study is voluntary. If you do not want to participate, please return the questionnaire to the researcher. You also do not have to answer any question that makes you uncomfortable. Please note that there is no right or wrong answers. It is important that you indicate how much you personally agree or disagree with each of the statements below. Place a ✓ on the item which best indicates how you feel about each statement. The results of this questionnaire will only be used for research purposes and will not be publicized. Thank you for your cooperation.

SUPERVISOR: PROF. DR. MUSTAFA SAĞSAN

CHAIR OF THE DEPARTMENT OF INOVATION AND KNOWLEDGE MANAGEMENT, NEAR EAST UNIVERSITY

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RESEARCHER: RAWEEZ SABER ISMAEL

E-MAIL: RAWEZH.SABER@GMAIL.COM

First: Demographic Information

1. Gender

Female ()

Male ()

2. Marital status

Single ()

Married ()

3. Indicate where you fall among the following age brackets (years)

Below 25 ()

25-34 ()

35-44 ()

45-50 ()

Above 51 ()

4 Level of education

Secondary Certificate ()

Diploma level ()

Bachelor's Degree Level ()

Masters Level ()

Ph.D. ()

5 How long have you worked in the organization?

Less than 2 years ()

2-5 years ()

6-10 years ()

More than 10 years ()

6. General jurisdiction

.....

Second: Knowledge Process Capability

1-Acquisition

Statement	strongly agree	Agree	Neutral	disagree	strongly disagree
My organization ...					
1. Has processes for acquiring knowledge about our customers					
2. Has processes for generating new knowledge from existing knowledge					
3. Has processes for acquiring knowledge about our suppliers					
4. Has processes for distributing knowledge throughout the organization					
5. Has processes for acquiring knowledge about new products/services within our industry					
6. Has processes for exchanging knowledge between individuals					

2-Conversion

Statement	strongly agree	Agree	Neutral	disagree	strongly disagree
My organization ...					
1. Has processes for filtering knowledge					
2. Has processes for transferring organizational knowledge to individuals					
3. Has processes for absorbing knowledge from individuals into the organization					
4. Has processes for integrating different sources and types of knowledge					
5. Has processes for organizing (store/file) knowledge					
6. Has processes for replacing outdated knowledge					

3-Application

Statement	strongly agree	Agree	Neutral	disagree	strongly disagree
My organization ...					
1. Has processes for using knowledge in developing of new products / services					
2. Has processes for using knowledge to solve new problems					
3. Matches sources of knowledge with problems and challenges					
4. Uses knowledge to improve efficiency					
5. Uses knowledge to adjust strategic direction					
6. Is able to locate and apply knowledge to changing competitive conditions					
7. Takes advantage of new knowledge					

4-Protection

Statement	strongly agree	Agree	Neutral	disagree	strongly disagree
My organization ...					
1. Has processes to protect knowledge from inappropriate use inside the organization					
2. Has processes to protect knowledge from inappropriate use outside the organization					
3. Has processes to protect knowledge from theft from within the organization					
4. Has processes to protect knowledge from theft from outside the organization					
5. Values and protects knowledge embedded in individuals					

6. Clearly communicates (create awareness of) the importance of protecting knowledge					
--	--	--	--	--	--

Third: Knowledge infrastructure capability

1-Organizational Technology

Statement	strongly agree	Agree	Neutral	disagree	strongly disagree
My organization uses ITs that allow ...					
1. Employees to collaborate with other persons outside the organization					
2. People in multiple locations to learn as a group from a single source or at a single point in time					
3. People in multiple locations to learn as a group from a multiple source or at multiple points in time					
4. It to map the location (e.g. an individual, specific system, or database) of specific types of knowledge					

2-Organizational Structure

Statement	strongly agree	Agree	Neutral	disagree	strongly disagree
My organization's ...					
1. Structure facilitates the discovery of new knowledge					
2. Structure facilitates the creation of new knowledge					
3. Managers frequently examine knowledge for errors/mistakes					

4. Structure facilitates the transfer of new knowledge across structural boundaries					
My organization ...					
5. Bases our performance on knowledge creation					
6. Has a standardized reward system for sharing knowledge					
7. Designs processes to facilitate knowledge exchange across functional boundaries					

3-Organizational Culture

Statement	strongly agree	Agree	Neutral	disagree	strongly disagree
In my organization ...					
1. Employees understand the importance of knowledge to corporate success					
2. High levels of participation are expected in capturing and transferring knowledge					
3. On-the-job training and learning are valued					
4. Senior management strongly support the role of knowledge management to business success					

Fourth: Employee performance

Statement	strongly agree	Agree	Neutral	disagree	strongly disagree
1. I complete all tasks given to me on time					

2. I enjoy working beyond normal working hours to complete my tasks					
3. The degree to which I work meets the clients satisfaction					
4. I always met the daily targets as per work schedule					
5. I enjoy representing my supervisor at meetings and workshops even when I am busy at work					
6. I do my work without raising complaints to my supervisor					
7. I record my daily activities in my to do list every morning					
8. I have improved my performance tremendously					

ATTACHMENTS

Knowledge infrastructure capability and employee performance

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.601 ^a	.361	.357	.62725

a. Predictors: (Constant), KIC

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.471	.196		7.493	.000
	KIC	.608	.057	.601	10.596	.000

a. Dependent Variable: EP

Knowledge process capability and employee performance

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.589 ^a	.347	.344	.63396

a. Predictors: (Constant), KPC

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	1.197	.228		5.247	.000
KPC	.693	.067	.589	10.282	.000

a. Dependent Variable: EP

PLAGIARISM REPORT

The Impact on Knowledge Management Capability on Employee Performance

ORIGINALITY REPORT

7 %	6 %	3 %	%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

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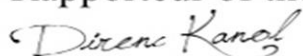
ETHICS COMMITTEE APPROVAL

26.02.2018

Dear Raweez Saber Ismael

Your application titled **“The Impact Of Knowledge Management Capability On Employee Performance”** with the application number YDÜ/SB/2018/85 has been evaluated by the Scientific Research Ethics Committee and granted approval. You can start your research on the condition that you will abide by the information provided in your application form.

Assist. Prof. Dr. Direnç Kanol
Rapporteur of the Scientific Research Ethics Committee



Note: If you need to provide an official letter to an institution with the signature of the Head of NEU Scientific Research Ethics Committee, please apply to the secretariat of the ethics committee by showing this document.