



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

**AN ASSESSMENT OF BARRIERS TO KNOWLEDGE
CREATION AND SHARING: A CASE OF PIONEER
COMPANY AT MANUFACTURING INDUSTRY IN
SULAYMANIAH**

MZHDA BARZAN EZZAT

MASTER'S THESIS

NICOSIA

2018

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ACCEPTANCE/APPROVAL

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ABSTRACT

**AN ASSESSMENT OF BARRIERS TO KNOWLEDGE
CREATION AND SHARING: A CASE OF PIONEER
COMPANY AT MANUFACTURING INDUSTRY IN
SULAYMANIAH**

Knowledge is an important aspect of every organization. The importance of knowledge management can therefore not be underestimated. The success and performance of every organization depends on the knowledge available to them. This is because every action taken in an organization is backed by some form of knowledge and this knowledge is a tool for competition with other organizations. Therefore managing knowledge is managing competition, improving knowledge is improving competition. It is with this in mind that this research sought to assess the barriers of knowledge management and creation in manufacturing companies. The research was exploratory and it was qualitative approach. With the help of existing theory from previous literature and the Andreas Riege (2005) barriers to knowledge creation and sharing, this research's questions were created to fit the context of manufacturing companies. The results of the research proved that the barriers from organizations and individuals were a major deterrent to knowledge creation and sharing in these organizations. There were other important barriers that are discussed in this research as well. This research's findings are important to manufacturing companies worldwide especially the Northern Iraq companies. It promises to add to existing literature and it forms as a basis for other researchers to conduct further studies.

Keywords: Knowledge, barriers, Knowledge management, knowledge creation, manufacturing companies, North Iraq, Pioneer Company.

ÖZ

BİLGİ ÜRETİMİ VE PAYLAŞIMI İÇİN ENGELLERİN DEĞERLENDİRİLMESİ: SÜLEYMANİYE 'DEKİ İMALAT SEKTÖRÜNDE PIONEER BİR FİRMANIN VAKASI

Bilgi her organizasyonun önemli bir tarafıdır. Bu nedenle bilgi yönetiminin önemi eksik değerlendirilemez. Her organizasyonun başarısı ve performansı kendilerinde mevcut olan bilgiye bağlıdır. Bunun nedeni bir organizasyonda alınan her eylemin bir tür bilgiyi arkasına almasından ve bu bilgi diğer kuruluşlarla rekabet olan bir araçtır. Bu nedenle, bilgi yönetimi rekabet yönetimidir ve bilgi gelişimi rekabet gelişimidir. Bunları da göz önünde bulundurarak, bu araştırma bilgi yönetimindeki ve imalat şirketlerindeki yaratımlarındaki engelleri değerlendirmeyi araştırmaktadır. Bu araştırma keşifsel ve niteliksel bir yaklaşımdır. Bu araştırmanın soruları önceki bilgi kaynaklarında var olan teori ve Andreas Riege (2005) bilgi yaratma ve paylaşma engelleri göz önüne alınarak imalat şirketlerine uygun olması için oluşturulmuştur. Araştırmanın sonuçları, örgütlerden ve bireylerden gelen engellerin, bu kuruluşlarda bilgi yaratma ve paylaşma konusunda büyük bir engel olduğunu kanıtladı. Bu araştırmada tartışılan diğer önemli engeller de vardı. Bu araştırmanın bulguları, özellikle Kuzey Irak şirketleri başta olmak üzere dünya çapında üretim şirketleri için önemlidir. Var olan bilgi kaynağına eklemeyi vaat ediyor ve diğer araştırmacıların daha ileri çalışmalar yürütmesi için bir temel oluşturuyor.

Anahtar Kelimeler: Bilgi, engeller, bilgi yönetimi, bilgi yaratma, imalatçı şirketler, Kuzey Irak, Pioneer şirketi.

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PERMISSION LETTER FROM PIONEER COMPANY

PLAGIARISM REPORT

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INTRODUCTION

The first chapter of this research work is the introductory chapter. In this chapter the researcher introduces the topic for the research, the background of the research and the history behind the topic of this research. Other important aspects of this research are also summarised in this chapter to enable the reader understand this research as they unfold in the various chapters that follow after this introductory section. The purpose of this research is explained as well as the research questions that are pertinent to this study. This chapter also gives a short summary of the benefits of this research to the academic field and to those in the practical field. The contents of the various chapters in this research are also summarised to give the reader a glimpse of what the various chapters present.

Background of This Study

This section gives a brief background and history of this topic. It explains what has been done by other researchers with regards this topic. It includes related and similar topics. This section would provide the avenue where this research's contribution to existing literature would be explained. The background is important to help the reader understand and know what has been done and what is to be done. This is however limited to the fact that the researcher could not access or read every single related research. However, a thorough work has been done researching this topic. The next paragraph explains knowledge as pertaining to this research. The background will highlight the concepts as their details can be found in the literature review section of this research.

Knowledge according to McElroy (2004) is any information that has been tested and proved valid. Knowledge could be from expert, experience, intuition and it can form the basis on which other people work on to have their own experiences. Knowledge according to previous researchers can be human that is an individual's own way of doing things; social, which is how the societal relations or groups expect and eventually do things; structured knowledge which exists on its own and acts as a standard way of doing things (De Long and Fahey, 2000). Other researchers also explained that knowledge could be cultural (McElroy, 2004), from one's experience and one's idea or perception (Christensen, 2003). One important thing to take note of is that, knowledge is ever changing. It is transformational, modifiable and at times it can be totally eradicated as time passes by (Sirec et al., 2012). Knowledge creation and management have been researched by a reasonable amount of researchers. They came out with useful information that has increased the available knowledge in this on-going debate. Among these researchers are Dalkir (2008) and Uriarte (2008) who explained knowledge creation as the innovation of new knowledge that has never been in existence and as such quite difficult to manage. The management of knowledge was also researched by Ringel-Bickelmaier and Ringel (2010). They explained management of knowledge as capturing, sharing and using of information. Knowledge creation and management is important to capture, develop, modify, improve and recreate knowledge. The barriers of knowledge creation and sharing can be explained as the reasons that prevent people from innovating, capturing, using and sharing information in any setting or situation. Andreas Riege (2005) gave these ten points as the barriers of knowledge creation: 'Organizational structure, rewards, cultural factors, leadership, motivation, time, language management support, attitudes and perception, technology. These factors were also supported by other researchers. For management support, Muchaonyerwa 2015 explains that strong management-employee relationship promotes knowledge sharing. Maki 2015 asserted that Language differences could be an obstacle to communication and knowledge management. Andreasin and Andreasin

(2013) also stressed that motivation is essential for encouraging knowledge sharing. In their research, McDermott and O'Dell 2001 stated that knowledge management innovations fail because of cultural issues. Riege (2005) in a study found that lack of time is one of the barriers of knowledge sharing and knowledge creation. Hubert and Lopez (2013) explained that the attitude of some employees influenced knowledge sharing, in that employees may feel that if they share their value decreases and that would threaten their job security. A report by KPMG (2001) explained that too much expectation of technology is also another barrier to knowledge management. Brcic and Mihelic (2015) did a study on knowledge sharing between employees of different generations. They found that lack of motivation and unwillingness constituted the biggest barriers and younger generation felt that they did not get enough knowledge under mentorship from the older generation

These are summaries of some of the research that has been conducted in this topic. They were the factors that this research used to conduct the research. The next section will explain the purpose of this research.

Purpose of the study

Knowledge management is an important aspect of every organization. It is the most vital part of every organization. This is because without knowledge, nothing can function. Every action that is taken in an organization is based on some level of knowledge. Therefore knowing how to manage knowledge is an essential part of every organization. One benefit of managing knowledge is that it creates a bond among the staff if it is well managed. A good knowledge management system also places the organization ahead of other competing organizations (Dalkir, 2005)

There has been a lot of research on knowledge management and the barriers to knowledge creation and sharing. As such, this research does not intend to re-conduct a study in this topic since it has been reasonably explored but it intends to make use of this information in application to Companies in north Iraq and a specifically selected company. The purpose of this research is to explore the barriers to knowledge creation and sharing in North Iraq.

This research is meant to explore what the barriers of knowledge creation and sharing are, in this company. The exploratory purpose of this research is because the researcher wants details that can fully inform the researcher since Northern Iraq and the company in question has not been researched before.

The gap that needs to be filled therefore is the application of the existing knowledge in Northern Iraq to see if it is the case as other researched countries.

Statement of the problem

Knowledge is as good as it is disseminated. However, for that to take place it needs to be created and there are supposed to be good conditions which can allow knowledge to be created and shared. Many an organization have benefitted immensely from knowledge management. However some are still lagging behind and not realizing how much they could be benefitting. It is essential that barriers to knowledge creation and sharing be explored so that companies can increase awareness and map a way forward in order to tap into the richest source of information, the human brain.

Research Questions

The research questions that will guide this research are:

1. Are the employees aware of knowledge management aspects of knowledge creation and sharing?
2. How does culture affect knowledge creation and sharing in organizations?
3. How do organizational factors affect knowledge creation and sharing?
4. How does technology affect knowledge creation and sharing?
5. How do personal factors affect knowledge creation and sharing?

Data for this research would be collected through interviews since this research is a qualitative one and exploratory in nature. Through the answers given in the interviews by the respondents and the analysis of these responses, the research questions would be answered. It is to be noted that the research questions are not the same as the interview questions; however, the research questions guided the researcher in setting the questions for the interview. The interview questions are detailed and give the respondents room to express themselves. Through their responses, the research questions will be answered.

Importance and Contributions of this Research

The importance of this research cannot be overemphasized. It carries the potential to shoot companies from their current level to the next level.

The Northern Iraq companies will benefit a lot from this research. This is because even though they may have some knowledge in this topic, they do not have information that is specific to the Northern Iraq country. Since this research is specifically centred on Northern Iraq, the information would be one that directly applies to them. They can use this information to improve their knowledge management system which will place their organizations at par with international companies. The selected company for this research will benefit extremely since they are the direct sample population for this research. But generally, most parts of the results would be useful to companies worldwide.

This research will also contribute to existing knowledge in this topic since it will provide new information that other research was not able to provide. Information specific to the Northern Iraq companies would be made available to the existing body of knowledge. This information would validate other research that has been carried on this topic and it would aid future researchers to carry out similar research in their countries as well.

CHAPTER ONE

LITERATURE REVIEW

1.1 Introduction

This section offers an insight of theoretical and empirical support that can be used to address issues concerning barriers to knowledge creation and sharing. As such, deals with knowledge management, knowledge creation and knowledge sharing. It also looks at knowledge sharing at the importance of knowledge management, covers knowledge management theories, and outlines potential knowledge creation and sharing barriers that are more likely to be encountered by manufacturing firms in Northern Iraq. This section also deals with the literature from previous scholars concerning knowledge management elements in order to come up with the hypothesis for the current study as well as a gap to focus the study on.

Firstly this chapter looks at the definition of knowledge as it forms the basis of this study to provide the reader with an understanding so that the whole subject of knowledge creation, knowledge sharing and knowledge management becomes easier to comprehend. The researcher goes on to provide the different types of knowledge in existence as their differences have an effect on how they are shared in an organization. The researcher goes deeper on knowledge creation and provides a framework developed by earlier scholars upon which it is built as they try to understand all about it. In addition knowledge management is defined and the processes involved in knowledge management as well as its benefits clearly outlined so as to provide in depth insight on the subject. Likewise knowledge sharing is also examined and how it can be enhanced as well as benefits the organization and employees can reap from it.

There are various factors that affect the creation and sharing of knowledge in an organization. These are classified into organizational, cultural, individual and technological. It is the purpose of this study to explain these barriers and these factors form the crux of the study. The researcher also looks at models

of knowledge management. These provide insight on how companies can enhance their knowledge management process and provide a framework upon which knowledge strategies can be set.

Finally the researcher provides empirical review based on previous studies concerning knowledge management and its aspects. It is upon this and the rest of the literature that the researcher forms the conceptual framework that will be used in this study.

1.2 Knowledge

Knowledge refers to information that has been validly substantiated by proof. According to Nonaka et al (2003) it is ever changing. Knowledge involves experiences, values and insight from experts which forms a basis upon which assessment and integration of information and new experiences can take place (Davenport and Prusak 2000).

The following definition was given by Gamble and Blackwell (2001) based on one by Davenport and Prusak (2000):

“Knowledge is a fluid mix of framed experience, values, contextual information, expert insight, and grounded intuition that provides an environment and framework for evaluating and incorporating new experiences and information. It originates and is applied in the mind of the knower’s. In organizations it often becomes embedded not only in documents or repositories, but also in organizational routines, practices and norms.”

Knowledge can be interpreted differently and have different meanings to different people (Maki 2008; Little 2010). According to De Long and Fahey (2000), there are three forms of knowledge and these are human, social and structured.

Human knowledge entails an individual’s knowledge and how they perform things. It involves the tacit knowledge found within and the explicit knowledge

recorded down. It comes from experience and is derived from an individual's skills and abilities.

Social knowledge is found in relationships between individuals and is tacit. Collaborations make use of social knowledge in order to share it. An example is a team of experts whose know how combined together is much more than that in one person.

Structured knowledge is that which can exist on its own separate from the one who knows it. It is based on rules and therefore can be found in such elements like routines and processes. (De Long and Fahey 2000)

Davenport and Prusak (2008) contend that knowledge involves judgement. It judges arising situations using what is already known and is like an environment in that it is dynamic in nature. They added that when companies recruit people it is mostly for their knowledge rather than their qualifications. Companies therefore need to recognize knowledge for the corporate asset that it is. They also explained that knowledge facilitates quick responses to situations. The authors pointed out that it is difficult in this era to stop copying from rivals because of the general flow of information therefore trade secrets from centuries ago are a rarity.

According to Firestone and McElroy(2004) knowledge refers to existing information that has undergone tests and evaluation. They contend that it provides aid to those who generated it and their systems and help them in adaptation. They provided three types of knowledge and these are as follows:

- The type of knowledge that exists in systems, physical systems. It is tested and evaluated and allows these systems to adapt to their environments. Examples of this knowledge are genetic and synaptic knowledge.
- The type of tested and evaluated knowledge that resides in the mind in the form of beliefs one has about the world. It is mental, cannot be shared sometimes and is subjective as people have different

perspectives on the same thing therefore its dependant on different factors.

- The type of knowledge than can be shared and is objective in nature about the world. It may be in the form of speech or based on artefacts or culture.

According to Firestone and McElroy(2004) the cultural knowledge has an influence on the mental knowledge which in turn is based on situations and beliefs.

Petrides and Nodine (2003) define knowledge as simply information application to decision making processes or actions. Wilson (2002) states that “knowledge is defined as what we know: knowledge involves the mental processes of comprehension, understanding and learning that go on in the mind and only in the mind, however much they involve interaction with the world outside the mind, and interaction with others.”

Christensen (2003) contends that knowledge can be defined from two perspectives which are perception and experience. The author explained that knowledge based on perception stems from beliefs one has, memory of things and deductions made on situations. On the other hand the knowledge based on experience stems from the interaction between the one in possession of the knowledge and the object of knowledge or the surroundings. It therefore comes from deeds. Christensen referred the knowledge arising from perception as ‘know-that’ and that arising from experience as ‘know-how.’ They explained that, know what is simply what a person goes around with in their heads and may share it to others but they know how has to be put into action or practise for it to be shared.

Alavi and Leidner (2001) explain that knowledge is information that resides in the mind of an individual. They explained that this knowledge may or may not be useful, accurate and new. They added that it comes from various sources like ideas, judgements, observations, interpretations and so on. They also

stated that it is personalized in nature. In addition they added that it can be in an individual or it can come from a group.

1.3 Tacit vs explicit knowledge

According to Sirec et al (2012) knowledge is constantly changing as its nature entails volatility and dynamism. It keeps emerging and is reconstructed constantly. They stated that by nature knowledge is either tangible or intangible. Fernandez and Saberwal (2010) state that explicit knowledge is that which is in form of numbers and words. They stated that tacit knowledge is that knowledge based on one's intuitions, gut feeling and insights.

Dalkir (2005) tacit knowledge is inside of individuals. As a result its sharing can only be improved by one's willingness to share it (Uriarte 2008). An increase in it is an increase in value. Dalkir (2005) added that because of its intangibility in nature, its articulation is difficult. Tacit knowledge entails adaptation, mentoring, collaboration and coaching in. explicit knowledge involves reproduction, dissemination, systemization and documentation (Dalkir 2005). Uriarte (2008) contends that it can be communicated physically through workshops, internships and day to day conversation; and electronically through technological platforms like emails and social networks.

According to Fernandez and Saberwal (2010) conversion of tacit knowledge into explicit knowledge is possible and is reflected where a person puts thoughts into words through documentation for example writing a book. The author also said by virtue of learning from something written down, explicit knowledge would also have been converted into tacit knowledge.

When new knowledge is acquired within the organization, the capacity of the employee's increases and transformation and generation of new knowledge is enabled (Chen and Huang, 2009). This knowledge is internally and externally acquired explicitly and tacitly. According to Byukusenge et al, (2016), explicit knowledge is tangible knowledge acquired from documents

that are already in existence. This may be experiences, technical know-how and skills written down in texts, seminars, debates, rules and regulations (Ziaedinni et al 2013).

Byukusenge et al, (2016) also states that tacit knowledge, that which is known by people may be acquired through observation. Uriarte (2008) explains that interaction; trial and errors all improve tacit knowledge. Sirec et al (2012). Sirec et al likened knowledge in an organization to an iceberg. Explicit knowledge was likened to the visible top part of the iceberg as it is easily accessed, recognized and shared. Tacit knowledge was likened to the bottom of the iceberg. One needs to go deeper to discover it. Likewise tacit knowledge comes from learning, experience and perception.

According to Dalkir (2005) by virtue of sharing and converting intangible knowledge into explicit knowledge, knowledge can be easily shared among counterparts as well as codified. Once documented, the knowledge can be made available to a wider audience over an intranet and it can be preserved for future generations to come. The author explains that codification of knowledge helps in it being understood as well as being improved and adjusted as necessary. They also mentioned that the codification process can be costly and difficult in terms of credibility, understandability, currency and accuracy among other things.

Uriarte (2008) explains that tacit knowledge and explicit complement each other and in some cases one cannot exist without the other. He said there are times especially on complex technical things or mathematical problems when one needs tacit knowledge first in order to comprehend what is explicitly documented. They would not understand all the formulas without understanding what it was about or be able to solve it without the tacit knowledge.

According to Sirec et al (2012) tacit knowledge allows one to perform at a premium as compared to explicit knowledge. They explained that one would

start off as an amateur and for them to become an expert they would have to undergo a process of acquiring experience from the activity and relate to it. They do not just turn experts by exposure to explicit knowledge. The success of the top management therefore depends on much tacit knowledge.

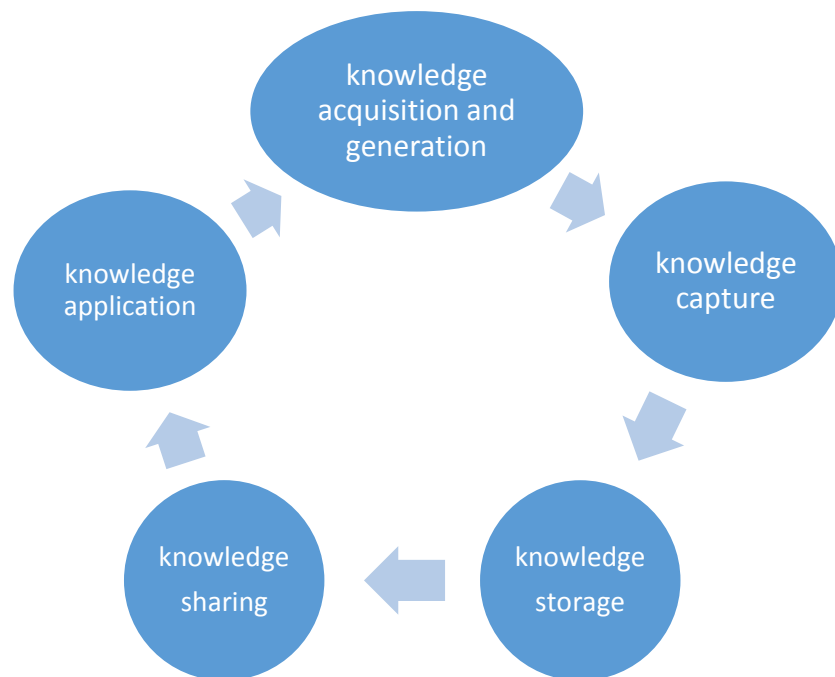
Tacit knowledge is easier to protect as compared to explicit knowledge (Sirec et al 2012). The scholars explained that this is because of its nature which involves difficulty in codification, expression and transmission. It is thus gives a company a competitive edge. Sirec et al (2012) added that for tacit knowledge to flourish it needs to be incorporated within the structure, culture and routines of the organization.

Knowledge may also be acquired externally by means of outsourcing people with the relevant expertise and/or buying the knowledge in the form of patents (Wong and Aspinwall 2004). Implicit knowledge is all about ideas and perspectives (Ziaedinni et al, 2013). According to

1.4 Knowledge management

Knowledge management refers to the acquisition, sharing and application of knowledge for the improvement of a business performance (Darroch 2005).

Fig 1.1 the knowledge management process



Source: Parson Europe

According to Dalkir (2008), the creation of knowledge is bringing into existence something that was nonexistent before, something new. It is not easy to manage the process of creation of new knowledge (Uriarte 2008). The scholar contends that the absence of the management in most cases make creation and innovation easier. However since companies thrive on creativity and innovation it is therefore necessary for the company to be able to manage the process. Once that is done the knowledge can be captured for use.

According to Dalkir (2008) the capturing of knowledge involves its identification which may be internally or externally. Uriarte (2008) explains that explicit knowledge is captured internally and externally through memos, reports and reports whereas tacit knowledge is captured from seminars, discussions and meetings with various stakeholders.

The organization will then determine if it is valuable to them. If it is then they store it as intellectual capital. According to Uriarte(2008) the knowledge is stored into databases and decisions regarding access to it and how it can be

published are made beforehand. The scholar added that it can be classified into structured and unstructured information through content management.

It is then contextualized and shared to the users. These will help widen the scope of the knowledge by evaluating it as they apply it. Assurance should be given to employees that sharing knowledge will not have any negative impact on their position in the company (Mohaptra et al 2016). The author stated that it can be shared via various platforms like wikis, collaboration and networking technologies among others.

Once shared, the knowledge has to be applied. According to Mohaptra et al (2016) it is imperative that knowledge be used as soon as possible as in some instances it can become outdated. The author contends that this stage is of vital importance because if it is not exercised then all the other processes are rendered useless. The users are the ones who will be able to say when the knowledge becomes obsolete or when it is no longer applicable, and the cycle starts all over again.

According to Ringel-Bickelmaier and Ringel (2010), knowledge management refers to all the activities that are connected to the capturing, use as well as sharing of knowledge. In order for innovation to be successful there is need for identification of gaps in knowledge sharing, transfer and creation. According to Gamble and Blackwell (2001) knowledge management the objective of knowledge management is to develop an environment conducive for people invitation facilitation and development, sharing, combination and consolidation of knowledge.

Darroch (2005) reiterated that there is need to effectively and innovatively manage knowledge so that a business can improve its competitive position. This is supported by Durst and Edvardsson (2012) who recommended firms to integrate knowledge management in their day to day activities in order to enhance their success and improve their life span. If a business wants to remain competitive it should therefore manage its necessary knowledge resources in order to improve market share, growth and sales (Byukusenge et al 2016)

Laitinen (2013) states that the objective of knowledge management is to create and harvest knowledge in such a way that proves to be of benefit to the organization. Marco et al (2013,) states that knowledge management is important as it improves the sustainability, growth and performance of a company. Ove at al (2013) recommends a strategy and a pool of knowledge resources in order for this to be achieved and for enabling knowledge sharing amongst members.

1.5 Benefits of knowledge management

According to Dalkir(2005), a prominent Knowledge Management author, knowledge management has a lot to bring to individuals as well as to organizations. The author said that at an individual level knowledge management creates bonds with others, allows people to keep abreast of their environment, and improves problem solving and decision making thus saving people a lot of time. The author added that knowledge management also results in challenges as well as room for contribution.

At a community practice level, knowledge management facilitates use of same language. People use the same jargon and understand each other. It also allows for mentoring of co-workers. In addition through all the learning, employees develop professionally. In addition guidelines can be set and procedures which employees can follow easily (Dalkir 2005).

Dalkir (2005) added that at an organizational level it helps organizations to move and keep ahead of their rivals. It also improves knowledge and problem solving. The author added that through knowledge management ideas diffuse and this improves the chances of innovation. It also helps with strategy. The author recommends organizations to develop knowledge management initiatives in a way that aligns with their objectives.

1.6 Knowledge sharing

This refers to the exchange of skills, knowledge and experience in an organization at a departmental or organizational level (Lin, 2007). Michailova (2010) defines it as the provision and receiving of information of concerning an activity, how to do something or feedback about a procedure or product. Brčić and Mihelič (2015), state that knowledge needs to be shared among employees in order for the organization to fully utilize its intellectual capital.

According to Wang et al 2014, knowledge sharing leads to knowledge creation, generates ideas and helps in problem solving. It has also been said to be a foundation for innovation (Zhou and Li, 2012). Chen et al (2012) acknowledge sharing is power instead of knowledge is power as commonly known. Knowledge may be costly to store and not all of it can be stored anyway so knowledge sharing results in acquisition of this information in a cheap way through conversation (Salkhi et al, 2014). Organizations need to strengthen knowledge sharing systems as they lead to increased competitive position and innovation (Salkhi et al, 2014).

Knowledge sharing can just happen or it can be triggered formally and supported by leaders and management so that it can be effective (Brcic and Mihelic 2015). The organization environment needs to be one which encourages the sharing of knowledge by employees (Kovacic et al 2006). The atmosphere should be one which supports knowledge sharing formally and informally (Suppiah and Sandhu 2011). This motivates employees to discuss issues and incentives can also be out in place to encourage knowledge sharing among employees (Wang et al 2014). A culture of knowledge sharing results in people coming together and providing a platform for airing out of grievances and other issues in the organization (Memon, 2015). Strategies should focus on trust, instilling confidence and support from management (Wang and Noe, 2010). There is therefore need to understand motivations behind each team member in order to improve knowledge sharing (McGrane, 2016)

Christensen, (2007) mentions five factors which have an effect on knowledge sharing and these are:

- Lack of knowledge about knowledge. This is when the employee has no idea of what they are supposed to be sharing. In the end no sharing will take place thus rendering knowledge sharing impossible.
- Relationship between sender and receiver of knowledge. A strong relationship based on trust encourages knowledge sharing whilst a weak relationship lacking in trust discourages knowledge sharing.
- Lack of identity: knowledge sharing is effective where the parties have something in common and speak the same language technically. If aims are the same, parties can work towards a common goal thus encouraging knowledge sharing.
- Willingness: if parties are unwilling to share the knowledge then knowledge sharing would not be possible.
- Stickiness on knowledge: tacit knowledge requires more effort in sharing and thus is regarded as stickier than explicit knowledge.

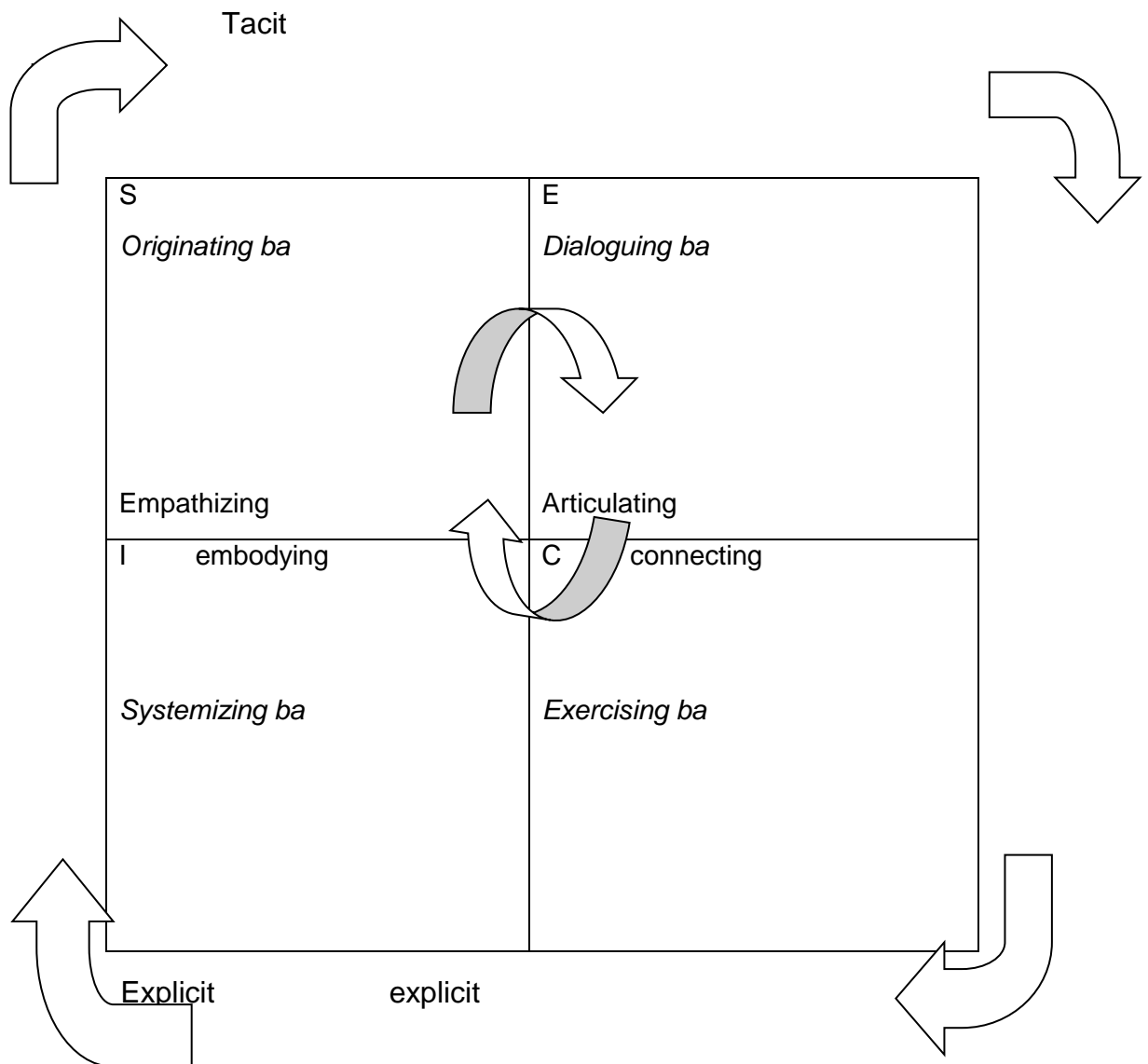
The points above are supported by other scholars as well. Dignum and van Eijik, (2005) support that people are willing to share knowledge to those they know and the stronger the relationship, the higher the chances of knowledge sharing.

Managers in turn foster a strong relationship and effective communication between employees by:

- Ensuring or enlightening employees on how the organization works, knowledge sharing and aiming for common goals
- Embarking on trust building activities and behavior. Managers should demonstrate their trust and be receptive to knowledge sharing
- Creating an environment conducive for knowledge sharing. This enables interaction and fosters strong relationships.

1.7 Knowledge Creation

Fig 1.2 SECI Model



SECI Model: Nonaka and Takeuchi 1995

S- Socialization **E-** externalization

I-internalization C- combination

The major knowledge creating activities are experimentation, problem solving, integration and implementation, prototyping and knowledge importation (Hsu, 2006). Akhavan recommends the existence of a relationship in order to enable knowledge creation. They state that negative attitudes towards one another discourage the sharing of tacit knowledge. The sharing of knowledge results in knowledge creation (Nonaka and Takeuchi, 1995). They came up with a widely used model in knowledge management which is known as the SECI model and represent socialization, externalization, combination and internalization. According to Uriarte (2008) this model shows the interaction between the two types of knowledge, tacit and explicit. Sagsan (2018) also came up with own model and explained that the process of knowledge management is an interdisciplinary process.

1.6.1 Socialization

This is where passing of knowledge occurs through sharing of experience, observation, imitation. It may involve face to face meetings, visits and webcams. This is where room is made available to facilitate individuals' interaction (Uriarte 2008). The knowledge passed on is from tacit to tacit. Socialization entails seeing reality as it is and involves empathy with one another and the environment. It therefore deals with experiential knowledge assets. Beliefs and skills are developed here (Uriarte 2008). According to Dalkir(2008) this is the easiest mode of knowledge exchange as it is part of what we do as humans on a daily basis. The author added that knowledge is rarely captured in socialization as it most often tacit in nature.

1.6.2 Externalization

Knowledge is changed from tacit to explicit in the form of documents and manuals through codification for easier understanding and knowledge sharing. It also involves articulation of tacit knowledge by using dialogue and reflection through symbolic language. Externalization involves creation of

metaphors, dialogue modeling, road mapping, expert systems and work, knowledge sharing groups among other things. It also involves translation of tacit knowledge into prototypes. It specializes in conceptual knowledge assets. An example of externalization is the creation of a new product (Uriarte 2008).

1.6.3 Combination

This entails the combination of knowledge sources like manuals and documents for creation of new knowledge. It involves application and systemization of knowledge, gathering and integration of explicit knowledge. In addition it involves finding a connection between concepts and editing and systemization of explicit knowledge. According to Uriarte (2008) it involves taking designs already in existence and merging them together into a new one. It thrives on systematic knowledge assets. Combination therefore involves activities like sorting categorization, creation of methodology, use of learning packages, web forums, scenarios, and foresight plans among other things.

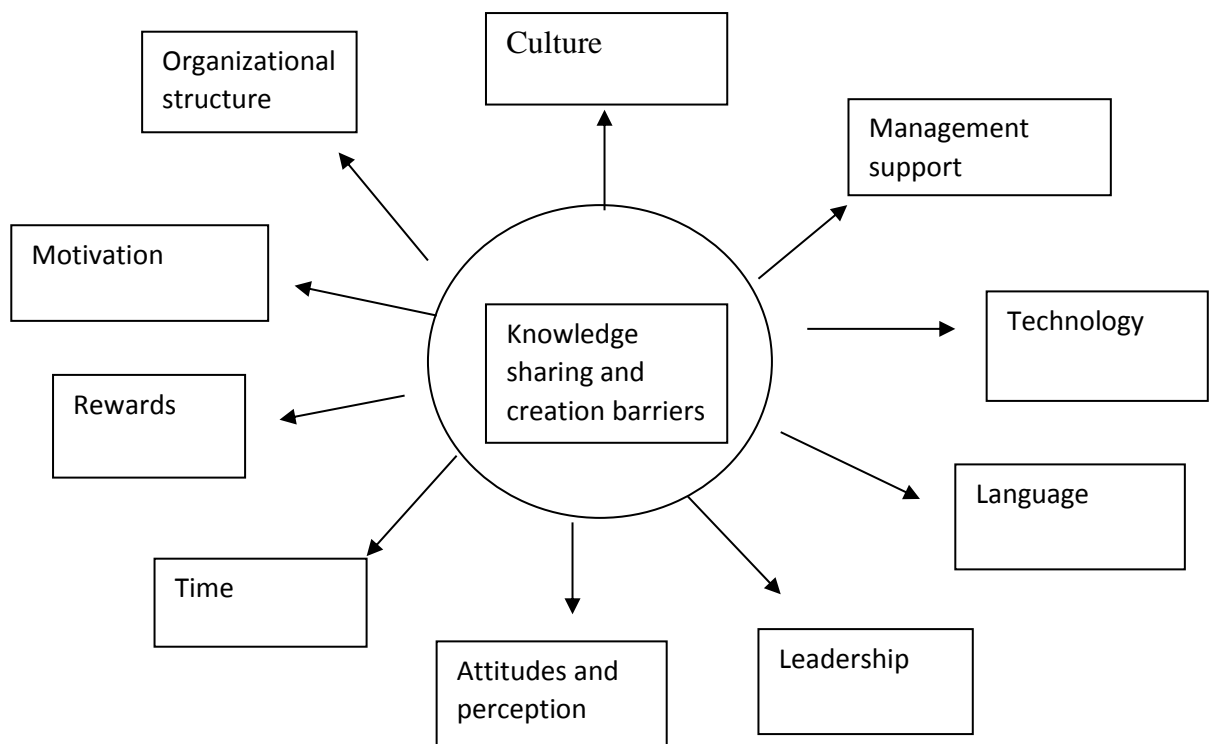
1.6.4 Internalization

At this level use of explicit sources result in internalization and modification of existing knowledge by access to codified knowledge. It is all about learning and acquisition of tacit knowledge. Explicit knowledge is embodied via action and reflection. This is done through simulation and experiments. Internalization is based on routine knowledge assets and thus has activities like implementing foresight plans, goal based training, collective knowledge network, knowledge sharing and databases. According to Uriarte (2008) manuals providing instructions on how to use machinery and other gadgets constitutes explicit knowledge internalized. After this when one knows it becomes tacit knowledge.

1.7 BARRIERS TO KNOWLEDGE SHARING AND CREATION

These are factors that hinder the processed of creation, capturing, sharing and application of knowledge in an organization. For knowledge to be created and shared there must be enablers in place or factors that motivate the employees to create and to share knowledge. Their absence have a negative effect on knowledge management. Problems constantly arise in an organizations and for solutions to be implemented it means ideas have to be shared. The following factors therefore represent factors which act as obstacles to the creation and sharing of knowledge within an organization.

Fig 1.3 barriers to knowledge management



Source: Andreas Riege (2005)

1.7.1 Nature of knowledge

How explicit or tacit knowledge is has an influence on the knowledge management activity. According to Maki (2015), it is more difficult to share tacit knowledge as it is knowledge within someone. Explicit knowledge however is conveniently available in written formats like documents and manuals. However tacit knowledge cannot be copied and is thus inexpensive to the organization as compared to explicit knowledge. Unfortunately it also time consuming to share. Another disadvantage is that the organization may lose valuable information if the employee leaves the company and that information was not shared.

Maki (2015) contends that explicit knowledge has an advantage over tacit knowledge in that it can be in existence without the person who knows it unlike tacit knowledge which is inside the one who knows it. Another merit is that once shared, even if the employee leaves, the organization can still benefit from it. However it is subject to being copied and requires a lot of money to acquire.

1.7.2 ORGANIZATIONAL BARRIERS

These barriers have to do with the leadership, hierarchical structure, reward systems, the working environment in general, and integration of knowledge management and availability of where to conduct knowledge management activities among others.

Leadership

Muchaonyerwa (2015) regards management support in knowledge management as one factor that leads to organizational success. Strong management-employee relationship promotes knowledge sharing (Kim and Lee 2006 cited in Muchaonyerwa 2015). Hubert and Lopez (2013) state that management who do not do what they say are impediments to knowledge sharing. If they do not sufficiently communicate and take part in the knowledge management activities then other employees may not feel

motivated to do so. They also gave lack of resources to promote knowledge management as another barrier.

Kimani (2013) contends that when management is not committed to knowledge management activities, then the process of knowledge creation is impeded. According to BenMoussa (2009), management should take the initiative and encourage employees to share knowledge not just expect them to share because it is the thing to do. In addition he added that studies done by Desousza (2003) management were the first to praise new systems but the last to use them. BenMoussa recommends that management therefore walk the talk in knowledge management activities.

Maki (2015) recommends that despite different culture origins within the organization, management should still strive to come up with a knowledge management nurturing environment so as to promote knowledge creation and knowledge sharing. He adds that management support is actually one of the ways in which management can establish what one knows so that they know the right person to ask about certain things. This notion was also supported by Kaya and Sagsan (2015) who explained that new ideas are prevented from being created and shared as a result of the absence of an environment for questioning and criticism.

Communication

According to Maki (2015) knowledge sharing would not be possible without communication and he suggest that face to face communication is the most effective in knowledge sharing since its verbal and non-verbal. Gold et al (2001) cited in Maharaj et al (2005) says that communication is vital in knowledge creation. They recommend promoting interaction and collaboration to allow transmission of information. They also advocated for the creation of communities where know-how can be created and shared.

Ahmady et al (2016) recommends creating a way for discussions and conversations to take place in order to promote knowledge creation. In addition they encouraged having strategic programs aimed at improving

knowledge management and striving to educate authorities and create awareness on the importance of knowledge in order to create a positive attitude towards knowledge creation and knowledge management. They also encouraged organizations to acknowledge employees efforts on innovativeness and good performance

Language

Maki (2015) also adds that good relationships promote knowledge sharing. Language differences however may prove to be an obstacle to communication and knowledge management (Harzing and Feeley 2008 cited in Maki 2015). BenMoussa (2009) states that knowledge management systems must be communicated to users so that they may not regard them as extra responsibility. Bures (2003) recommends use of common language between the receiver and sender of knowledge.

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According to Kathiravelu (2014) an improvement in the information systems, communication, rewards systems (which are aspects organizational culture) among other things results in better knowledge sharing in an organization. They went on to say that how a company is managed and its structure has an impact on the knowledge management process. According to Uriarte (2008), horizontal structures with few layers promote innovation and encourage knowledge sharing as compared to vertical structures. If the culture is supportive then knowledge sharing is promoted in the organization. . Ladd and Ward (2002) cited by Kathiravelu (2014) were mentioned saying that if a common goal and vision exists, then knowledge sharing is promoted.

Motivation

Andreasin and Andreasin (2013), state that motivation is essential for encouraging knowledge sharing. In cases where employees are aware of the value of the information, they may be willing to share. In instances where there is a reward and they are aware of that reward, this may motivate them

to share the knowledge. It can be monetary or non-monetary (Andreasin and Andreasin 2013).

They went on to say that motivation, intrinsic and extrinsic result in knowledge sharing. Intrinsic motivation is that kind of motivation which brings pleasure and satisfaction to oneself. It is work related (Uriarte 2008) and can be developed through better relationships, encouraging participation of employees and aligning organizational goals with employee goals (Uriarte 2008).

Lam and Lambermont-Ford, (2010) state that intrinsic motivation would improve knowledge sharing of tacit knowledge and extrinsic would appeal to the explicit knowledge. Employees may be willing to share if they think it will improve their social standing or give them a good reputation (Andreasin and Andreasin 2013). This is in line with Wang and Noe (2010) who said that if there is management support workers are motivated and knowledge sharing is enabled

Extrinsic comes from people and the environment. (Andriasen and Andriasen 2013). They also went on to say that when something is interesting, people are interested in doing it. Uriarte (2008) contends that extrinsic motivation is ideal for simple tasks. The author added that promotion at the workplace is a form of extrinsic motivation. In addition recommendation was given to align individual financial motivations to the goals of the organization. (Uriarte 2008).

1.7.3 CULTURAL BARRIERS

Cultural barriers have to do with the behavior, attitude, norms and customs of those around a person or those relating to an organization. These norms, customs and beliefs affect behavior and perceptions of individuals.

Various scholars acknowledge that organizational culture has an impact on knowledge management. The knowledge sharing in different firms is different just as the organizational cultures are also different (Kathiravelu et al 2013).

According to Ahmady et al (2016) cultural aspects have to be known for without them, there may be undesired consequences regarding knowledge sharing.

According to Karami et al (2014), organizational culture should promote interaction and encourage an environment which allows knowledge sharing. It should have sufficient supporting structures. This is in line with the findings of Al Alawi et al (2007) who state that if knowledge sharing is implemented without the appropriate structure in place then problems are likely to occur and benefits of knowledge management will not be reaped. They went on to add that if there are complications in line of responsibility then knowledge is not able to flow freely throughout different levels.

McDermott and O'Dell 2001 stated that knowledge management innovations fail because of cultural issues. Brandt and Michael (2009) supported this notion and stated that there is need for knowledge management programs to be co-ordinated with the organizational culture in order to be effective. Organizational culture affects performance, satisfaction, behavior, innovation and creativity (Robins 1999). According to Ahmady et al (2016) studies done by Delong and Fahey in 2000 revealed that organizational culture constituted 80% of knowledge management influence.

A weak culture promotes redundancy in employees and they do not realize their potential with regards to coming up with new ideas or innovative behavior (Shafee et al 2010). A flexible culture however, promotes pro-activeness to changes. A culture of individualism where one wants to dominate discourages knowledge transfer whilst in an organization which promotes co-operation knowledge sharing and knowledge transfer is high (Ahmady et al 2016). A learning culture which put emphasis on continuous learning is thus essential and brings success to knowledge management.

Hubert and Lopez (2013), state that a culture that does not place value on knowledge sharing is an impediment to knowledge management. They also added that knowledge sharing in a language not easily understood and sub cultures which do not have the same principles as the organization are all

barriers to knowledge sharing. In addition organizations have to nurture a place conducive for sharing and where knowledge sharing is of value. There should be sufficient trust and motivation (Uriarte 2008). Dalkir (2008) contends that a culture which promotes individualism and social status acts as a barrier to knowledge sharing. The author added that knowledge sharing should be a norm and not an exception in the organization.

1.7.4 PERSONAL BARRIERS

Personal barriers have to do with the person at an individual level. They represent those factors which affect the receiving and sending of communication. They signify the factors like experience, attitude and emotion which get in the way of effective communication with others.

Trust

Andreasin and Andreasin (2013) give trust as a motivating factor for knowledge sharing and knowledge management. They say that without trust, people are reluctant to share knowledge. Scholars Dignum and van Eijik (2005) who has conducted studies on knowledge management give three types of trust which are

- Personality based
- Interpersonal
- Impersonal

The personality trust has to do with general trust and is not dependent on any context. Interpersonal trust is trust that one has for another probably because of some virtues and possibly after an evaluation of sorts pertaining to their capabilities. Impersonal trust the employees have to their organizations. If adequate rules, regulations and policies for employee protection are in place, the employee feels free to share knowledge.

Andreasin and Andreasin (2013) give three factors which enable a strong relationship amongst employees.

- Similar language for easier understanding
- Similar goals, perspective, ideas and vision
- Discretion and ability to take sensitive information as such
- Strong relationship which enables knowledge sharing

Time

Riege (2005) found that lack of time is one of the barriers of knowledge sharing and knowledge creation. According to Lang (2001), staffs simply complain that they are too busy to do knowledge management. The reason for this according to Moussa (2009) is that they perceive knowledge management as a burden and an added responsibility they have to endure and not a part of their daily work or routine. According to Hew and Hara (2007) employees prioritize because of time and do that work that brings benefits to them first than others (Michailova et al 2003).

In addition it is a problem to engage in knowledge sharing and knowledge creation in instances where staff is paid according to hours as time is of precious value to them (Du Plessis 2008). These employees simply would not accept that their work would be done a lot quicker due to knowledge management. According to Fitzpatrick (2003) employees have too much to do and are not that willing to take time to share what they know. The more the effort required, the less likely the staff is to engage in knowledge sharing (Wenger et al 2002).

Hubert and Lopez(2013).State that time acts as a barrier where the knowledge sharing activity is regarded as not adding value and inefficient. They also added that in instances where employees regard the knowledge sharing activity as not part of their scope then time will be a barrier. Moussa (2009) recommends that employees need to change and regard knowledge management as part of their work not something extra.

Attitude and perception

According to Muchaonyerwa (2015) various factors have been found to affect the attitude and perceptions of employees towards knowledge management. They mentioned that this might be a result of insecurity or fear. They say that some regard knowledge sharing as something that will harm their career progress. This is in line with Bures (2009) who stated that some regard knowledge as power and use it to have influence over others. Sharing therefore would mean that they lose this power and maybe respect (Bures 2009).

Hubert and Lopez (2013) added that the employees may feel that if their share their value decreases and that would threaten their job security. Keeping the knowledge to them ensures that they retain their superior status over others (Ling et al 2009). Employees may therefore behave this way in order to 'protect their intellectual capital' (Yang 2007). According to Dalkir (2008) the general consensus is that knowledge is a valuable property that one should maintain ownership of. The author recommended rewarding knowledge sharing instead of knowledge hoarding so that people may be more motivated to share than to keep knowledge to themselves.

Another barrier is how useful the employees perceive knowledge management is. User and management acceptance is crucial (BenMoussa 2009). Du Plessis (2008) contends that knowledge management should be something a user is willing to participate in not forced upon them. They should also be made aware of the value of the knowledge. BenMoussa (2009) adds that it is when the benefits are not communicated to them that the employee finds knowledge management burdensome.

Muchaonyerwa (2015) states that employees attitude towards ICT actually acts as a barrier towards knowledge management. he said their perceptions on its usefulness and how easy it is to use may result in them accepting or rejecting it. Chen et al (2009) suggests that if users have a positive attitude towards OSN then they will most likely be willing to share knowledge online as well.

Unwillingness

Desousza (2003) suggests that some are not willing to share information because they are afraid they will now be regarded as experts on the matter. They will now be afraid of being given issues that relate to that rather than some more that is challenging and helps them learn. Riege 2005 cited in Yip 2011 some employees keep the knowledge to themselves for fear they will not get promotion if they seem to know more than their superiors.

Fear and Uncertainty

Bures (2003), states that employees are unwilling to share knowledge because of fear and uncertainty. They may feel their knowledge is valuable but if the recipients do not share that sentiment then they may end up feeling mortified. He also added that younger employees because of their inexperience they may feel uncertain about the value of their knowledge to the management and company.

According to Ardchivili (2003) cited in Yin (2011) new employees may feel they should not be contributing anything and are afraid to do so. They also avoid sharing for fear of being criticized and ridiculed. This is also confirmed by Hubert and Lopez (2013) who says new people may feel they do not have adequate experience yet for them to share anything. They also added that when one has too much experience it also affects the flow of information as their word goes and others may feel intimidated to say anything after them. This may be because value of knowledge is usually accorded to the individual rather than the organization (Kimani 2003)

Awareness

Bures (2003), states that some employees simply do not have any knowledge apart from the problem in existence. They would not want to hear the same thing over and over. According to Riege (2005) others also have no idea the value of their knowledge and the extent to which it can be of use to others.

1.7.5 TECHNOLOGICAL BARRIERS

These are factors which get in the way of application of scientific knowledge in the workplace. Nowadays the process of communication encompasses platforms based on technology like emails and the intranet. Processes are now using applications in order to achieve certain things for example the payroll system in an organization. It is imperative therefore that an organization be technologically advanced in order to effectively compete and the employees to be in possession of the necessary technological skills.

According to Uriarte (2008) technological infrastructure is essential for the creation, organization, sharing and application of knowledge. A good structure enables communication across geographical boundaries and is not just limited to physical proximity. Uriarte (2008) states that technological infrastructure is needed for content organization, searching information and facilitating location of experts. However, Sagsan (2003) is of the school of thought that transfer on tacit knowledge through information technology is almost impossible.

BenMoussa (2009), states that technology alone will not result in knowledge sharing. Knowledge management systems need to be integrated with the rest of the organization for them to be effective. Individuals should be able to know which processes they want to use for what therefore the organization should have appropriate software systems (Fernandez and Saberwal 2010)

According to Cabrera and Cabrera (2002), those who are technologically savvy are more willing to embark on knowledge sharing. They urged organizations to have adequate resources in place for knowledge sharing. Organizations should find the connection between knowledge sharing barriers and personal elements in order to breach the hindrances and come up with the necessary solutions so that knowledge sharing can be enabled (Andreasin and Andreasin 2013).

Desousza (2003) comments that the knowledge has to be shared first otherwise information technology will not be able to provide a solution to tacit

knowledge that has not been shared. Effective information technology allows information to be acquired, shared and retained. McCann and Skye (2004) cited in BenMoussa (2009) contend that there should be awareness of the difference between knowledge and information.

They added that information technology deals with codifying information and usually deals with large volumes of information and makes it hard to really figure out what is behind organizational performance. This is supported by Palvalin et al (2013) who state that too much information will result in stress as it takes a long time to search through the work and may thus lead to inefficiencies.

Too much expectation of technology is also another barrier to knowledge management (KPMG 2001). Muchaonyerwa (2015) added that technology ends up being a barrier in knowledge management where there is lack of the appropriate technology. In addition if it is not easy to use and is not custom made to specific requirements it ends up being problematic. In addition it can also be a barrier if their skills are in shortage.

Riege (2005) states that inadequate information technology training is a barrier to knowledge management as the staff will not possess the necessary skills. If they are not familiar with the systems they will end up doing the wrong thing which may end up being costly for the organization. He went on to say that if there is no communication and the merits of new systems over old ones are not told then employees may end up unwilling to utilize information technology. In addition the staff will be afraid of using them due to their inexperience.

Advantages of information technology can be found in saving costs, improving communication and reducing time. This can be achieved if the information technology systems are set up appropriately. Fernandez and Saberwal(2010) recommend that organizations also do the practice of data mining and generally storing knowledge in databases that are accessible to employees as well as repositories. This will enable the employees to share information as well as improve their learning process.

1.8 KNOWLEDGE MANAGEMENT THEORIES

The following theories are relevant to the study in that they provide strategies that an organization can use as a framework in knowledge management. They help the company structure itself in a way that promotes knowledge management, the relationships between employees and technology.

1.8.1 Organizational knowledge management Theory

This theory deals with the organizational structure. It entails how an organization is culturally and hierarchically designed in order to manage knowledge and its processes. This theory relates to culture that promote knowledge management and culture that deters knowledge management. It highlights how best the organization can create the best structures and promote cultures that encourage the flow of knowledge. Organizations should therefore take note to ensure employees can share knowledge freely as bureaucratic tendencies are known to stifle knowledge management (Bures 2013)

1.8.2 Ecological knowledge management theory

This is people based. It deals with their relationships and interactions, development of communities and forces that enable people to share knowledge. Grant (1991) cited in Chen et al (2010) states that population diversity promotes interaction among and outside the population. This interaction promotes knowledge creation and knowledge sharing. People near each other will interact more than those that stay away from each other. According to Cummings (2004) interactions with those from outside the organization promote innovation. Knowledge management should not be confined to the organization boundaries and collaborations should be promoted (Chen et al 2010).

1.8.3 Techno-centric theory

It concerns technology and how it can be used or integrated in knowledge management to maximize benefits. It also states how knowledge is stored and promotion of virtual communities that promote creation and sharing. In today's world social media has opened up platform for interaction and organizations should know and look towards ways to turn that to their advantage so as to encourage knowledge management processes. This also needs to be managed well as technology can also become a barrier to the knowledge management if not nurtured properly.

1.9 EMPIRICAL LITERATURE

Muchaonyerwa (2015) conducted a study in South Africa with the aim of determining knowledge sharing strategies used in university libraries. He found that there was a lack of knowledge management policies and strategies in place to utilize staff experience in order to improve service delivery even though knowledge was generated. In addition he also realized that university libraries were based on protocol and that did not encourage the knowledge sharing process. He also noted that the staff lacked awareness of knowledge management and thus needed to be trained.

Najibullah et al (2013) in their studies of barriers and enablers of knowledge sharing in electronic companies in Sweden found that language and technology were problematic and were deterring knowledge sharing.

Yip 2011 conducted study on a multinational company in Sweden. He found that the use of team rooms was regarded as a barrier to knowledge sharing and staff regarded it as an extra they had to endure. He explained there was therefore need to communicate its significance to create awareness. In addition he also gave language as a barrier when staff where communicating with staff from other countries.

Andreasin and Andreasin (2013) found that the most significant barriers were lack of motivation and lack of trusting relationships. Andersson and Bergeihm (2013) in their study on knowledge sharing on the Volvo Group cross functional team found that the biggest barrier was lack of commitment and trust. The team communicated online only therefore the researchers recommended the teams put focus on tacit knowledge since it would foster commitment.

Tarekegn in study on knowledge sharing in Ethiopia discovered that there is a general lack of awareness amongst the employees and companies do not have set strategies or policies pertaining to knowledge management. they just deal with it in own ways. He recommends that management set channels to promote and educate staff about knowledge management and its benefits.

Bures (2009) stated that sometimes knowledge management is impeded because of the nature of people tendency to avoid conflict. They end up staying silent when the knowledge that they have could actually be of value to others. In addition he also said that the difference between company values and objectives and the employee's may also act as a barrier as employee may feel that this is not in line with what the organization wants.

Brcic and Mihelic (2015) did a study on knowledge sharing between employees of different generations. They found that lack of motivation and unwillingness constituted the biggest barriers and younger generation felt that they did not get enough knowledge under mentorship from the older generation.

Ezeh (2013) in factors affecting knowledge sharing in software companies in Sweden found that the culture of no stupid questions acts as a deterrent to the process of knowledge management. This is because staff may feel that their question may be deemed stupid therefore it will be better for them to keep quiet rather than risk it.

A study by Byukusenge et al (2016) on knowledge management and business performance revealed that knowledge management led to

innovation which in turn improved the organization's performance. Toivannen (2017) in their study on knowledge management barriers stated that lack of appropriate tools for knowledge sharing and lack of time were hindering the knowledge sharing process.

Riege (2005) undertook a study to examine knowledge-sharing barriers that are encountered by managers. The study outlines that most barriers that are encountered in the area of knowledge creation and knowledge sharing are mainly organizational barriers followed by personal barriers. The defense is based on ideas that the organizational environment which covers a lot of aspects such as culture, lines of command, development, self-esteem, motivation etc. such can either negatively or positively cause people to share tacit knowledge.

BenMoussa (2009) examined barriers to knowledge management encountered in organizations theoretical framework knowledge sharing. The results of the study showed that content, technological and personal barriers are huge threats to knowledge creation and knowledge sharing efforts. The study recommends creating a platform upon which individuals are allowed to share their ideas and this also includes programs through which they can create and develop new ideas.

Khakpour et al., (2009) placed efforts on the need to study the linkage cultural barriers and challenges of knowledge sharing. The results indicated that organizational is one of the vital element upon which knowledge creation and knowledge creation can be hindered or promoted. Thus it emphasizes the need to develop organizational cultures that can incorporate employee perspectives and concerns as well.

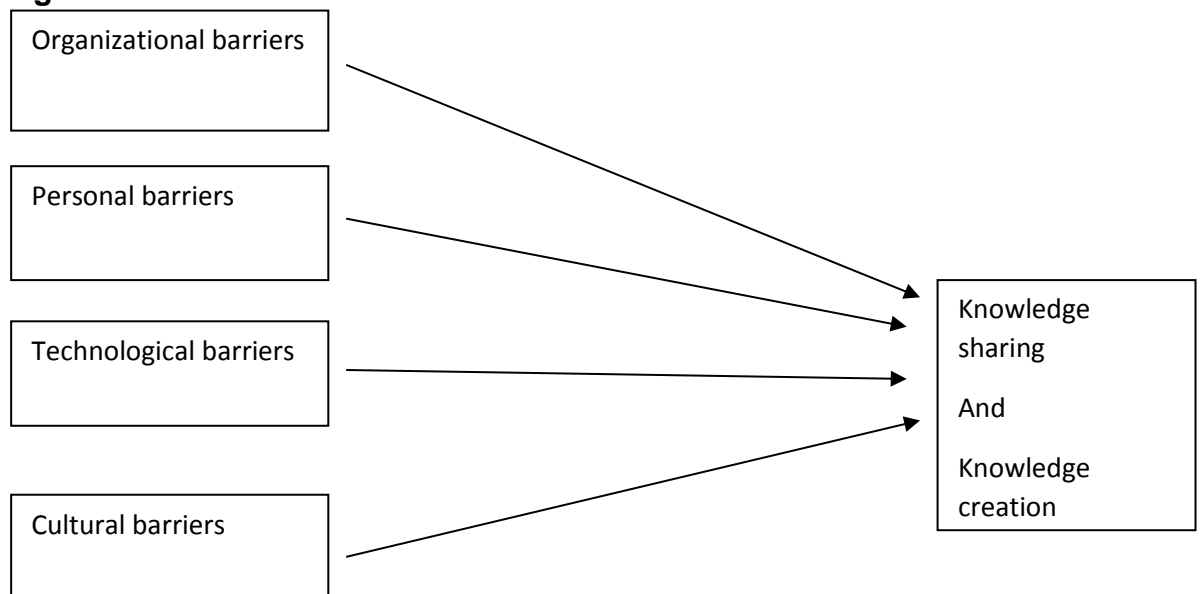
Huang and Davison (2008) placed a study on analyzing knowledge sharing barriers at the individual level. Such was based on analyzing bank employees in China. The study highlights that issues such as motivation and self-esteem are major drivers of barriers knowledge management and that efforts to promote knowledge management must first address these areas. As a result, between employees and management are assumed to be an

avenue through which individual or personal barriers tend to emanate from. This is because whether culture or structure orientation strategies are developed, they all confine and converge to the issue of personality. Hence, it highlights that motivation, promoting self-esteem and relations among organizational employees will help eradicate these problems.

1.10 CONCEPTUAL FRAMEWORK

The model below was formulated after looking at the literature and will be used for the purposes of the study. The barriers are divided into organizational, personal and technological.

Fig 1.4 research model



The researcher gathered from the literature review that knowledge sharing and knowledge creation were the essence of knowledge management that is why she selected those variables to act as the dependent variables to the study. Knowledge is worthy if it is shared but for it to be shared it has to be created in the first place.

CHAPTER TWO

RESEARCH METHODOLOGY

2.0 Introduction

This chapter deals with how the researcher will acquire the data for the study, the population from which the sample was derived from and how that could be measured. It highlights how the respondents will be selected, the methods that will be used for data collection as well as how the data obtained will be measured.

2.1 Research Design and approach

According to Saunders (2015) the research design allows the researcher to put into perspective how answers to the research questions are going to be sought as well as how the necessary information will be obtained and analyzed among other things. The current study will employ an exploratory research design, make use of the qualitative approach and the variables will be measured with the use of interviews. One of the aims of qualitative research is to gain deep information pertaining to a phenomenon. This will allow the researcher to get in depth information concerning the causes of the barriers to knowledge sharing and creation. Similarly, Jacobsen (2002), states that this method provides more and broader information on the subject. The study will make use of both the deductive and inductive approach to research. According to Saunders et al (2015) this is referred to as the abductive approach. They explained that this approach allows the researcher to infer from previous theories prior to the study whilst providing recommendations or propositions at the end.

2.2 Research Method

This study will be qualitative in nature. The topic for the study deals with knowledge sharing and knowledge creation barriers in manufacturing firms. The use of qualitative method will allow the researcher to gain rich

information from the perspective of the employees. The researcher felt that this can only be gained through a qualitative study. This method is also flexible and the respondent can expand the information on the subject in question thus providing in depth insight that would otherwise have not been gained had a quantitative approach been used. Similarly, Bryman (2004), contends that a qualitative approach's openness nature provides leeway for that extra information to come out. The researcher thus feels that the qualitative approach will be the most ideal approach to this study.

2.3 Population and sample

Bahati (2014) states that population refers to all the things under study from a universe and these elements usually have some features in common. The universe will consist of the manufacturing companies in Northern Iraq. Because of time and finance constraints the researcher will not be able to get to all the companies therefore she will only focus on one company. This manufacturing company will thus act as a representative of all manufacturing companies in North Iraq.

2.4 Sample

A sample is a unit selected from a whole population. Qualitative research is characterized by small samples from which deep insight is gained from and responses are usually not categorized (Saunders et al 2007). In accordance, the sample size for this study would be 15 employees of a manufacturing company. The researcher will use a probability sampling technique as this gives all the respondents an equal chance of being selected. The sampling method used is going to be stratified sampling. This method reduces errors. This technique first divides elements into groups.

The researcher is focusing on a manufacturing company and the strata will consist of departments of the manufacturing company. After that, random sampling will be used in order to choose the number of representatives from each department. Some departments have more people than the other therefore stratified sampling would be the best for this study. In addition the

researcher feels confident that this sample size would be sufficient enough to draw meaningful conclusions.

2.5 Research instrument

This study will be qualitative in nature and therefore will make use of qualitative tools in the collection of data. The method for the collection will be through face to face interviews. The interview questions will be open ended which will ensure that the researcher gets some insights which might somehow be missed were close ended questions were employed (Gill and Johnson 2002). An open ended question will allow the respondents to give unguided opinion on the subject matter. This will prove very useful to the researcher as it presents an opportunity to also learn new things as well as get opinions on recommendations from the people on the ground. The researcher will employ the interview questions by the work of Yip (2011), Andreasin and Andreasin (2013) and Toivannen (2017) in their studies of similar nature.

A pilot study will be conducted on 1 employee. This will help to correct any errors beforehand. The interviews will be conducted by the researcher after getting permission from the management as well as the participants' permission. The researcher will also indicate that the information will be confidential and for academic purposes only. According to Kumar (2011) this helps put the respondent at ease and to have more freedom in their responses.

The researcher will also take advantage of the proximity to the participants to observe their responses. Much information can be gained through the use of body language and gestures and other forms of non-verbal communication.

2.6 Sources of data

The researcher made use of primary data and secondary data. Primary data refers to raw data that is being taken for the first time and has never been used for anything else before. It is also data that comes straight from the

source and has not been written down. The advantages of primary data are that it is original as well as less costly to collect, though it may be time consuming (Kumar 2011). The primary data will be obtained from the survey and the interviews.

Secondary data is data which is already in existence and has the merit of being conveniently available. The researcher used this source of information in order to get an in depth understanding of knowledge management aspects. It was derived from the following sources:

- Journals
- Articles
- Textbooks
- Internet

2.7 Proposed variables

The variables under study will be the ones used to come up with the conceptual framework and these are:

- Organizational barriers
- Personal barriers
- Technological barriers
- Cultural

These are the independent variables and they were selected as they represent the major categories of knowledge management barriers. The dependent variable in this case would be the knowledge sharing and the knowledge creation. They were chosen because they are the major aspects of knowledge management and have a greater impact on the success of the business.

2.8 Analysis and presentation

Firstly the researcher will analyze the information as prescribed by Flick (2013). The scholar noted that an explanation or the reasoning behind an action should be perceived. Similarly the researcher needs to determine the barriers of knowledge sharing and creation and decipher the reasons behind them as provided by the respondents. This will be obtained from the interviews.

In addition, the researcher will also make notes during the interview processes. This is encouraged by research scholars (Flick; 2013 and Saunders et al 2015). Summaries and overviews will be made use of in order to come up with the necessary findings. Moreover, big data will be condensed into smaller amounts that can be easily understood and interpreted. According to Flick (2013) this can be done through the process of coding which provides labels to the existing data to reduce complexity. One label will be used to house different statements. The researcher will therefore make full use of Qualitative Content Analysis.

2.9 Ethics

All research is done observing ethics. The researcher will first seek permission from the company. The researcher will also seek permission from the respondents prior to distributing questionnaires or conducting interviews. Similarly assurances will be provided that all the information obtained will be used for academic purposes only. The respondents' confidentiality will be guaranteed as no names or personal information will be asked for

Interview Questions Andreasin and Andreasin (2013)

Knowledge Awareness

1. What type of knowledge do you more use in your organization?
2. How do you share knowledge in your company?

3. What type of knowledge do you more share and transfer?

Cultural

4. What type of cultural problems do you think affects knowledge creation and sharing?

5. How do these problems affect knowledge creation and sharing in your organization?

Technological

6. What technology problems do you have with using the technology tools?

7. How these technology problems affect knowledge sharing and knowledge creation?

Organizational

8. What type of organizational problems with knowledge sharing and knowledge creation do you have?

9. How do these organizational problems affect knowledge sharing and knowledge creation?

Personal

10. What type of personal problems with knowledge sharing and knowledge creation do you have?

11. How do these personal problems affect knowledge sharing and knowledge creation?

12. What are the reasons to trust/not trust a sender/receiver?

13. How are you motivated to share/create knowledge within your organization?

14. Do you expect anything in return when sharing knowledge?

15. Would you like to add something?

CHAPTER THREE

ANALYSIS

3.0 Introduction

This section gives the details of the results of the interview and the analysis that came out from the interviews.

Table 3.1 Interviewee Demographic characteristics

Interviewee	Gender	Age	Level of education	Occupation
1	Male	55	PHD	CEO
2	Female	25	undergraduate	receptionist
3	Male	33	masters	Logistics officer
4	Male	48	masters	Procurement manager
5	Female	45	masters	Quality and assurance officer
6	Female	32	diploma	Warehouse assistant
7	Male	47	diploma	Quality assurance officer
8	Male	56	undergraduate	Quality and assurance manager
9	Female	41	diploma	Finance officer
10	Male	23	undergraduate	intern

3.1 Knowledge Awareness

1. What type of knowledge do you more use in your organization?

A common thread among the interviews reflected that most of the respondents displayed a lack of knowledge pertaining to the type of knowledge that they use within their organization. Only few individuals managed to answer the question.

Knowledge that I mostly use as the CEO of the company is explicit as I mostly share know how. I also share tacit knowledge and this stems from my long experience at work.(Respondent 2)

Nine of the employees were not able to pinpoint whether it was tacit or explicit knowledge that they shared but they explained in a way that allowed the researcher to deduce whether it was tacit or explicit.

We use GBV cases and generally technical and managerial related information from records.(Respondent 5)

“Type of knowledge can be defined department wise as a marketing staff we are using different type of knowledge to growth our business for instance marketing awareness, through the marketing research we are able have knowledge regarding to the market and define new ideas or plans accordingly”(Respondent 10)

The statement above indicates that both tacit and explicit knowledge are used. Explicit knowledge is shared as market research requires researching into people's needs, wants, tastes and preferences. Long discussions are held and teams of experts get together to share their input and to evaluate different scenarios. This results in the sharing of tacit knowledge. However, the responses generally indicated a lack of awareness of knowledge management to such an extent that even those in managerial positions did not have much to say about it. Observations revealed a bit of confusion in what the researcher was going on about. The terms tacit and explicit knowledge may have been terms that many of the employees had not come

across before or thought of them in the context of knowledge sharing and creation in the company.

Information from books, pamphlets and manuals about the company .We has some manuals and books with background information on how the company was started, why and the changes that it has passed through over the years. There are also instruction manuals where basically you find information on how to operate certain machinery and safety regulations though for the most part we are taught this by experts. (Respondent 4)

The above statement reflects that the company uses explicit knowledge in the form of written down material. In addition things like the use of machinery require hands on experience which is why they are taught by experts and this reflects usage of tacit knowledge as the expert has to share what they learn; what they have discovered over the course of their work in the past and venture their opinions on certain things.

2. How do you share knowledge in your company?

Most of the respondents indicated that knowledge sharing mostly comprised of top to bottom instructions from the management team rather than amongst themselves.

The organization holds meetings frequently where the management gives their reviews and updates us on developments in the company or if there are problems that have arisen they tell us about them and tell us any way forward that they would have found and want us to implement. (Respondent 1)

We as management hold meetings weekly at the start of every week where we discuss about what is going on in our departments. In these meetings we raise any problems that we encounter or new developments that we would have encountered. We then discuss these things and throw our ideas about prospective solutions. We do brainstorming sessions and compare notes with others. If there are any disagreements in the way forward the issues are usually put up to a vote. (Respondent 2)

In our organization the management mostly tells us what they want to be done and how they need it done. There are supervisors we check in with who check on the progress of our work and also assess if we are doing our work accordingly. My supervisor sometimes asks my opinion on problems and asks me what he thinks I would do if I were in his position. (Respondent 3)

When working within a team, knowledge sharing is through daily communication, meetings, seminars and trainings.(respondent 5)

The company is also trying to keep abreast of developments in the modern world by utilizing technology in its work.

We give periodical reports on our work to the management as well as our assessment of the work that would have been done. Updates are usually through emails and each employee has a company email account that they use to communicate with the management.(respondent 4)

The company has a website on which information is regularly posted. This is where we see some upcoming developments in the organization for example if there is a new post or vacancy that needs to be filled.(respondent 8)

When we get new machinery or tools we all get training in using that equipment so that all of us are able to operate it. This is only for those that deal with the machinery not people from other departments who do not use it. Demonstrations are also conducted and those with questions are encouraged to put them to the panel so that everyone fully understands (respondent 10)

3. What type of knowledge do you more share and transfer?

Different departments share different information depending with their area of expertise.

- *Related work flow, managerial, Systematic controls, updates of new changes in business and world (respondent 1)*

- *Knowledge about management and our company policies (respondent 2)*
- *In total we are sharing customer's needs knowledge as long as we are trading(respondent 3)*
- *Methods of working with machinery and equipment.(respondent 4)*
- *Information about plastics as I work in the plastics field(respondent 5)*
- *Quality management systems (respondent 6,7)*
- *EHS information(respondent8)*
- *Methods of working with machines and instruments (respondent 9, 10)*

By looking at the above it can be summarized that both tacit and explicit knowledge are used.

3.2 Cultural

4. What type of cultural problems do you think affects knowledge creation and sharing?

There were interesting responses as the employees come from different cultural backgrounds therefore had different takes on the knowledge sharing and creation cultural problems that they experienced in the organization. One of the things that the employees had in common was that the way things were set up were not to encourage creation and sharing. The responses below fully captured the problems and their effect.

‘There is a very limited culture of reading and doing research. The people are used to spoon feeding. This means that most of the time they lack the initiative to do things and would rather just get what they are supposed to do instead of getting creative and coming up with ideas. You will find that people are not adept at sharing because they think it is what is expected of them especially if they are on a lower level than the other person’ (Respondent 1)

How do these problems affect knowledge creation and sharing in your organization?

There is a wealth of knowledge in ideas created and shared and to me there is not much worth in something not shared for the good of all. Therefore, if people just expect those in authority to be the ones to disseminate knowledge and come up with it, then it means the company is losing out on so much knowledge that it could gain from. (Respondent 1)

The above represents a deep rooted culture where knowledge creation and sharing is that much encouraged. This probably means that culturally they are supposed to keep things to themselves and expect those above them to be the ones who are in charge. They would just wait for what they are told and do it even if they have other ideas about how something may be done differently. To them the higher in position the more you know and your word is authority, no need to dispute it. They would not feel comfortable disputing or presenting their argument as they would feel that they have undermined the one above them's authority. They leave the decision making to the higher authorities.

'I think language presents quite a challenge in my organization. You have people from various countries who speak different languages. Even though English is like the official language we are supposed to have in common, the situation here is a bit tricky. Most of the employees do not speak it fluently and some not at all. So you may find that you say something and no one understands you or you try to translate to Arabic and they may still not get it (Respondent 3)

5. How do these problems affect knowledge creation and sharing in your organization?

The message is usually lost and instead of striving to share the knowledge one simply ends up deciding it's not worth the effort. Sometimes you find that the person gets a different message from what you would have intended.

This thus means that the process of knowledge sharing is stifled.
(Respondent 3)

Respondent 4,6, 7,9 and 10 also had the same concerns pertaining to the issue that there are people of different backgrounds from all walks of life in the company and had the following to say:

'our company has people from different nationalities. We have different values and certainly different attitudes towards life and things in general stemming from where we come from. (Respondent 7)

How do these problems affect knowledge creation and sharing in your organization?

Since we are all that different it also means we also have different attitudes and perceptions on knowledge and sharing. Some just don't have it in them to share knowledge they are selfish for reasons known to them. It also means we lack some common values which makes it easier to look upon certain things the same way.(respondent 6)

Another respondent also had to say this about culture as an impediment to knowledge creation and sharing:

'The societies we come from shape how we are to a certain extent. There are a few individuals who come from societies where there is emphasis on one's advancement. All they are concerned about is climbing up the ladder because they are very ambitious. They can create knowledge quite a lot as it is part of their ambitious nature but when it comes to sharing then its is something else. Some however, are more receptive to working in a team and working with others to achieve things and thus are more willing to share knowledge with others.(respondent 9)

How do these problems affect knowledge creation and sharing in your organization?

Those individuals who are usually concerned about advancement are not usually willing to share knowledge with others. They are competitive and if

they share anything then they feel as if everyone now knows the same. They therefore keep their created knowledge to themselves or only present it where they get all the due credit.(respondent 5)

3.3 Technological

6. What technology problems do you have with using the technology tools?

Respondents' responses varied with respondent 1 and 10 lacking any skills with technology tools and being uninterested and unwilling to use technology. The major themes that emerged were negative attitude and unwillingness to adapt to technology; faulty equipment; too much expectations on the employees among others. This is reflected in the responses below:

'Frankly I think this problem is my own. I am from the old school and am used to doing things the traditional way. Technology as far as I am concerned has made things complicated. I can see the benefits but somehow I think it has passed me by already. (Respondent 1)

I feel reluctant to share knowledge through technological platforms especially knowing about all the risks of malware and such stuff. So I think if there are many who feel like me then it means ideas do not circulate and this attitude impedes knowledge sharing and creation. (Respondent 3)

I use social media platforms and they come in quite handy when sharing information. However, we are not allowed to communicate that way and I am one of those people who are just not into email. (Respondent 4)

The equipment we use like the computers and printers sometimes fail to work and this presents a problem in creating and sharing knowledge. Frustrations get high and this also makes some people lose faith in technology. (Respondent 6)

You know we live in this age of social media and most people are on social networking platforms. The employees here are no different and we discourage use of social networks for non-work purposes to prevent risks.

However some still do and this poses a risk of vital company information being at the mercy of hackers and going out to the public. This is a problem to us management as we have to monitor and put precautionary measures so there is the issue of employees abusing the internet.(respondent 9)

We get new equipment and operating systems and all that technological stuff. Unfortunately we do not always get information on why this is preferable over the old systems. This makes it difficult to get rid of what one is used to and embrace the new things. (Respondent 10)

From the respondents it can be deduced that there is a general lack of training and communication where new equipment is concerned. The employees do not get full information on new systems put in place to replace older ones. Four of them (1, 4, 5, 8) have more traditional views and prefer the traditional ways of doing things. This makes them reluctant to learn technological things and they would rather just soon stick to the old way of doing things.

Another issue that was also raised was the issue of social media and apparently the employees are at ease using it to communicate. However, the management and the laid policies are not really on the employees' side. According to respondent 3 and 9 the management would rather take the cautious route to ensure that information is not divulged to the wrong audience and would prefer proper laid down channels to be followed when it comes to dissemination of information.

Three employees (5, 6, 8) also cited faulty equipment as something which slows them down in their work and affects the process of knowledge creation and sharing. They showed concern over these disruptions as they sometimes have disastrous results.

7. How do these technology problems affect knowledge sharing and knowledge creation?

No information is shared it is just kept within (respondent 1)

It slows down the whole process. (Respondent 2, 5,6,7)

Sometimes there are risks of malware and stored data is wiped out. Extra caution is therefore needed when checking emails and everything. (Respondent 3)

Reluctance to share anything (Respondent 4)

I think there is much to be gained over incorporating social media platforms. Given that the company is big it would really help a lot if they were to embrace these platforms. A lot of information that could be essential to the company is out there and it remains untapped. (Respondent 8)

There is always fear of leakages therefore knowledge shared is limited (Respondent 9)

It is not easy to find the motivation to use something that you do not understand. Because of the lack of trust one has in the technological gadgets, the amount and nature of the knowledge they share is limited. (Respondent 10)

The organization is a mixture of young technologically savvy people and some older generation who are not that much acquainted with technology. Respondent 10 expressed that they feel pressured and are of the opinion that much is expected of them in unfamiliar territory

3.4 Organizational

8. What type of organizational problems with knowledge sharing and knowledge creation do you have?

Respondent 1: There are not enough trainings and seminars provided by the company to enhance knowledge.

Respondent 2, 4: lack of other offline platforms to utilize

Respondent 3: some information are private and secret

Respondent 5: miscommunication and information overload on employees

Respondent 6: no appropriate place for training since there is just one training room

Respondent 7, 9: lack of transparent rewards and recognition systems that would motivate people to share more of their knowledge

Respondent 8: the training plans are not updated and the organization is not dedicated to training the staff. Also sometimes you need to be strong in order to push your idea forward since the management does not really support and motivate us to.

Respondent 10: the structure in place does not promote it

Most of the respondents raise concerns as to how certain problems they faced in the organization served as a hindrance to knowledge sharing. According to respondents, 1,6 and 8 even though there were training sessions held for the staff, they were not enough to keep them at par with the level of their colleagues in other pharmaceutical companies. Some of the training sessions did not really update the staff on modern upgrades in technology and available knowledge in the field. Respondent 3 also explained how some information in the company are kept private and unavailable to a section of the staff. This according to the respondent prevented them from having adequate knowledge about things they ought to know of, since it would have aided in their knowledge creation in their jobs.

Respondent 7, 8, 9 and 10 also explained that they were not motivated to share information or knowledge in the organization. Out of the responses given, a majority of them reflected that the organization did not really encourage or motivate the staff in sharing information. Respondent 10 emphasized that sometimes he wishes to share information but since the organization does not really back him or pay attention to his interest of sharing the information, he is demotivated. He explained that one had to be extra strong in order to share the information. The reason being that, if one wanted to share an information and he was not strong enough to push it, the other staff may overlook it. However, if the information or knowledge sharing had the backing of the superiors, it would have been easily accepted by the staff. Respondent 7 and 9 also explained that the organization does not reward or even show any recognition to anyone who shares an information or knowledge. They explained that, if the organization rewards people for

sharing information, they would have been more motivated to share the information. They also explained that even if they are not rewarded but are given just a word of commendation, they would be more eager to share the information, since they know their efforts would be appreciated.

The problem of having a space for having training sessions was also an issue with regards to the organizational barriers of sharing information in this organization. Three respondents (1,6,8) explained that, since the organization had only one training hall and this made it difficult to schedule training sessions. In their response they explained that if there were more training halls, then they would not have to worry about clashing training sessions among the various departments and units in the organization.

There was a similar response from a couple of the respondents (4,5) with regards to how the organization sometimes miscommunicated information. From their responses, the information given sometimes were not understood or explained exactly how it is supposed to be. This according to them, gave them a presumption of something the management did not mean. Respondent 5 also emphasized that there are information overloads and explained that some of the information were given at once instead of it being given in bits so as to help them assimilate it easily.

9. How do these organizational problems affect knowledge sharing and knowledge creation?

Respondent 1: To keep employees updated and motivated, giving them the chance to develop is very crucial and opening trainings and seminars can make grasp and create knowledge.

Respondent 3: we are prevented from sharing some information

Respondent 4: it limits knowledge creation

Respondent 5: if you do not know exactly what to do on your job, you may end up doing nothing, especially if you rely on others

Respondent 7,9: one lacks motivation to share the knowledge

Respondent 8: I am unable to understand the training program

Respondent 10: the process is stifled

These problems raised by the respondents did affect them in a lot of ways. They explained that those problems affected their experiences on the job a lot of times. The section of the respondents (1, 6, 8) who raised concerns about the organization not having enough training sessions explained that they are left to their own fate to perform certain tasks that should have been taught or explained in an organized training session. They explained that since the training sessions were not enough and the information given were mostly outdated, they have to do information search by themselves and in the long run, this affects their performance on the job.

The section of respondents (7, 9, 10) that raised a concern about not having the motivation and support from the organization when they share information explained that, this lack of commitment from the organization prevented them from sharing vital information that could have improved the performance of another college and improve the general organization performance. Respondent 2, 4 and 10 emphasized that that, they are prevented from thinking to create new ways or innovating ideas since they would not be appreciated even if they do. Hence, they stick to what they know and end using their old methods for a long period of time.

Also there were responses with regards to miscommunication and information overload. Respondent 5 explained that these miscommunications in the long run affected their work performance since what they thought they heard, was not what was actually required of them. Respondent 6 and 8 also explained that they were not able to understand the training program and this leaves them wondering what to do with what item and where to put what item. They therefore have to learn on their own in order to perform their duties as expected. They explained that if the trainer takes his or her time to put out the orders in a more understandable way, then they would be able to grasp the information with ease and it would reflect in their work.

3.5 Personal

10. What type of personal problems with knowledge sharing and knowledge creation do you have?

Respondent 1: Work environment.

Respondent 2: sharing very personal

Respondent 3: none

Respondent 4: Time limitations

Respondent 5, 6: Lack of Kurdish language fluency

Respondent 7, 9, 10: sometimes I have knowledge in a different field but I can't share it to them since am in finance and they will think I am overstepping

Respondent 8: because people judge you and don't accept what you share

The respondents gave a lot of reasons they do not share information with their colleagues at the work place. Respondents 1,2,4,6,7,9,10 explained that the work environment does not support sharing of personal information. They explained that the work environment was in such a way that it is difficult to share information with other people with ease.

Respondent 4 and 7 also explained that the time limitation was one of the reason they could not share information with their colleagues. They explained that they have a deadline to submit certain projects and tasks assigned to them and they thought taking time off to share information with other colleagues will reduce the time available to perform and submit the task they have been assigned on time. Respondent 10 explained that, certain information need to be shared within a reasonable period of time and should not be rushed. However, the time needed to share this information is not available to them since the sender and recipient of the information have different schedules at different times. When one person is available, the other is busy and vice versa.

The language barrier was also among the personal reasons why they did not share information in the organization. According to respondent 5, his lack of understanding in the Kurdish language was one reason he could not share personal information with his colleagues. Respondents 3, 4, 6, 7,9 and 10 also raised the same consent explaining that the lack of proper communication with regards to the common language sometimes prevented the sharing and receiving of information among themselves.

Another reason raised by the respondents as a personal barrier to knowledge sharing was the reaction of certain colleagues when information is shared. Respondent 8 and 10 explained that some of their colleagues are judgmental and would judge whatever information that is shared on a personal level. This to them was a huge deterrent since no one would like to be looked down upon.

Respondent 9 also explained that he had brilliant ideas that would help some colleagues in some other departments but could not share them as he was restricted to his own department which is finance. He explained that the people from the other department were not ready to also listen to him since they think he is not part of their department. So being in different departments was also a personal barrier that affected knowledge sharing in this organization.

11. How do these personal problems affect knowledge sharing and knowledge creation?

Respondent 1: Demotivates and makes not try to neither share nor receive.

Respondent 2: The knowledge sharing affects personal life not oppositely.

Respondent 3: makes one reluctant to share

Respondent 4: it limits knowledge creation

Respondent 5, 6: Inability to clarify one's point adequately due to language barriers

Respondent 7, 9, 10: because I can't share my ideas since am in finance, most of my ideas are unused and the organization does not benefit from it

Respondent 8: you don't feel comfortable enough to share and only share when asked

These personal problems addressed by the respondents affect the sharing of knowledge and creation in their organization. Respondents 2 and 8 emphasized that, they have been demotivated to share knowledge due to the challenges they face with other colleagues looking down on them and judging them. They were also demotivated because the work environment did not support personal knowledge sharing.

Respondent 2, 4, 6 and 10 also explained that knowledge creation is limited and that they do not see the need to innovate or create new ideas since they would end up being ridiculed instead of being praised for it. They explained that creating new knowledge almost amounted to nothing.

The lack of knowledge proficiency also prevented respondents 5, 6, 7, 9 and 10 from clarifying their points out so that they could be understood exactly how they mean it. This was one of the major personal barriers to knowledge sharing as it created a communication gap which in the long run made it difficult to pick up ideas exactly as the sender meant it. Language is the most common personal barrier in this organization.

One other challenge to personal information sharing had to do with the differences in the department. Respondent 7 and 8 who emphasized this concern explained that they were not taken seriously by their colleagues in other departments whenever they wanted to share information with them. They explained that being in a particular department does not mean one's knowledge is restricted to that department only. They further explained that knowledge is not limited to people in a particular department but that anyone can have a great idea for a department even if they are not part of that department.

12. What are the reasons to trust/not trust a sender/receiver?

Respondent 1: The source (sender/receiver) should be known and classified.

Respondent 2,8: If it is a spam or some advertisement tools used by the senders.

Respondent 3: personal problems

Respondent 4: bias and miscommunication

Respondent 5,7,9: personal trust issues

Respondent 6: trusting people is a good thing because it helps to build a successful relationship since a successful relationship can only be built on trust. I do not trust sender because I think they can miscommunicate a message since we use 3 different languages at our work place.

Respondent 10: if the line of communication is not secure or backed by the organization, it's difficult to trust the sender of the message

The interviews conducted by the researcher also sought to find out why people trust or do not trust a message sent or received by the staff in the chosen organization for the research. Trust is an essential reason why people chose to accept one information and reject another. In order to fully understand and make a full analysis of the barriers to knowledge creation and sharing in this organization, it was necessary that the 'trust' factor was taken into consideration.

Majority of the respondents to this research's interview were concerned with the method of communication as a reason for not trusting a message sent by their colleagues. With communication, respondent 4 and 6 raised concerns about miscommunication of information. The reasons for the miscommunication were the language barriers, the choice of communication channel and the sender's bias. They explained the language barriers as the choice of language for sending a message that made the recipient of the message to doubt whether they really understood the message as the sender meant it. The organization in question uses three different languages in the

workplace that is English, Kurdish and Arabic. The level of every staff's knowledge in this three different languages vary and as such the information sent over to a recipient may not be fully understood as it was meant especially if the sender's preferred language is different from the recipient's preferred language. The choice of communication also had to do with the method of communicating a message to a recipient.

Respondent 10 explained that the sender of a message should have the backing of the superiors in the organization or should pass the message through the superiors in order to have the full trust of the recipient. This according to the respondent was important in order to avoid taking instructions that the organization's superiors were not aware of or did not support. According to respondent 1 and 4 the sender's bias also had to do with how an individual was considered as being bias and therefore was considered as not trustworthy. This meant that the sender could send information that could make the recipient take an action that would be beneficial to the sender and of a disadvantage to the recipient.

Respondent 1, 2, 6 and 8 also raised concerns about the source of the sender's message or information. In their responses they explained that the source of the respondent's message must be known and classified, must not be a spam and must not be an advertisement. Classified messages can be trusted whereas spams and advertisements cannot be trusted. That means the source of the message must be clearly explained to the recipients and it must be sources that can be trusted in order for the recipients to accept it. Sometimes people in their excitement share information they received or saw online that are not properly scanned to check its authenticity. They go ahead to share this information and at the end of the day, implementing it puts us in a point of disadvantage. It is because of some of these reasons that we take precautions to check the source of the message before trusting it.

Another reason people do not trust messages they receive are personal issues according to respondent 3, 5, 7 and 9. If they think the person sending the information should not be trusted, their messages would not be trusted. If

they however feel the sender is to be trusted, then the message will be trusted.

13. How are you motivated to share/create knowledge within your organization?

Respondent 1, 9,10: The work environment is not that much supportive for that. If there are reward systems, I am motivated to share

Respondent 2: Only if it is needed and it should be through working groups

Respondent 3, 8: I participate and share knowledge in our training courses

Respondent 4: continuous training, motivation and rising knowledge creation

Respondent 5: if I trust myself and I believe the message can help my organization, I am motivated to share it

Respondent 6: when there are training sessions, I am motivated to share my knowledge

Respondent 7: I feel it is part of my job responsibilities and I feel delighted to share with my colleagues

The researcher also asked a question that had to do with the staff's motivation for sharing or creating knowledge in their organization. A major response that came from the respondents had to do with training programs. Respondents 3, 4, 6 and 8 explained that training sessions organized by the organization was the greatest motivation for them to share information with their colleagues. Respondent 4 explained that whenever there are training programs, he is motivated to share his knowledge since a platform has been opened for that purpose. With regards to knowledge creation too, respondent 6 explained that if there are more training sessions, then their knowledge would be increased and in that way they would be challenged to think and create more knowledge since the knowledge they would have received from the training sessions would act as a stepping stone for creating their own knowledge.

Personal motivation was another reason for knowledge sharing and creation in the organization. Personal motivation comes from the people sharing and creating the knowledge themselves. Respondent 5 explained that, if he trusts himself and the message, then he is motivated to share. This means that trust in one's self is a major motivation for sharing information. Respondent 7 however, explained that he saw it as his responsibility to share and to create information that he deemed as important to his colleagues and to the organization in general. These responses were a great eye-opener because it explained how personal motivation and a sense of responsibility from an individual geared him or her up to share an information.

The system in the organization was also a reason that motivated or demotivated respondents from making meaningful contribution in knowledge at their organization. Respondents 1, 9 and 10 explained that if there are reward systems that are in place for staff who create or share information, then it would motivate them to share more. They also explained that the work environment of their organization however, does not support the creation and sharing of knowledge. These reasons explain why respondent 2 said that she only shares information when he feels it is needed.

14. Do you expect anything in return when sharing knowledge?

Respondent 1: Yes, appreciating the knowledge and give positive and creative feedback.

Respondent 2,5: Yes, if it is necessary. I expect positive feedback in return.

Respondent 3: No I don't. Just to teach others

Respondent 4: improve communication, prevent errors, and increase self-esteem and integrity

Respondent 6: no. I feel my knowledge is for my organization so am glad to share it

Respondent 7: no I don't.

Respondent 8, 9, 10,: yes to show appreciation

The research also sought to find out why people share knowledge and what they expect from sharing the knowledge they have. Most of the respondents said they do not expect anything from sharing their knowledge. Respondent 6 felt it was the right thing to do since they were employed because of their knowledge in the first place. Respondent 3 felt that others needed to be taught so they went ahead to teach them without expecting anything back.

Respondents 1, 2, 4, 5, 8, 9, 10 however expected something in return for sharing their knowledge. They listed some of their reasons as people appreciating them and giving them a positive and creative feedback, improving communication, preventing errors on the job, increasing their self-esteem and integrity. The feedback seemed to top the responses given in that, most of the respondents expected that after sharing their knowledge the people who received the knowledge would give a positive feedback which shows that the message was received in good faith. Respondent 1 expected the feedback to be in a form of creativity which is an improvement in the knowledge that they shared. With regards to improving communication, the respondent 6 felt that sharing their knowledge would make their colleagues feel at ease to communicate any ideas they also have. In this case they can easily share and receive information and share ideas. Respondent 3 also explained that they shared knowledge so that their colleagues would not make errors on tasks assigned to them. They explained that certain tasks were complicated and they needed to break the process down in simple terms and also with their experience so that their colleagues do not make errors that would ruin the progress of the tasks assigned to them. Seven interviewees also expected that after sharing an information they would be appreciated and that they would be looked upon as knowledgeable and respectable.

15. Would you like to add something?

No

CHAPTER FOUR

DISCUSSION AND CONCLUSION

4.1 Introduction

This chapter deals with the discussion of the findings from the interviews. They are discussed and comparisons are going to be made with the major findings from the literature to determine similarities and differences, if any. The researcher divided the findings under each theme or variable of the study for easy understanding. In addition it is in this chapter that the researcher will determine if the objectives were met and research questions answered. The chapter also goes on to make conclusions that can be drawn from the study and recommendations for future studies.

4.2 Knowledge awareness

The interviews conducted by the researcher hinted that most people were not aware of the concept of knowledge and its aspects. However the findings also reflect that explicit and tacit knowledge are both utilized in the company. The employees experience in their jobs provides them with tacit knowledge and the developments in the internal and external world serve as learning curves. A lot of explicit knowledge is required considering that the company is a pharmaceutical company. A great deal of research is required considering that the medical field is a field which requires focus and also high risk such that care has to be taken to avoid fatal mistakes.

A lot of explicit knowledge is shared during the market research process as reflected by the respondents. Ideas are thrown around and evaluated before decisions can be made. In addition this whole process can be done by initially brainstorming which means that tacit knowledge is also created and ultimately shared through the presentation of ideas.

There is also a lot of readily available explicit knowledge in the company in the form of manuals and pamphlets about the organization. Since these

include instruction manuals the convenience of having them means that employees can look up information and solve some of their own questions readily without having to refer to their superiors. There are also experts within the company whom employees can refer to. These have an abundance of tacit knowledge and it's up to the organization through its policies to ensure that they tap into this rich source of knowledge. It can also be said that to make the most of knowledge it has to be shared not just created; for if the experts do not share it then it would not be of benefit to the rest of the employees. This is also a form of knowledge preservation which ensures that it is passed down.

Knowledge is shared in various ways in the organization but the major finding is that the sharing of knowledge is generally top down. This may also be the reason why most of the workers do not feel motivated to create and share knowledge. They are used to having the management direct and run the show all they do is to just follow the orders from above.

The findings however reflect that there is much creation and sharing of knowledge within the management. This is reflected in the brainstorming sessions that they conduct as well as the meetings in which all parties give updates on their respective departments deal with problems as departments. By doing there are higher chances of getting fresh observations and opinions from other people who do not deal with the problems every day. Only one employee indicated that they have a supervisor who involves them in decisions. This culture has to be nurtured as well as make sure that it spreads to other departments as well as this could motivate the employees and they also represent a source of knowledge.

Today's world is a digital world characterized by advances in technology. The company is trying not to lag behind by utilizing some social media platforms to improve communication. The company uses the email system and they have company emails that they use. However, employees are discouraged from using other social media platforms like Facebook on company time to ensure that employees focus on their jobs more.

The company shares knowledge through meetings, emails, company website, seminars and training. It is important to note that most of the knowledge creation is done at the upper level of the organization. In addition as much as knowledge is shared all-round the organization in different ways, most of it is also done at the higher levels of the organization. The company could therefore put more measures in place to ensure that knowledge is also shared and created at the lower levels of the organization. Explicit knowledge is also shared more than tacit and this may be because of the difficulty in sharing of tacit knowledge anyway. The company's mostly top down mode of communications also stifles the sharing of tacit knowledge.

4.3 Cultural barriers

The major cultural problems experienced in the organization stem from the diversified nature of the employees. The company is characterized by employees from different backgrounds and ethnicity which also means that there are differences in values adhered to. There is a lack of harmony in the values and it is also difficult for them to understand some of the values of the organization because of this.

Language presents a major barrier in the organization and stifles effective communication. English is a second or third language to some whilst most are not fluent in it. Some of those are also not familiar with the local language which also presents problems. Because of this the employees are uncomfortable with sharing knowledge.

Furthermore, naturally the company is not big in promoting knowledge creation and sharing. As reflected in the findings the people are used to being spoon fed and this tendency tends to make the employees feel unbothered about creating and sharing knowledge. Their ideas just lie dormant and untapped and even though they may have something to say they will simply defer to higher authority. There is much need therefore to engage all parties concerned in order to facilitate knowledge management in the organization.

In addition another finding from the interviews which is that societal backgrounds serve as a barrier to knowledge creation and sharing is a reflection of one of the five cultural dimensions by Hofstede (1984). This relates to the individualism-collectivism principle. The individualism promotes the self-encouraging the 'I' rather than the we. The collectivism reflects unity and support of each other. Because of the diversity in people at the company, some tend to be individualistic and there is a need to determine these as they tend to be unbothered if something is not of benefit to them or further their ambition.

4.4 Technological

Most of the technological problems lie in the attitude of the employees towards technology and unwillingness to change to new systems. However the results of the interviews also indicate that there is lack of adequate training when new technological developments are introduced. This limits the platforms available for knowledge sharing as well as the motivation to share knowledge. However, things like faulty equipment can provide an opportunity for learning for those who repair it in their company. Introduction of new technologies also has the same effect and can serve to not only improve the company's system but to also advance the technical skills of the experts which they can later on share.

There is much need for the management to introduce changes that can promote knowledge management cultural as well as furnish the employees with adequate training. Instead of assuming that most people are knowledgeable they should take it from the basics. This may motivate employees to create and share as well

4.5 Organizational

The major finding lies in that the management or organizational structure in place does not encourage knowledge creation and sharing. The management is the one which makes the decision making and disseminates

knowledge from above. Lower level workers thus do not feel motivated enough to create or share knowledge. Some of the information is also private and confidential therefore there is not much sharing to be done. This is definitely the norm in pharmaceutical industries where a lot of research and experiments take place. Secrets have to be guarded jealously as competitors can easily get ahead as a result of leaked information.

Respondents also mentioned that there is lack of transparent rewards and recognition systems. This demotivates the employees and they feel that their input is not appreciated. They therefore end up just keeping their knowledge to themselves and only disseminate it when it is of benefit to them. Properly motivated employees strive to go an extra mile as well as feel compelled to help in the success of the company.

4.6 Personal

Again the issue of language cropped up as a barrier to knowledge creation and sharing. This means that something definitely needs to be done to address this issue in the company so that employees speak a common language. Andreasin and Andreasin (2013) advocate for similar language to ensure that there is common understanding amongst all the parties. The respondents made it clear that the language barrier was hindering effective creation and sharing of knowledge especially the latter.

Time was also mentioned and employees highlighted that sometimes there was just too much work to fully engage in knowledge creation and sharing. If the company therefore is to reap benefits of employee knowledge, the researcher recommends that they put some strategies in place like the use of team rooms which can go quite a long way.

Employees mentioned reluctance in sharing of information to their colleagues in other departments. This is because they feel that if they do they will be encroaching boundaries that are not theirs. They therefore keep their knowledge. On that note other employees are reluctant to share for fear of being judged. They want their colleagues to feel good about them so cannot

be helped. Education seems to be much needed to give room for encouragement of knowledge management processes.

4.7 Summary and conclusion

This study raised the following major concerns in relation to barriers of knowledge management in manufacturing firms:

Table 4.1 Barriers to knowledge creation and sharing

Type	Barriers	Respondents	Response rate
Cultural	Attitude	1	100%
	Differences in values	5	
	Diversified background	3, 6	
	Language	1,4,7,9,10	
	Spoon feeding tendency	1	
	One way communication	2, 8	
	Individualism background	3,6	
Technological	Unwillingness to adapt	1,3,	100%
	Equipment failure	2, 6	
	Prohibition of use of social networking	5,8	
	Lack of training	1,4, 10	
	Unfamiliarity with systems	1,7,9,10	
Organizational	Lack of rewards and recognition	7, 9	100%
	Top down communication	10	
	Confidentiality nature of information	3	
	Lack of dedication to training	1,6,8	
	Information overload	5	
	miscommunication	4	
	Lack of training places	2, 6	
Personal	Fear of overstepping	7,9,10	100%
	Time	4	
	Language	3,4,5,6,7,8,9,10	
	Personal nature of not wanting to share	2	

The above represents the barriers to knowledge creation and sharing as given by the respondents from Northern Iraq. The researcher suggests that the management sit down and start involving lower workers in discussions. This facilitates the process of knowledge creation and sharing. The company also needs to change their attitude and make it more accommodating. In order to do that, measures must be put in place to promote knowledge management processes. Knowledge needs to be shared but to be shared it has to be created.

4.8 Limitations and recommendation for future study

This study was based in Northern Iraq only. Future studies can deal with a wider area. In addition a qualitative perspective was used in this study. A mixed or a quantitative approach can also be conducted successfully in the future. Lastly other methods of data collection other than interviews can be utilized for example focus groups.

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APPENDIX

CONSENT AND INFORMATION FORM

Interviewee name:

Duration:

AN ASSESSMENT OF BARRIERS TO KNOWLEDGE CREATION AND SHARING IN MANUFACTURING COMPANIES

Dear participant,

I am Mzhda Barzan, I would like to invite you to take part in a research study. Before you decide you need to understand why the research is being done and what it would involve for you. Please take time to read the following information carefully. Ask questions if anything you read is not clear or if you would like more information. Take time to decide whether or not to take part.

This research's major objective is to understand the barriers to knowledge creation and sharing in manufacturing companies. It also seeks to determine the extent of awareness of the employees of knowledge creation and sharing. Moreover it seeks to assess motivation issues behind knowledge creation and sharing. Moreover, it is an academic requirement for the award of my Master in Innovation and Knowledge Management Degree. The researcher will conduct this study from a qualitative aspect as they need to make deeper evaluation and insight from these barriers and this will also result in a thorough understanding of the issues. Fifteen questions adapted from Andreasin and Andreasin (203) will be asked and the interview will not take more than 30minutes.

The following information pertains to the interview and how it will be used. Ethical procedures for academic research from institutions require that interviewees explicitly agree to being interviewed and how the information contained in their interview will be used. This consent form is necessary for the researcher to ensure that you understand the purpose of your

involvement and that you agree to the conditions of your participation. Your participation means you would have agreed to the following:

- I understand that even if I agree to participate now, I can withdraw at any time or refuse to answer any question without any consequences of any kind.
- I understand that I can withdraw permission to use data from my interview within two weeks after the interview, in which case the material will be deleted.
- I have had the purpose and nature of the study explained to me and I have had the opportunity to ask questions about the study.
- I understand that I will not benefit directly from participating in this research.
- I agree to my interview being audio-recorded.
- I understand that all information I provide for this study will be treated confidentially
- I understand that disguised extracts from my interview may be quoted in the researcher's academic thesis and academic published articles
- Any summary interview content, or direct quotations from the interview, that are made available through academic publication or other academic outlets will be anonymized so that i cannot be identified, and care will be taken to ensure that other information in the interview that could identify me is not revealed

Please sign here if you wish to proceed with the interview. By signing you show your consent to being a participant in this study.

Participant signature:

Researcher signature: Mzhda Barzan

INTERVIEW QUESTIONS

Knowledge Awareness

8. What type of knowledge do you more use in your organization?
9. How do you share knowledge in your company?
10. What type of knowledge do you more share and transfer?

Cultural

4. What type of cultural problems do you think affects knowledge creation and sharing?
5. How do these problems affect knowledge creation and sharing in your organization?

Technological

6. What technology problems do you have with using the technology tools?
7. How these technology problems affect knowledge sharing and knowledge creation?

Organizational

8. What type of organizational problems with knowledge sharing and knowledge creation do you have?
9. How do these organizational problems affect knowledge sharing and knowledge creation?

Personal

10. What type of personal problems with knowledge sharing and knowledge creation do you have?

11. How do these personal problems affect knowledge sharing and knowledge creation?
12. What are the reasons to trust/not trust a sender/receiver?
13. How are you motivated to share/create knowledge within your organization?
14. Do you expect anything in return when sharing knowledge?
15. Would you like to add something?

References: Andreasian, G., & Andreasian, M (2013), "Knowledge Sharing and Knowledge Transfer barriers. A Case Study", Master Thesis, Linnaeus University, School of Computer Science, Physics and Mathematics

An Assessment of Barrier to Knowledge Creation and Sharing in Manufacturing Company

ORIGINALITY REPORT

2 %	2 %	1 %	%
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4	www.kmice.cms.net.my Internet Source	<1%
5	Journal of Knowledge Management, Volume 12, Issue 2 (2008-04-13) Publication	<1%
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7	Bastiaan Rosendaal. "Sharing knowledge, being different and working as a team", Knowledge Management Research & Practice, 2017 Publication	<1%

Shahnawaz Muhammed, William J. Doll,

BİLİMSEL ARAŞTIRMALAR ETİK KURULU

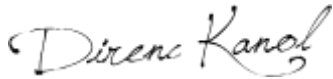
14.05.2018

Dear Mzhda Barzan Ezzat

Your application titled “**An Assessment Of The Barriers To Knowledge Creation And Sharing In Manufacturing Companies**” with the application number YDÜ/SB/2018/152 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.

Assoc. 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.

Date : 10.05.2018

No :

To whom it may concern,

We allowed MZHDA BARZAN master student of innovation and knowledge management at Near East University to do interview with our employee.

This letter was given upon her request.

كۆمپانیای پایونیر
بۆ پێشەسازی دواخانە
Kind regards,

PIONEER Co.
for Pharmaceutical Industries

Human Resources Department

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