The Role of Organizational Culture in Knowledge Sharing in Higher Education Institutions: A Social Capital Perspective

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A thesis submitted in fulfilment of the University’s requirements for the Degree of Doctor of Philosophy
Declaration
To the best of my knowledge I confirm that the work in this thesis is my original work undertaken for the degree of PhD in the Faculty of Technology, De Montfort University. I confirm that no material of this thesis has been submitted for any other degree or qualification at any other university. I also declare that parts of this thesis have been submitted for publications and conferences.
Abstract
A majority of the activities performed in higher education institutions are routines that need to be learned, remembered and refined for improvement. In addition to this, higher education institutions need to compete and innovate at a time when their performances are measured in detail by their management, students, governments and other external bodies. Sharing knowledge critical to the proper accomplishment of these routines is therefore necessary for the survival and progress of higher education institutions.

This research investigates the role of organizational culture in knowledge sharing in higher education institutions and its relationship with social capital. It focuses on the human and organizational facets of information systems research. Existing empirical research in the area was reviewed and mixed methods research utilizing a questionnaire and a set of interviews was adopted to collect and analyse the data. The questionnaire collected data respondents working in two higher education colleges in Saudi Arabia. The respondents included academic and administrative staff with varying levels of education and work experience. The purpose of the questionnaire was to gauge the respondents’ attitudes towards knowledge sharing and how social capital may affect their knowledge sharing attitudes. The findings show that employee’s positive attitudes towards knowledge sharing do not necessarily show the existence of an effective knowledge sharing practice. The interviews aimed to draw on managers’ views on knowledge sharing and how it relates to institutional routines. 17 managers were targeted in this interview to get more insights on their attitudes and to seek further clarifications for the results shown by analysis of the questionnaire data. The outcome of the interview analysis also supports the existence of relationship between knowledge sharing and social capital in higher education institutions. The findings further show that trust, participation, socialization and rewards strongly influence knowledge sharing attitudes among employees of higher education.

The research contributes original knowledge by proposing a model for sharing knowledge in higher education institutions. The model adapts and extends previous models while adding new sub-steps that are crucial for the completion of the knowledge management cycle. The model was validated through expert opinion elicited in a focus group comprising of 15 respondents who are engaged in
managing higher education departments and committees. The research also combines various social capital measurement models to propose a concise and more practical model.
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Publications
Chapter 1: Introduction

Knowledge is increasingly becoming an essential driver of economic growth where the traditional factors of production are giving way to the intangible assets as the new cornerstones of development (M. Alavi & Leidner, 2001; Webb, 2008). As organizations become reliant on the knowledge they possess for survival, growth and innovation, it becomes of paramount importance to align their knowledge management practices with their organizational strategies and routine work practices.

It may be argued that knowledge in organizations is something that is naturally captured, shared and utilized without giving this a particular attention because organizations of different types and various sizes are succeeding in their fields without formal knowledge management policies (Czarnitzki & Wastyn, 2010; Egbu, Hari, & Renukappa, 2005). However, several studies have shown that organizations grow and increase their productivity by proactively managing their knowledge (Braunerhjelm, Ding, & Thulin, 2018; Centobelli, Cerchione, & Esposito, 2018; Santoro, Vrontis, Thrassou, & Dezi, 2018).

In a broader sense, it could also be argued that knowledge management is a human instinct (Cheng, 2002). Creating knowledge of how to survive in harsh environments, searching for food, shelter and relief for maladies could be considered the earliest form of managing knowledge. Such knowledge was passed to the subsequent generations in a variety of methods and it was communicated through cave paintings (Figallo & Rhine, 2002), knotted cotton cords, (Beynon-Davies, 2010) storytelling (Duveskog, Tedre, Sedano, & Sutinen, 2012) and other informal transfer methods. This knowledge was then adapted and extended if the circumstances dictated so, such as when facing new hardships or moving into new territories with different landscapes, vegetation or climate.

However, the current use of the term ‘knowledge management’ (KM), was adopted in the 1980s and the person credited with its first use was Karl Wiig, a consultant at the Knowledge Research Institute. The term was later popularized by the publication of the “Knowledge Creating Company” by Nonaka and Takeuchi (J. Edwards, 2005; I Nonaka & Takeuchi, 1995). The manner in which an organization manages its knowledge is strongly shaped by its organizational culture (Serrat, 2017; Y. Wei & Miraglia, 2017).

Different researchers underscore the significance of organizational culture to the success of KM initiatives (Maryam Alavi, Kayworth, & Leidner, 2006; T. T. Kim, Lee, Paek, & Lee,
2013; J.-C. Lee, Shiue, & Chen, 2016). As will be highlighted in section 2.1, there are varying definitions of organizational culture, nevertheless, researchers agree on its importance and that it includes the values and beliefs shared by members of an organization. Regardless of the type of organization, employees of various levels of management and in different business functions develop some shared concepts and attitudes that shape their behaviour and common organizational outlook.

The organizational cultures in higher education are formed by various interacting internal and external factors. The students, employees and management are the main internal players, while the external stakeholders include the partner organizations, parents, prospective students and their parents and the university alumni (Vasyakin, B. S., Ivleva, M. I., Pozharskaya, Y. L., & Shcherbakova, 2016). Moreover, organizational culture in higher education is not static; it is redrawn continuously as institutions attempt to adjust themselves to the changes in their internal and external environments (Tierney & Sabharwal, 2017). Although the above factors are important in shaping the organizational culture of an institution, other external factors such as the country culture and the educational policies followed by the government also affect the organizational culture in higher education institutions (Lacatus, 2013).

The Higher Education Institutions (HEIs) in Saudi Arabia are going through a number of transformations. There is a new higher education strategy adopted by the Ministry of Education in late 2019. The new strategy encourages HEIs to improve the quality of their services through a competitive environment (Al-Khathlan, 2020). It also allows, for the first time, international HEIs to offer their programs in Saudi Arabia while Saudi HEIs are also allowed to run their programs outside the kingdom and create companies to diversify their revenue (Ministry of Education, 2020). There is also another broader transformative plan (Saudi 2030) for the entire country which affects the formation and implementation of educational policies. As organizational cultures are formed within organizations that are located in certain countries or localities, studying the current political, economic and social situation of Saudi Arabia is important in understanding the cultures of the organizations studied in this research are shaped.
1.1 The Kingdom of Saudi Arabia

The Kingdom of Saudi Arabia is the largest country in the Middle East (Al-Janadi, Alazzani, Al-, Rashidah, & Rahman, 2016) covering about 80% of the Arabian Peninsula (Battal, 2016). The political formation of the country goes back to the early 1930s when King Abdulaziz Al Saud united the Arab tribes of Hijaz and Najd to form the Kingdom of Saudi Arabia (Maisel, 2018). It is bordered by Iraq, Kuwait and Jordan to the north; by Yemen and Oman to the south; and by the United Arab Emirates, the Arabian Gulf and Qatar to the east (see figure 1-1). The country also borders the Red Sea to the west.

![The official map of Saudi Arabia](www.gcs.gov.sa, 2019)

The Kingdom is divided into thirteen administrative regions with the city of Riyadh as the capital. Saudi Arabia is home to Islam’s two holiest mosques, Al-Masjid al-Haram in Mecca, and Al-Masjid Al-Nabawi in Medina. Millions of Muslims travel to Saudi Arabia to visit these holy sites especially during the annual pilgrimage season. The kingdom has the largest proven oil reserves and the second-highest annual oil production in the world (T Alkhateeb, Sultan, & Mahmood, 2017; Tarek Alkhateeb, Zafar, & Mahmood, 2017; Cordesman, 2019; El-Ayoubi, 2018; Ouda, Raza, Al-Waked, Al-Asad, & Nizami, 2017; L. Wang & Yu, 2019). Currently, about 90% of its economy comes from oil exports (Nurunnabi, 2017), however, the country is actively trying to move from oil dependency to a more diversified and sustainable economy.

A transformative plan called Saudi Vision 2030 was announced in 2016. This ambitious and overarching plan includes fundamental changes in how the kingdom sees its position in the
world, how it manages its economy and how it leverages its ‘leading role’ in the Arab and Islamic world (National Transformation Program, 2016a). The details of the plan comprise of measurable objectives that affect both public and private sectors. At the heart of this plan, is to shift the economy away from the oil-dependency by improving education and healthcare and to by privatizing some of the services currently funded by the government (Jurgenson, Bayyari, & Parker, 2016; Nurunnabi, 2017; Yusuf & Atassi, 2016).

The population of Saudi Arabia is estimated at 33 million of which just over 20 million are Saudi nationals while the rest are the foreign workers and their families (Kingdom of Saudi Arabia, 2019). In addition to the migrant workers, Fadaak and Roberts (2018) state that at any time, about 1.2 million foreign students, mostly from other Muslim countries, are studying at universities in Saudi Arabia. These students are attracted by the free education and the fact that they can get accommodation and food at the university and are paid ‘salaries’ of approximately 300 US dollars. According to the Saudi General Authority for Statistics, there were approximately 13 million persons employed in Saudi Arabia (all sectors) in the second quarter of 2019. As shown in figure 1-2, over two thirds of these employees were foreign workers (“General Authority for Statistics,” 2019).

![Figure 1-2 - Employment in Saudi Arabia – Source: stats.gov.sa](image)

### 1.2 Culture in Saudi Arabia

It is difficult to isolate Saudi Arabian culture from that of the rest of the Gulf Cooperation Countries (GCC) or even from the majority of the Arab World where social connections are an important player in getting things done (Harbi, Thursfield, & Bright, 2017).

The 14th-century Arab sociologist, Ibn Khaldun formulated the term ‘Asabiyah’ which denotes group feelings, mutual defence or solidarity (Elbih, 2019; Gamarra, 2015). He stated that the successful rulers of his time were spreading Asabiah among their societies to ensure solidarity and support to their rule (Wardak, 2017). A similar term called ‘Wasta’ is currently used in Saudi Arabia which means using family or tribal connections to seek emotional, social,
economic and political security or to influence organizational decision-making (Abalkhail & Allan, 2016; Al-Hussain & Al-Marzooq, 2016; Aldossari & Robertson, 2016). The collectivist culture which is prevalent in the Arab world (Buda & Elsayed-Elkhouly, 1998; Obeidat, Shannak, Masa’deh, & Al-Jarrah, 2012), may be a breeding ground for the above two concepts as people tend to leverage the powers of the social connections. These connections can be used positively to facilitate access to group resources or negatively (e.g. to maintain power and keep others in a marginal and dependent position) (Allard, 2005; Wacquant, 1998). As social relationships influence individual and group attitudes towards knowledge sharing (Hu & Randel, 2014; Killingsworth, Xue, & Yongjun, 2016) it is also imperative to examine how the above cultural elements relate to knowledge sharing in Saudi HEIs.

The theory of social capital describes how social networks are formed and how its members utilize their connections to gain access to the resources available to their network (Allard, 2005; Field, 2003). It is also important to note that knowledge is an important resource that higher education employees can access through their social connections (Dost, Badir, Ali, & Tariq, 2016; van Dijk, Hendriks, & Romo-Leroux, 2016; Webb, 2008). This research, therefore, uses the theory of social capital to better understand how social connections can affect knowledge sharing in Saudi HEIs.

1.3 Higher Education in Saudi Arabia

Saudi Arabia’s first university, King Saud University, was established in 1957 following which there was a steady growth of universities until the year 2000 when there was a sharp rise in the number of universities and degree awarding institutions established (figure 1-3). The ministry of education which oversees the higher education in Saudi Arabia lists 29 ‘state universities’ but there are also a number of private universities and institutions that provide higher education (Ministry of Education, 2019a). Furthermore, the fast growth of the higher education sector in Saudi Arabia is also evident in the extensive investment in scholarships abroad. For instance, the King Abdullah Scholarship Program (KASP), which started in 2005, allows Saudi students a fully-funded graduate and post-graduate education abroad. The majority of these students are hosted in the United States (Taylor & Albasri, 2014).
The impact of KASP can be seen in the figures published by the United States’ International Trade Administration (Figure 1-4) which shows that from 2005 to 2015, the number of Saudi students in the US increased 12 fold (Siegmund & Rawdon, 2016). The United Kingdom, Canada and Australia also enrol a sizable number of Saudi students (Taylor & Albasri, 2014).

Having looked into the Kingdom of Saudi Arabia and its higher education in a broader sense, it is also necessary to set the scene of the research by providing a brief overview of the two institutions where this research was conducted.

1.4 Research Background
This research was conducted in two degree-awarding colleges under the Royal Commission (RC) for Jubail and Yanbu in Saudi Arabia. The Royal Commission for Jubail and Yanbu is a
governmental organization established in 1975 to manage Saudi petrochemical industries. One of its main objectives was to provide education for the residents of its two industrial cities; Jubail and Yanbu. The two institutions targeted in this research are located in the city of Jubail and they both offer programs in engineering, languages, business, computer science and design.

The two colleges come under the same managerial unit called the Colleges and Institutes Sector (CIS) of the Royal Commission as shown in figure 1-5. The third entity, Jubail Technical Institute (JTI) offers mass training to machine operators and IT support staff. This institute does not offer any degree level programs and the overwhelming number of its programs take only one year and six months to complete. JTI is therefore not included in this study which focuses on higher education environment. All three institutions offer free education and accommodation for Saudi students. It is important to note that the hiring process for both Jubail University College and Jubail Industrial College is managed centrally by the Royal Commission Human Resources Department. The employee benefits and codes of conduct are the same for both colleges.

![Figure 1-5 - CIS Organizational Structure (www.rcjy.gov.sa)](image)

Jubail Industrial College (JIC) was established in 1989 to cater for the educational needs of Jubail Industrial City. Its current mission focuses on education, research and industrial development (Jubail Industrial College, 2020). The college enrolls only male students and it offers engineering and management programs while Jubail University College (JUC) was established in 2006 to satisfy the growing higher education needs of Jubail Industrial City. Before the establishment of JUC, the city residents had to travel outside the city to obtain
university education for themselves or their children. JUC currently offers degree programs in Business, Engineering, Computer Science, Interior Design and English Language. The college has two campuses in the same city for male and female students. All employees in the female campus are female while the male campus is fully staffed by male employees.

The Managing Directors of both colleges and their deputies are appointed by the General Manager of the CIS. The Managing Directors, in turn, propose the names of the employees who would fill the positions of chairpersons of academic departments, heads of academic units, chairpersons of all committees and the members of these committees. Their proposals are approved by the Managing Director of the CIS (Jubail University College, 2020a). All these roles last for one academic year unless renewed.

The two JUC campuses offer the same curriculum and their staff hold regular meetings to ensure that both sides maintain the same JUC standards and provide equitable teaching and assessment to their students. The majority of these meetings are held through teleconference facilities when the face-to-face meetings are not possible. It is the Royal Commission policy to ensure that both male and female staff have fair representation in departmental and college committees. With that said, the communication between male and female members is always very formal and there are cultural barriers that limit the interaction between male and females in Saudi Arabia.

Figures 1-6 and 1-7 show the organizational structures of the two colleges. It is clear from the JUC organizational structure that the male and female branches have no horizontal connection. They report to the College Deputy – Female Branch, who reports to the Managing Director of JUC. The two Business Administration Departments in the male and female branches, for instance, do not report to the same managerial line. These parallel structures may cause some decision-making problems because the national and international accreditation bodies consider the two programs as a single program that requires the same teaching, assessment and administrative practices. In its current mission, JUC aims to raise the quality of its academic programs and focus on research and community engagement (Jubail University College, 2020c).

The two colleges have many things in common including exchanging some of their academic or administrative staff at the time of shortage. However, each of the two colleges has programs
that are not offered by the other college. JIC has many two-year diploma programs in addition to some bachelors and master’s degree programs, while all JUC programs take four years to graduate and all its students work towards a bachelor’s degree. Both colleges are actively engaged in getting national and international accreditations for their programs.

Figure 1-6 - JIC Organizational Structure (Source: http://www.jic.edu.sa/)

Figure 1-7 - JUC Organizational Chart (Source: www.ucj.edu.sa)
1.5 Importance of the research topic.

In general, organizations create knowledge by absorbing information from their working environment and transforming it into knowledge, or by acquiring it from external sources. Whatever the source of knowledge, it needs to be stored and codified to make it useful to the organization. In addition to that, it is necessary to make this knowledge available to the relevant users. It is here that the organization needs to have clear knowledge transfer policies that can be put into operation. Globalized organizations and those with geographically distributed teams and processes may further need to streamline their knowledge.

Knowledge sharing can therefore be described as the most central of all activities through which employees can contribute to knowledge application, innovation and ultimately enable their organization to be more competitive in its field (S. Wang & Noe, 2010). It would be relatively meaningless to an organization if every employee has to create, codify and store his/her knowledge for his/her future use. Similarly, if every team managed their knowledge for the sole use of their own members, it would be insignificant for the overall success of the organization.

As in any organization, Higher Education (HE) institutions create knowledge through their day-to-day activities (Bhusry & Ranjan, 2011). The members of staff who conduct such activities may not necessarily stay in the same role, department or institution. In addition to this, a majority of the activities performed in higher education institutions are routines that need to be learned, remembered and refined for further improvement. These include academic and administrative tasks that are central to the proper functioning of the institution. In addition to this, as any business, HEI’s need to compete and innovate in a time when their performances are measured in detail by their management, students, governments and other external bodies (Hazelkorn, 2007, 2009).

Corporates use KM as a competitive advantage to ensure their survival and to keep their business at the cutting edge of their industry. HEIs are moving to adopt corporate strategies to manage their business activities (Nixon, Scullion, & Hearn, 2018).

A member of staff in a university may have worked on a curriculum development assignment and came up with an effective method to streamline the various tasks involved in this activity. A head of department may have worked out an easy and effective way to collect and organize the information necessary for internal or external reporting. A third person may have
discovered how to best adapt teaching materials for a group of students with varied abilities. In addition to the core business of educational institutions - teaching and learning, the various departments of any modern university often build a vast repository of knowledge which may include financial, marketing, information management, procurement or service provision which may exist in electronic or print forms (Rowley, 2010). The members of staff who discover the above pieces of knowledge will primarily keep these for their personal use if there is no proper knowledge sharing practice in the institution.

Although an institution may rely on these individuals and others who master a particular activity whenever needed, there is no guarantee that these individuals or even teams will stay with the institution. Therefore, it would be necessary to make sure that institutional knowledge does not become synonymous with these individuals and, therefore, the knowledge is only available whenever these individuals are present and absent when they are away.

By adopting a knowledge management strategy, an institution will be able to capture the knowledge created by its employees, make it available to those who need it so that they can apply it at the right moment in the right situation.

1.6 Why is knowledge sharing in HEIs in Saudi Arabia important?

Following are some of the reasons why it is important to study knowledge sharing in Saudi HEI environment:

1.6.1 Achieving Vision 2030

The Saudi Vision 2030 demands government agencies to share their services to improve the quality of their services, cut costs and unify their efforts (Saudi Vision 2030, 2016). To achieve this, the vision promises to set performance indicators that “…measure quality, workflow improvement, cost reduction and knowledge transfer.” To be in a position to share their services, these agencies will need to cooperate and come to the same level of understanding of the services they are required to share. This cooperation will demand that knowledge available in an organization to be shared within the organization and with external partners to ensure the achievement of the goals set in the 2030 vision. The vision also promises to “encourage the exchange of knowledge” within the local service providers and to establish regulations that will enable the non-profit organizations to ensure best management practices and knowledge transfer.
Higher education institutions are part of the government agencies required to collaborate and share their services. It would therefore be essential for universities to start assessing their current knowledge sharing position and to make the necessary improvements to ensure successful transfer of knowledge both within the institution and with other relevant government agencies.

1.6.2 Work Environment

Currently, many universities adopt the Arabic language as their medium of instruction. However, there is a growing move to change this to English language. This change will demand recruiting staff members from outside Saudi Arabia and they will bring with them new cultures. When these international staff join Saudi staff members, they will together shape the culture in the institution and there will be a need to understand the resultant culture. This is important because all organizational activities, including knowledge sharing will be affected by this new culture.

While the number of total employees in the kingdom is dominated by foreign workers, the ratio is reversed in the higher education sector. For instance, in the academic year of 2017-2018, there were 165,000 employees (academic and administrative) in the higher education institutions in Saudi Arabia. 76% of these were Saudi nationals, while the remaining 24% were foreign nationals (Ministry of Education, 2019a). The academic employees, in particular, are estimated at 85,000 of which more than a third, 33,000, are foreign academics (Ministry of Education, 2019a). In such an environment where academics of diverse nationalities, languages and cultures are working in the same department, it may not be easy for the knowledge to flow across cultural boundaries as found by Dube and Ngulube (2012) who observed that in a multicultural department of Information Science in South Africa, multiculturalism did not support knowledge sharing. Rather, they found that staff members inclined more to share knowledge with those that belonged to their racial group. Similarly, nationality diversity was found to be negatively related to trust (M. Evans, 2008). As multicultural institutions also tend to be multilingual, creating, sharing and storing knowledge in a common language is also important to ease communication (Lauring & Selmer, 2011).

In addition to the problems that come with multiculturalism, foreign academics in Saudi Arabia are on annual contracts which do not guarantee secure and permanent employment. Earlier
researchers like Oye, Salleh and Noorminshah (2011) and Skok and Tahir (2010) found that job insecurity is positively related to withholding knowledge. Idrees, Vasconcelos and Ellis, (Idrees, Vasconcelos, & Ellis, 2018) found evidence of withholding and intentional misinformation among Saudi Arabian companies that started inter organizational knowledge sharing. These companies were in an environment were employees’ performances were measured to make decisions pertaining to their contracts.

Although strategies may be developed to set standards for higher education management and culture, an institution cannot exist in a cultural vacuum where societal values, beliefs and principles are prevented from becoming a part of the organizational culture. One of the problems facing Saudi universities is the contrast between their drive for autonomy and flexibility in their decision-making, and the local societal culture where compliance and central control is dominant (Al-Eisa & Smith, 2013). Researchers like Skok and Tahir Richmond (Skok & Tahir, 2010), postulate that organizations in the Arab world were not encouraging knowledge sharing. This, they claim, stems from the cultural differences between the Arabs and the West where the majority of the knowledge management research is undertaken and policies formulated. Although cultural differences need to be considered when implementing any policy, there is also evidence that knowledge management can succeed in the Arab world (Allam Ahmed & Alfaki, 2017; Dzenopoljac, Alasadi, Zaim, & Bontis, 2018; Naser, Al Shobaki, & Amuna, 2016).

Saudi Arabian HEIs are working in an environment characterized by marketization, transition, multiculturalism and insecure employment (Alamri, 2011; Le Ha & Barnawi, 2015). Understanding how to best encourage employees to share their knowledge will help institutions to close the gaps between their internal units and to collaborate with partner organizations.

1.6.3 Accreditation and Quality Assurance

The Kingdom of Saudi Arabia requires all universities to get accredited by the National Centre for Academic Accreditation & Assessment (NCAAA) which is the government agency that sets the quality standards for institutional and programmatic accreditation (Alaskar, D’Errico, Alipoon, & Dehom, 2019). In addition to the national accreditation, many Saudi HEIs also seek international accreditations for their institutions, departments or programs. This is to get global recognition (E. A. R. Alharbi, 2016), to achieve certain Key Performance Indicators (KPIs) and to align their graduates with national and international labour markets (Onsman, 2010).
The accreditation process entails revising curriculum and quality procedures to ensure that they conform to the requirements of the accreditation bodies. This becomes more complex when the same program is seeking accreditations from two or more accreditation bodies.

A living example is the Management Information Systems program delivered by the Business Administration department of Jubail University College, where the researcher works, which is currently seeking accreditation from the NCAAA, the Accreditation Board for Engineering and Technology (ABET) and The Accreditation Council for Business Schools and Programs (ACBSP). In this situation, the academic staff working on these parallel accreditations, need to collaborate and share knowledge with other departments and programs who are also seeking (or have sought) accreditations from the same accreditation bodies.

The geographical locations of these departments or the structural positions of the academic and admin staff members that need to collaborate in any accreditation activity may not allow them to easily interact and seek or provide quick answers to each other. The organizational culture in Saudi Arabia is said to be strictly hierarchical (Alkahtani, Lock, & Dawson, 2013; Harbi et al., 2017), and this may further complicate the smooth vertical and horizontal interaction of employees to share knowledge. This is more evident when the knowledge is personal and is not easy to transfer in writing. Position-based differences among employees, i.e. geographical locations or structural positions, were found to negatively affect knowledge seeking (Haas & Cummings, 2015). The physical segregation of male and female campuses in Saudi Arabia, and the strict cultural rules on cross-gender communication may also inhibit the knowledge sharing (Madini & de Nooy, 2016). Therefore, creating an environment where employees of different departments or different managerial positions can communicate and share their expertise is important in achieving accreditations required by the ministry of education.

For instance, the Computer Science program of Jubail University College is accredited by ABET while the English Language program (which is offered at Female campus only) has undergone a review by NCAAA and the Business Administration program is accredited by ACBSP. The majority of the Engineering programs at Jubail Industrial College are also accredited by ABET while their Marketing program has ACBSP accreditation. These three programs can offer support to JUC’s MIS program if proper knowledge sharing is facilitated. It is also important to note that when HEIs get the accreditation they are seeking, they are also required to continue maintaining the standards of the accreditation bodies and building
evidence to support the renewal of the accreditation. This further necessitates that programs share knowledge on how to satisfy the requirements of the accreditation bodies.

1.7 Scope of the Research

This research focuses on sharing knowledge in Saudi HEIs and how this relates to organizational culture. It is about the transferable, work-related knowledge and is not about the discipline or subject area knowledge. It is the work routines and decision-making knowledge and skills that can be created, owned and shared by academic and non-academic employees.

1.8 Research Motivation (practitioner)

The primary motivation of this research comes from the scarcity of the literature in the topic. For instance, as of January 2020, a search of the term “knowledge sharing” on the Arab Union Catalogue which provides access to the records held in the national libraries of eleven Arab countries including Saudi Arabia, produced only 23 results while the term “higher education” brought under 70 results and many of these records relate to non-Arab countries.

The researcher’s personal experience is another input as he works as a lecturer in one of the higher education institutions from which the data was collected. During the ten years he worked in this institution, he participated in a number of committees and has held positions including a Program Director, Department Chairperson and a Committee Chairperson. This is in addition to his academic responsibilities.

The experience gained from working in those diverse areas has shown that knowledge necessary in some of the core institutional functions is fragmented. For instance, at the end of any academic year, all programs are expected to submit an annual report detailing the activities and achievements relating to students and academic staff. Although the majority of the input data for these reports can be downloaded from the same source (the Student Information Systems), the programs hugely differ in the way they format, clean and interpret such data. When certain skewedness is discovered in the data, the programs are required to explain why they think the skewedness happened, what investigative actions the program management has taken, and the future plans of the program to ensure that any shortcomings are not repeated.
However, it is common to see several programs discussing the same problem of the same shared course, but with varying approaches to investigate and propose an action plan. Although these reports are often discussed by the program team and then at a department level committee, and further submitted to a college-level quality assurance committee, these inconsistencies persist.

Similar problems are also visible in the curriculum design. Courses and programs are described using a format prescribed by NCAAA. When departments introduce new programs or courses or make changes to their curriculum, they make their own interpretations of how to complete these NCAAA templates. This leads to courses in the same program described differently especially when these courses are owned by different departments (an example is the Computer Science program which includes courses from the Computer Science department, Mathematics [General Studies] department and Business Administration Department.) Ensuring that all departments share their knowledge or understanding of how to describe courses and programs will lead to a more unified curriculum design and this will make students, employers and other stakeholders more informed on the programs offered at the colleges.

The researcher’s relationship with the institutions brings some opportunities and limitations. For instance, the researcher’s status as an employee has helped in gaining access to collect data from the institutions. The above-mentioned information about the working structures of the institutions and their knowledge sharing problems were also easier to understand from the employee point of view. Being familiar to the group of participants and their cultural and political structures may also allow the researcher to understand how to best study the problem. On the other hand, this also comes with its problems. For example, the researcher’s objectivity may be limited if he uses her/his prior assumptions to interpret the data. The sample selection process may also be influenced by the researcher’s familiarity to his colleagues. In this research, however, the researcher complied with the guidelines of both the researched institutions and the university where the researcher was enrolled as student. Moreover, the broad ethical guidelines followed in this research are stated in sections 3.9 and 3.12.

1.9 Theoretical Framework

Researchers have employed a number of theories in studying knowledge sharing. These theories include the theory of reasoned action, the theory of planned behaviour, social exchange
theory and theory of social capital (Bilgihan, Barreda, Okumus, & Nusair, 2016; Jin, Li, Zhong, & Zhai, 2015; Razak, Pangil, Zin, Yunus, & Asnawi, 2016).

Discussing these theories and assessing their suitability for this research is an important undertaking of this research. As will be explained in section 2.3, because of the combination of the components of this research (knowledge sharing, higher education, organizational culture) within the context of Saudi Arabia, the theory of social capital is thought to be the most suitable to make sense of the relationship between organizational culture and knowledge sharing in higher education. The main purpose of this theory is to leverage social connections to enhance organizational performance in general, and knowledge sharing in particular.

1.10 Research Question, Aims and Objectives

This research aims to answer the following question:

*What effects do employee attitudes and organizational culture have on knowledge sharing in higher education institutions?*

This research aims to investigate the effects of organizational culture on knowledge sharing in higher education institutions (HEIs). It achieves its purpose through the following objectives:

1. Establish the importance of knowledge sharing to HEIs in Saudi Arabia.
2. Understand the relationship between organizational culture and knowledge sharing.
3. Understand the relationship between the attitudes of HEI employees and their knowledge sharing behaviours.
4. Understand the role of social capital in knowledge sharing.
5. Propose a knowledge sharing model for HEIs in Saudi Arabia.

1.11 Methods

To achieve the above aims and objectives, this research employs a blend of qualitative and quantitative methods. This is because, although the nature of this research is qualitative, it is often difficult to get a clear dividing boundary between the qualitative and the quantitative realms. The data were collected through a questionnaire survey and a set of interviews.
1.12 Thesis Outline

Chapter 1 – Introduction

This chapter provides a broad introduction to the research theme. It gives a basic description of Knowledge sharing and higher education in Saudi Arabia while it also briefly discusses knowledge management and its role in higher education. The importance of this research and its aims and objectives are established.

Chapter 2 – Literature review

Previous literature in the research topic is discussed. Particular attention is given to knowledge management, differentiation of knowledge, information and data. The chapter also discusses literature in knowledge sharing in general and its relation with the higher education environment. Organizational culture and how it relates to knowledge sharing is introduced and examined. A number of theories relevant to knowledge sharing research are also discussed. These include; the theory of planned behaviour, social exchange theory and the theory of social capital. Further elaborations are made in the social capital theory and how organizations can foster it to create a working environment that is more secure and productive.

Chapter 3 – Research Design

This chapter starts with a discussion on the role of methodology in research. It then focuses on the methods chosen for this research and how they are relevant to its aims and objectives. The sampling process for both the survey questionnaire and the interview are discussed. The chapter then gives a detailed explanation on the design and piloting of the questionnaire and the process followed to conduct and interpret the results. After a discussion on how interviews are conducted, analysed and interpreted, the chapter closes with a brief outline on the ethical guidelines observed during this research.

Chapter 4 – Questionnaire Findings and Analysis

This chapter presents and discusses the results of the questionnaire survey. It starts with the demographic results and then moves to present respondents’ personal attitudes towards knowledge sharing and their work environment. The chapter then presents how respondents answered questions relating to organizational culture.
Chapter 5 – Interview Findings and Analysis

The results of the interviews are then presented. Views on trust, participation, rewards and participation are discussed. This chapter does not only present the findings of the survey questionnaire and interviews, but it also discussed these in the light of the questionnaire findings and previous similar research.

Chapter 6 - Model Proposal

This chapter proposes and validates a model for knowledge sharing in higher education environments. It links the findings in chapters 5 and 6 and previous literature on knowledge sharing to propose a new model called OCSA-CESR. The model is then validated by eliciting expert opinion on its applicability in a higher education environment.

Chapter 7 – Conclusion

The concluding chapter summarizes the research process, the results and their analysis. It highlights how the findings can impact on higher education and it points to how further research can shed more light to extend the objectives and findings of this research.

1.13 Chapter Summary

This chapter gave a broad description of knowledge sharing in academic environments and the current situation of higher education in Saudi Arabia. It highlighted the importance of knowledge sharing in Saudi HEI environment and how the two institutions under the Royal Commission require to enhance their knowledge sharing capabilities to avoid knowledge fragmentation. The chapter stressed how knowledge sharing can facilitate the achievement of Saudi Vision 2030; how knowledge sharing can mitigate the problems that are associated with the multiculturalism in the Saudi HEIs; how the current drive towards accreditation can benefit when knowledge is shared within and outside the institution.

The chapter also draws upon the researcher’s own experience to further stress the need to knowledge sharing. The culture in Saudi Arabia and how it can affect the knowledge sharing culture within the HEI environment is also highlighted. The aims and objectives of this research are outlined along with how this thesis is structured. The following chapter provides an in-depth background on previous research in the area of knowledge sharing in academic environments, organizational culture and social capital.
Chapter 2: Literature Review
The previous chapter outlined the research background and the importance of knowledge sharing in academic institutions. It also gave some basic definitions of the concepts contained in this research.

This chapter broadens this background by looking into previous research in the area. It starts with a brief discussion on the approach taken to review the literature for this research. It then continues to examine the current status of knowledge sharing and what various researchers found in their study of the relationship between knowledge sharing, social capital and organizational culture in general, and in the higher education environment in particular. The chapter also presents and discusses a number of theories relating to knowledge sharing and organizational culture.

The importance of the literature review lies in the way it enables the researcher to form a more complete picture of the problem being studied. It also shows the audience why this particular research is important, why it is different and what it adds to existing knowledge, (Jesson, Matheson, & Lacey, 2011). Besides, as the researcher identifies the strengths and weaknesses of other research in the field, he/she will be in a position to benefit from these strengths and avoid repeating the same mistakes.

Literature reviews can be structured in various ways including thematic structure in which related concepts are discussed, methodological structure whereby the focus is on the methods used by different researchers, and finally, the chronological structure in which literature is organized by time. The latter is especially useful when the historical evolution or the development of specific concepts and theories are examined (N. Lee & Lings, 2008)

As this research examines and combines a number of concepts from different disciplines, it adopts a thematic approach for the review. Therefore to interweave organizational culture and knowledge sharing in a higher education setting, and to organize the concepts into themes, there are two possible avenues to be taken: The first approach is to divide the discussion of literature into topical areas such as organizational culture, social capital and knowledge sharing. Under each of these areas, there will be a set of arguments and theories to be scrutinized after which all of them can be integrated to address the research topic. A weakness of this approach is that each area has its own literature sources and researchers, and therefore, the relationships among these areas may not be easily visible to the reader.
It is also possible to categorize the knowledge sharing theory into its constituent factors as human factors, organizational factors and information technology factors (Dokhtesmati & Bousari, 2013). This conceptualization is particularly helpful when attempting to approach the problem from a generic point of view, in other words, without limiting the knowledge sharing into a particular work environment.

2.1 Organizational Culture

Business organizations are a collection of people, resources, data, policies and procedures and they share certain group behaviours with social organizations like families, tribes, etc. Therefore, it is not surprising that some scholars study business organizations through theories developed for the study of social organizations. The literature shows a high correlation between organizational culture and knowledge management in general (Brelade & Harman, 2003; Davenport & Prusak, 1998; Harorimana, 2009) and knowledge sharing in particular (Tohidinia & Mosakhani, 2010; Tong, Tak, & Wong, 2015; Tseng, 2010). Knowledge sharing is a group activity and it is necessary to understand how groups of people in organizations behave to better explain their knowledge sharing behaviours and practices.

Although culture is seen as an important element in knowledge management, its definition has always been a debatable matter. Some researchers contend that for every possible definition of culture, there is an equally strong opposing definition (Schneider, Ehrhart, & Macey, 2013). The majority of definitions, however, point out that culture is something ‘shared’. Edgar Schein (2010) proposed a layered model of organizational culture (figure 2-1) which is constituted of the observable artefacts like the dress, working space, language and rituals; the adopted organizational values often reported by managers; and the basic assumption of individuals and groups. He argues that the visible artefacts of the organization are influenced by the hidden organizational and individual values and assumptions. These core and often unconscious values, in turn, determine how the adopted beliefs and the behaviours are displayed by the organization (Hogan & Coote, 2014; Schneider et al., 2013).

Organizational culture is defined as “A pattern of shared basic assumptions learned by a group as it solved its problems of external adaptation and internal integration, which has worked well
enough to be considered valid and, therefore, to be taught to new members as the correct way
to perceive, think and feel in relation to those problems.” (Schein, 2010:18).

The groups in the above definition include societies, organizations and their subgroups. The lifespans of these groups vary from ethnic groups that colonize a particular geographical area for centuries and develop cultures that help them maintain their life in specific circumstances, to teams or task forces that are assigned to solve a minor academic problem. The latter would have less chance to develop shared assumptions or beliefs because each member brings with him/her a prior cultural package and there may not be enough interaction to reshape their prior assumptions.

A limitation of Schein’s model is that it does not outline how the bidirectional interaction takes place between the espoused values and the assumptions (Dauber, Fink, & Yolles, 2012; Sawan, Jeon, & Chen, 2018). Schein’s explanation of how his model is interconnected and how employees transfer the intangible assumptions into recognizable values (Hatch, 1993). The model also implies that artefacts and cultural patterns are always observable (Bolade-Ogunfodun, 2017).

Another highly cited model of organizational culture is the Competing Values Framework (CVF) developed by Cameron and Quinn (2011). This model maintains that there are four distinct types of culture which are: adhocracy, hierarchy, clan and market culture (Hartnell, Ou, & Kinicki, 2011; Lacatus, 2013; J.-C. Lee et al., 2016; Schneider et al., 2013). This model emphasizes the competing and contrasting assumptions of organizations (see figure 2-2). For instance, there is a need for organizations to focus on their atomicity and internal processes while also catering for its external partnerships and operations. Organizations also need to act with agility, and at the same time, maintain their stability and managerial control.
The adhocracy culture is externally oriented and it makes organizations flexible and ready to change. It prepares the organizations to creativity and to quickly respond to new opportunities and market changes (Joseph & Kibera, 2019). In this culture, employees are allowed and encouraged to self-develop and maintain their individual freedom (Chidambaranathan & Regha, 2016; J.-C. Lee et al., 2016).

The market culture is also externally oriented but it emphasizes stability, control, productivity and task accomplishment. It is an achievement and result-oriented culture where competition is encouraged as long as it does not disturb the internal stability. In HEI environments, if students are considered as consumers of educational services, then their satisfaction will be the yardstick measure success (Chandler, Heidrich, & Kasa, 2017). Organizations that have clan culture focus on internal maintenance while also catering for flexibility and giving attention to their customer (H. Kim, 2014). These organizations mimic the tribes or extended families that form tight bonds among their members and protect each other. The dominant characteristics of this type of culture include cohesiveness, participation, teamwork, mutual support and sense of family (Lund, 2003).

![Figure 2-2 - Competing Values Framework - Cameron and Quinn (2011)](image)

An advantage of Competing Values Framework (CVF) is that it allows the existence of multiple cultures within the same organization (Bailetti & Gad, 2016; Botti & Vesci, 2018). Large organizations with many units, branches or with a large number of employees of diverse background may have some cultural characteristics that cannot be described under one cultural
model. Saudi Arabian HEIs have a diverse workforce and, as mentioned in the introduction sections 1.3, 1.6 and 1.7, are going through a period of significant changes. Studying such an environment would require a model that can capture a number of cultural characteristics. The CVF was previously used to study organizational cultures in Saudi Arabia in general by Brdesee et al. (2012) and Aldhuwaihi and Shee (2015), and in the cultures of Saudi HEIs in particular by Alsulami (2018) and Alharbi and Sidahmed (2018).

Jackson (2011) observed that a majority of the existing information systems literature view organizational culture as something that an organization ‘has’ which can be objectively measured with surveys. Rather, he proposes, organizational culture in ambiguous, integrated, differentiated and, at the same time, fragmented in nature. The flow of employees joining and leaving an organization, the continuous re-engineering of business processes and the never-ending introduction of new technologies creates a situation where it is impossible to view organizational culture as permanent, centrally shaped values and beliefs.

Alavi et al. (2006) state the existence of debate among cultural theorists about whether organizations have a single overriding culture or various local cultures each with its own values. They argue that “a more realistic view of organizational culture is to consider organizations as mini-societies, multicultural in nature, each with distinctive, competing, and potentially conflicting local cultures formed along functional lines, shared fate, professional occupation, ethnic background, or job rank” (Maryam Alavi et al., 2006). This view does not deny that these mini-societies inherit some elements of their cultures from the parent organization. This is because organizational policies and strategies have an effect on the organizational culture (Sarros & Cooper, 2006). Setting the overall knowledge strategy which specifies what knowledge to capture, how to capture, share and use is often decided at the level of the executive management. When the policies are disseminated to all levels of organizational hierarchy, they are used by teams and individuals to shape their own practices and, as a result, it becomes a part of the organizational culture. A phenomenon observed by some researchers in the literature that studies organizational cultures in the Information Systems field is its intense focus on technology (Dhondt, 2004). Such a focus may diminish the importance of social and managerial aspects of knowledge sharing.
2.2 The Local Culture

To understand the current cultural context in Saudi Arabia, it is important to look into the life of the Bedouin tribes that predated the development of the present socio-political formations of the Middle East. Although the vast majority of the Bedouin tribes moved to urban areas, there are still many who keep their livestock and regularly relocate their tents in search of pasture. Furthermore, the Bedouin culture still persists among urban dwellers who have their roots in the rural areas (Cole, 2003; Houjeir & Brennan, 2014). The Bedouin tribes are bonded by their shared ancestors and it is still common to see tribal members tracing their family trees to their 20th or 30th grandfathers. As these tribes were mainly nomads herding their livestock in the desert, the resources necessary for their survival, like water and grazing, were always scarce and caused clashes between different tribes. This scarcity compelled tribe members to harness their resources to survive (Abu-Hantash, 1989). Livestock and their watering wells constituted the primary Bedouin capital and was often co-owned by families or smaller groups descended from a shared male ancestor (Cole, 2003). To defend their property and territories, members of a tribe often joined forces for mutual support.

This mutual support is what the fourteenth-century Arab sociologist, Ibn Khaldun, who wrote about the sociological development of civilization, identified as the concept of Asabbiyah or ‘group feeling’ where a person achieves his goals through the support of his kinsmen (Khaldun & Rosenthal, 1967). After the establishment of the Saudi Kingdom, however, the reliance on the systems of the government, including the police force, the judicial and the mass education, healthcare and employment may have reduced the dependency on the tribal connections (Cole, 2003).

With that said, many researchers postulate that in the Arab societies, it is hard to separate the tribal, familial and personal connections from politics, business and administrative life. Nonetheless, this does not mean that the organizational cultures in the Arab world fully stem from the manners dictated by the Bedouin life. In fact, the family-based Bedouin life itself is composed of different strains of culture. It is hierarchical, patriarchal and highly structured (Ghabra, 2015). It is common to use familial language in business transactions (e.g. brother, father, sister, etc.) which indicates that business partners are not only treated as equals but are given the privileges and entitlements often accorded to close family members. Weir and Hutchings (2005) opine that, in the Arab cultures, children start learning social and business
life within their families as their elder siblings, cousins and other relatives act as sources of knowledge.

The collectivist culture in Saudi Arabia presents itself through the practice of the ‘Wasta’ which is an implicit contract which obligates those with power to provide support to others within the group. The typical social group in Saudi Arabia is the patrilineal tribe. The tribal values in Saudi Arabia dictate that personal interests are subordinate to the common tribal interest. The person seeking assistance and the one providing do not need to formally exchange proof of membership of the social group or the tribe as this is usually evident from their surnames. Besides, the provider expects no obligation in return for his assistance (Barnett, Yandle, & Naufal, 2013). Wasta is integral in all business processes and it’s vital to knowledge sharing and the creation of opportunities where family members, who may be employees of an organization, support their kinsmen to get employment in the organization or navigate through the bureaucratic procedures to complete their errands.

Wasta can also be seen as a response to the strict bureaucracy in the Arab managerial culture where organizations have volumes of detailed procedures specifying how to complete even the smallest common-sense steps. Instead of attempting to follow these procedures correctly, people resort to personal contacts to cut through this red tape (Al-Omari, 2008). In addition to this, the persons assisting their friends or family members to get access to organizational services and resources feel that his/her reputation will be enhanced when they provide their support to their group members. Herrmann et al. (2012), found that fear for status is a strong player in social interactions in the Arab world. The social connections can be used positively to facilitate access to legitimate group resources or negatively (e.g. to maintain power and keep others in a marginal and dependent position) (Allard, 2005; Wacquant, 1998).

2.2.1 Organizational Culture in the Saudi HEIs

Research by Alharbi and Sidahmed Abedelrahim (2018) suggests that the cultures in Saudi Arabian HEIs tend to be clan oriented. They state that employees see the university as a parent figure and the institution is held together by loyalty and tradition. This, they claim, reflects the Saudi culture where family members respect their elders and loyalty to the family is important. Saudi HEIs were also found to have a clan culture that emphasizes on job security and organizational commitment while maintaining low conflict and high socialization (Alsolami,
This type of culture is also dominant in the educational establishments of the neighbouring gulf countries (Chidambaranathan & Regha, 2016; Kumerasan & Rani, 2013). Nevertheless, it may be difficult to link institutional cultures to a single source (e.g. societal culture) as its also necessary to consider the elements of culture that come with the international employees and the academic and administrative standards that are set by international accreditation bodies which both impact on the way university conducts its business. While the dominant cultural characteristics in the country may be visible in each institution, Saudi HEIs bring together a variety of cultures that come from the society, its international employees and from its relationship with international bodies.

The characteristics of the clan culture which include teamwork, cohesion, commitment and participation support the implementation of knowledge sharing policies (J.-C. Lee et al., 2016). It also builds trust and allows employees to socialize and share the type of knowledge that is personal and difficult to document (Suppiah & Singh Sandhu, 2011).

In addition to the dominance of the clan culture in Saudi HEIs, the traditional management culture in Saudi universities is also based on a strict hierarchy with vertical communication lines (Reda & Hamdan, 2015). Male and female campuses are physically segregated and the communication between male and faculty members is weak. Male faculty members are hired to teach male students while female academics teach female students only (Jamjoom & Kelly, 2013). This segregation is also found in other organizations like banks and some government institutions. A benefit of the hierarchical culture is that it creates stability and control in the institution (J.-C. Lee et al., 2016). In the organizations were employees wait for their managers to support an initiative before everyone else adopts it, the hierarchy culture enables managers to innovate and launch knowledge sharing initiatives (Maryam Alavi et al., 2006). However, it also has a number of weaknesses that may not support effective implementation of knowledge sharing:

Firstly, the strict hierarchy does not allow knowledge to flow from employees of different organizational units or levels (Donnelly, 2019); secondly, the hierarchy may inhibit the informal communication between employees and it may also make it difficult for them to socialize and have repeated face-to-face meetings. The frequent interactions are a necessary prerequisite for trust and support the formation of the structural and cognitive social capital (Hu & Randel, 2014; Sharon Ryan & O’Connor, 2013); thirdly, open communication is key to
knowledge sharing and when HEI employees of different genders have limited communication, that reduces their chances of sharing or seeking knowledge from each other.

It is also important to note that, in such an organization, the rules and regulations are often set by the managers with no or little involvement of concerned employees who are required to comply to these rules and regulations (Joseph & Kibera, 2019). When organizational policies are set without transparency and full involvement of the concerned employees, this may demotivate them from engaging with these policies and may even limit their understanding of the purpose and benefits of these policies (Alaskar et al., 2019; Dau & Mugnier, 2005). Organizational cultures that empower their employees, encourage mutual-decision-making and create a participative environment lead to greater informal knowledge sharing (Siakas & Georgiadou, 2011).

Therefore, for HEIs to increase their creative and innovative powers and use their knowledge to bring change to their work environment, they should allow unrestricted KM strategies with minimum interference from the management, (Hug, 2017; Kairuz, Andriés, Nickloes, & Truter, 2016; Parker & Alstyne, 2018). However, that does not mean that senior managers should not lead the knowledge sharing initiative, on the contrary, passionate support from senior managers and knowledge workers is the key factor in any successful knowledge flow initiative (Frank Leistner, 2010; Yasir & Majid, 2017). Similarly, research conducted by O'Dell & Leavitt (2015) found that knowledge management initiatives that started at grassroots levels took longer to develop by at least two years.

Sharing or exchanging knowledge cannot by itself guarantee that the knowledge is collectively accepted by the organization. Technology can mechanically abridge the exchange process by enabling individuals and groups to share and seek knowledge and information. However, for such knowledge to be part of the organizational knowledge, it has to be endorsed by the management or the 'dominant coalitions', as described by Fahlbruch (2004), and accepted by the organization as an important asset. This is even more important in higher education with its unique administrative structures that would require to establish and enforce a knowledge sharing model that fits its working processes. Cranfield and Taylor (2008) state that as academics are considered experts in their fields, they may not take it easy for someone to manage them or manage what they know. They do, however, like to exercise their academic freedom to foster innovation. They also mention that academics mainly affiliate themselves
with their discipline or research unit before their school. Therefore, institutional initiatives may not succeed unless their benefits clearly accepted at the individual level.

This emphasizes the fact that individuals in different types of organizations may behave differently when sharing or seeking knowledge. It is not only the 'culture' of the organization created by the combination of people, policies and technologies that define how employees share knowledge, but also the type of the organization.

Mohammadi et al. (2010) studied how academic staff perceive organizational culture and found that faculty members who recognized their organization's culture type as adhocracy were more effective in their job-related responsibilities. This is because they saw their managers as entrepreneurs and innovators and as such, this would enable them to express their thoughts and concerns freely.

Research conducted by Wiewiora, Trigunarsyah, Murphy, & Coffey (2013), established strong evidence showing that the dominant culture type affects how employees share knowledge. For instance, in organizations where there is a culture of competitiveness, achievement and demanding leaders, they found evidence of knowledge hoarding and hesitance to share. This is because employees believed that knowledge increased power and it was their path to promotion. Moreover, when employees are competing for recognition, rewards or positions, sharing their project pitfalls or exposing their need for knowledge may be seen as a sign of weakness. On the other hand, when organizations have a culture of collaboration, informality and non-competitive environment, there was a strong willingness to share knowledge. Sharing project shortcomings was seen as a catalyst for improvement rather than failure.

2.3 Summary of Organizational Culture

It may not be easy to form a precise definition of organizational culture. Nevertheless, it is possible to say that it shapes how employees behave or perceive their organizational environment including their attitudes to knowledge sharing and how they engage with the organizational knowledge sharing initiatives. Edger Schein’s model divides the organizational culture into the visible artefacts, the adopted values and the assumptions of groups and individuals in the organization. Although his definition of culture is widely cited, his model has some weaknesses including its lack of clarification on how its various components interact.
and its assumption that cultural patterns and artefacts are always observable. The Competing Values Framework, on the other hand, maintains the possibility of the existence of various cultural values within the same organization. These values define the competing and often contrasting needs and assumptions of organizations like balancing between their internal processes and external operations or harmonizing between flexibility and stability in their internal and external environments.

Familial and personal relationships play a significant role in Saudi business life. People often use these connections to get access to resources and services without following the official channels. Social groups are formed around ancestral connections and the group members that are in positions of power feel that it is their obligation to provide support to other group members. That support could range from removing unlawful barriers to resources to bypassing legitimate processes to access services and resources.

The two most evident culture types in Saudi HEIs are clan and hierarchy. Both of these culture types can have an impact on the way HEI employees share knowledge. For instance, the clan culture can strengthen group collaboration and cohesion while the hierarchy culture can allow the formation of a stable environment where managers are able to set and maintain knowledge sharing policies. On the other hand, the clan culture can also foster the formation of exclusive groups that monopolize organizational knowledge. The hierarchy culture can also hamper open communication and flow of knowledge.

2.4 Theoretical Framework
This section will examine some of the theories that are used by researchers in the field of knowledge sharing. The purpose is to find a theory that is more suitable to investigate the relationship between knowledge sharing and organizational culture while observing the current cultural and strategic situation in Saudi Arabian HEIs. The selection of the theory will also help in recommending the most appropriate model for knowledge sharing for the HEIs in Saudi Arabia. A literature review conducted by Wang & Noe (S. Wang & Noe, 2010) found that the most common theories used in knowledge sharing were a) the Theory of Reasoned Action, b) Social Exchange Theory c) Social Capital Theory and d) Social Network Theory. Although the above review focused only on the research done at the individual level of knowledge sharing, the focus on the ‘social’ element is evident from the last three theories. Moreover, research
conducted by Ahmed et al. (2019) reviewing 103 studies in knowledge sharing in social media dating from 2010 to 2016, also found that the most common theory used was the theory of social capital followed by the social exchange theory, the theory of planned behaviour and the Technology Acceptance Model (TAM). The TAM is mainly used to explain the technological components of knowledge sharing (B. Wu & Chen, 2017; F. X. Yang, 2017). This research focuses on the human and organizational side of knowledge sharing. Therefore, this model is not relevant in its context.

Knowledge cannot be separated from human activity, and that is why an overwhelming number of researchers tend to use social and organizational theories to study knowledge management in general or knowledge sharing in particular. Other theories used in similar studies include communications theory (Cummings, 2003), and organizational learning theory (Easterby-Smith & Lyles, 2011; Schulz, 2001). In the discussion below, the theory of reasoned action will not be included. This is because this theory was a predecessor of the theory of planned behaviour (Cooke & French, 2008; Southey, 2011; Tangaraja, Rasdi, Ismail, & Samah, 2015). Although researchers still use the theory of reasoned action to study human behaviour, the theory of planned behaviour incorporates all its elements, and it further brings significant improvements that cover the perceived behavioural control (Hagger, 2019; Paul, Modi, & Patel, 2016; van Offenbeek, Boonstra, & Seo, 2012).

Similarly, the social network theory overlaps with the social capital theory in its coverage (Horak, Taube, Yang, & Restel, 2019; X. Lin & Kede, 2011; Moolenaar, 2012). As will be stated later in section 2.3.3, the formation and the characteristics of the social networks are an important dimension of social capital. Therefore, the three most relevant theories for this research are the social exchange theory, the theory of planned behaviour and the social capital theory. Table 2-1 shows these three theories and the researchers who used them to study knowledge sharing.
Table 2-1 - Knowledge Sharing Theories

<table>
<thead>
<tr>
<th>Theory</th>
<th>Literature Source</th>
</tr>
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<tbody>
<tr>
<td>Planned Behaviour</td>
<td>(Hossain, Dwivedi, Chan, Standing, &amp; Olanrewaju, 2018; Mafabi, Nasiima, Muhimbise, Kasekende, &amp; Nakiyonga, 2017; Nazar, 2013; Nguyen, Nham, &amp; Hoang, 2019; Samad, 2018)</td>
</tr>
<tr>
<td>Social Capital</td>
<td>(Chiu, Hsu, &amp; Wang, 2006; M. Evans, 2008; Harrison, 2013; Khvatova, Block, Zhukov, &amp; Lesko, 2016; N. Kim &amp; Shim, 2018; King, Chung, &amp; Haney, 2008; Muhammad Jawad Iqbal, 2011; X. Wang, 2010; Xing Zhang, Liu, Chen, &amp; Gong, 2017)</td>
</tr>
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</table>

2.4.1 Theory of Planned Behaviour (TPB)
As an intentional behaviour, knowledge sharing can be studied using the theory of planned behaviour (Gagné, 2009). As shown in figure 2-3, TPB postulates that human intentions have a direct effect on their actual behaviour while the intentions are influenced by three factors: attitude towards the behaviour, subjective norms and perceived behavioural control (Armitage & Conner, 2001; Goh & Sandhu, 2013). A person will be more inclined to perform an action (e.g. share knowledge) when he/she has a positive attitude towards that action. Motivating staff members has been found to positively contribute to their attitudes towards knowledge sharing (Bock, Zmud, Kim, & Lee, 2005; Gagné, 2009; H.-F. Lin, 2007).

However, some researchers argue that increased focus on extrinsic motivators may inhibit the development of positive attitudes towards knowledge sharing (Bock et al., 2005). Moreover, Tohidinia & Mosakhani (2010) found extrinsic motivators had no significant correlation with the attitude towards knowledge sharing. Although not directly related to knowledge sharing research, students’ extrinsic payoffs – grades, praise, etc. – were found to inhibit students’ personal engagement and creative expression, while verbal extrinsic elements may actually enhance intrinsic motivation (Covington & Müeller, 2001; Deci, Ryan, & Gagné, 2001). Individual extrinsic motivation (careers, wages) was found to have a significant impact on employees’ creativity and their identification of strategic knowledge and know-how (Galia & Legros, 2006). Drawing from the above together indicates that intrinsic motivation is more influential than extrinsic motivation in a knowledge sharing context (Jeon, Kim, & Koh, 2011). Consequently, academic organizations may enhance their knowledge management strategies.
by creating an environment where members of staff feel safe and motivated in order to maximize knowledge sharing initiatives (Jolaee, Md Nor, Khani, & Md Yusoff, 2014).

Subjective norms are defined as the person’s beliefs that specific individuals or groups approve or disapprove of his/her behaviour (Ajzen, 2005). In an academic environment, a person may align their knowledge sharing behaviour in-line with how their managers or colleagues would expect them to perform. The last element in the theory of planned behaviour is the perceived behavioural control which denotes how far a person believes as to how easy or difficult it is to perform a behaviour (Ajzen & Madden, 1987).

Figure 2-3 - Theory of Planned Behaviour (Ajzen, 1991).

In knowledge sharing, employees will balance the opportunities and resources they possess with the obstacles and impediments that they may face before they share their knowledge. The result of this control may vary with time and space. For instance, an employee may not share their knowledge when they know that there will be downsizing ahead (D. Lee & Ahn, 2007). It is also possible that employees may see knowledge sharing activities easier to perform in one organizational setting than another.

It may be difficult to put social theories through an empirical test to prove their validity as the process for empirical experimentation is overly constraining (Gergen, 1984). Experimental tests of the theory of planned behaviour are not common, but so far, those that have been conducted have not supported the validity of the theory (Sniehotta, Presseau, & Araújo-Soares, 2014). Moreover, organizations often strive to make their employees form closer connections until it becomes difficult for an employee to differentiate themselves from others in the
organization. Rather, employees will see a single being which is the department or the team they work in. This will obviously diminish the presence of the social pressure which is essential for the subjective norm element of the theory.

2.4.2 Social Exchange Theory

Social exchange theory studies how people interact and proposes that human behaviour can be understood as reciprocating equivalent values (Swift, 2008). In other words, human relationships are an investment whereby individuals perform a subtle cost-benefit analysis when interacting with others, and if the risks outweigh the benefits in a particular relationship or interaction, they withdraw from the interaction. This argument is true only if we presume that decisions that humans take when entering into a relationship are all rational.

Although the theory was developed by Thibaut & Kelley (1959) who were social psychologists, it is obvious from the description above that the theory has its roots in economics. However, some researchers have raised questions on whether economic theories are the best tools to explain human interactions. Economic theories that stem from rationality clearly seep into this theory. However, some scholars reject such connection between social theories and rationality, arguing that not all human interactions are rational or linear (Miller, 2004). Rahab & Wahyuni (2013) argue that economic exchange is different from the social exchange in the sense that the expected benefits in a relationship cannot be clearly defined in the latter. These benefits may include reciprocated knowledge, financial rewards, promotion, respect or even personal satisfaction.

Nevertheless, some researchers differentiate economic and social exchanges and argue that a social exchange mindset is more conducive to knowledge sharing than an economic exchange mindset (Lucas & Ogilvie, 2006). When looking at knowledge hoarding among academic staff, it was found that when members of staff knew they were the only source of specific knowledge, the chances of hoarding was high (Muhenda & Lwanga, 2014). In economic terms, this may imply that they cannot barter their product as there is no equivalent product in the market.

As employees of higher education institutions are required to constantly update their knowledge, sharing their knowledge will be an investment for the future when other individuals will, in return, supply them with new knowledge as elucidated by the following researchers:
“Knowledge worker’s belief that his/her future knowledge needs will be met by others in return for sharing knowledge is likely to have a positive effect on attitudes towards knowledge sharing.” (Rahab and Wahyuni, 2013:140).

When people share knowledge, they react in three possible ways: they share knowledge without expecting any reciprocal benefit, they feel that it’s their duty to share knowledge or they just receive knowledge without sharing their knowledge (J. Kim, Lee, & Olson, 2006). Accordingly, organizations would face situations where there is no ‘exchange’ at all in the knowledge sharing process. Researchers like Boer (2005), Liang, Liu, & Wu (2008), Muhenda & Lwanga (Muhenda & Lwanga, 2014), Okyere-Kwakye & Khalil (2011), have used social exchange theory in different settings to examine knowledge sharing behaviours within organizations. In knowledge sharing, individuals assess their interaction with others based on the benefits they will receive when they share their knowledge.

Applying social exchange theory in different research settings may lead to inconsistent or inconclusive findings (Hardeman, Johnson, Bonetti, Wareham, & Kinmoth, 2002; C.-C. Liu et al., 2011). Furthermore, the theory of social exchange is outdated and cannot explain the current workplace setting because of the changes that came with the use of technology, the new regulations and the changing nature of the modern workforce. The theory may have been more relevant in the mechanical manufacturing nature of the traditional workplace (Chernyak-Hai & Rabenu, 2018; Sniehotta et al., 2014). Extensive digitisation is currently undergoing in Saudi HEI environment where employees complete many of their academic and administrative tasks and the majority of their human resources needs online without interacting with their managers. The exchange that is central to this theory will be minimized when there is little face-to-face-contact (Howe & Lee, 2018).

In addition, the theory is also based on the assumption that group interactions that are rewarded will be repeated. For example, a knowledge sharer would expect that s/he will get rewarded when, in a future exchange, s/he seeks knowledge. In the work cultures that employees may offer their knowledge without expecting any reciprocation, it is not important to think of whether the interactions will be repeated or not. Furthermore, when the parties in the exchange process feel that they are on equal footing, they can engage on an equal interaction which can be reciprocated (Jinyang, 2015). Saudi HEIs have a high number of foreign workers on annual contracts. The decisions pertaining to the renewal of their contracts are taken by their
colleagues in the department whom they are expected to share knowledge with. As such, there is no guarantee that the contracted employee would feel that they stand on the same ground as the people who can decide on their employment fate. Needless to say that the application of the theory of social exchange in this setting is not suitable.

2.4.3 Social Capital Theory

A vital prerequisite before any knowledge sharing activity can take place is the existence of a group of people with knowledge to share; therefore, knowledge sharing is primarily a social activity. The theory of social capital emphasizes the importance of social networks as capital.

The earliest use of the term social capital is credited to Lyda J. Hanifan, an American state school supervisor who, after working in a relatively impoverished rural area, concluded that social networks are vital in solving social, political and economic problems (RD Putnam, 2002).

Here, Hanifan offers his definition of the term social capital:

“In the use of the phrase social capital I make no reference to the usual acceptation of the term capital, except in a figurative sense. I do not refer to real estate, or to personal property or cold cash, but rather to that in life that tends to make this tangible substances count for most in the daily lives of people: namely goodwill, fellowship, sympathy, and social intercourse among the individuals and families who make up a social unit, the rural community.” (Hanifan, 1916:130) [Emphasis in the original].

According to Pierre Bourdieu, social capital is the “aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalised relationships of mutual acquaintance or recognition.” (Bourdieu, 1986:21). It seems that Bourdieu’s point of departure is social equality (Hart, 2019). He argues that social capital may have some negative consequences where the members of a network exclude outsiders or limit the access of some of their members to the shared resources (Alfred, 2009). The exclusion line of the ‘outsiders’ can occur at any point of the horizontal or vertical organizational structures: between teams, departments, levels of management, etc. Members and groups are not equal in the way they possess or mobilize their resources. Such inequalities place group members in differently disadvantaged positions (Tzanakis, 2013), restrict personal freedom or alienate some members from the mainstream network (Schwanen et al., 2015).
What is unique about Bourdieu's formulation is that he views social capital from an economic point of view (Leonard, 2004; Tzanakis, 2013). He argues that all forms of capital are directly or indirectly convertible to economic capital (Bourdieu, 1986). His description emphasizes on the ‘resources’ accumulated and how they are exchanged to other forms of capital rather than the nature of the social structures that produce and maintain these resources. Further, Bourdieu does not give room to the type of social capital that exists in cultures like Saudi Arabia where the expectation of reciprocity is not necessary when support is given to a group member (Barnett et al., 2013). He asserts that people invest in the creation of social networks, individually and collectively, consciously and unconsciously, with the purpose of establishing or reproducing social relationships that have boundaries that need to be guarded by all members (Bourdieu, 1986).

In contrast, Robert Putnam (1993:2) defines social capital as the “features of social organization, such as networks, norms, and trust, that facilitate coordination and cooperation for mutual benefit.” The emphasis here is on the characteristics of the social networks, the trust that builds between members and the norms and cultures that develop within teams. Members of social networks cooperate to improve their environment. However, as there are chances where the cooperation and support may not be reciprocated, the provider of such support is only expected to act from an altruistic point of view. Bourdieu’s view of social capital does not cater for the altruistic actions in which the actor has no specific interest in return of the resources s/he shares (Salvati, 2008; Siisiäinen, 2000).

In Bourdieu's definition, employees of Saudi HEIs may share their knowledge but expect others to reciprocate by sharing their knowledge with them or rewarding them in another form. The complete exclusion of non-reciprocated interactions may not fully explain the nature of knowledge sharing in Saudi Arabia. In fact, many researchers found that altruism in the Arab world had a positive effect on knowledge sharing (Ali, Ali, Badghish, & Baazeem, 2018; H. H. Chang & Chuang, 2010; Hossain et al., 2018). As discussed earlier in sectin 2.2, social connections play a significant role in the Saudi business and organizational routines. This includes their knowledge sharing behaviours (Al-Qadhi, Md Nor, Ologbo, & Knight, 2015). It is also important to note that Islam is a primary source of culture in Saudi Arabia (Al-Shahri, 2002; Harbi et al., 2017; Montagu, 2017; Mutairi & McCarthy, 2012). Altruistic behaviours are encouraged in Islam where people offer support to the needy without expecting any immediate returns (Marzuki & Worthington, 2016; Seba, Rowley, & Lambert, 2012).
Under this cultural setting, as members develop their social bonds, they voluntarily manage organizational knowledge with limited or no incentives or monitoring mechanisms. Employees may have some cultural characteristics that support knowledge sharing, but to transfer these characteristics from the personal domain into the organizational domain, they need to be absorbed into the organizational policies and procedures. Promoting social capital, therefore, stimulates knowledge flow among HEI employees and reduces the reliance on strict procedures and monitoring approaches that are otherwise required to foster knowledge management (Alani, 2017; Montagu, 2010).

Saudi Arabia is often described as a collectivist country where people are culturally oriented towards group goals, group identities and group interests (Hofstede, 2019; Jiang, 2015; Jiang, Garris, & Aldamer, 2018). Although a collectivist employee may display different behaviours in his in-group and out-group knowledge sharing interactions and may behave differently towards each (Bao, Zhang, & Chen, 2015), in general, collectivist employees have relatively higher motivation to share knowledge regardless of incentives (E. S. C. Liu, Ching, & Wu, 2017).

Although the Saudi society may generally be described as collectivist, it is undeniable that power and politics can distort such benevolent tenet of social capital into a negative type of social capital where individual actions can be constrained by the very organizational culture that is supposed to empower and allow equal access to shared resources. Putnam (2000) makes a distinction between two types of capital: bridging social capital, where groups of different backgrounds or characteristics form relationships; and bonding social capital, in which mainly homogeneous groups make exclusive networks (Norris, 2004; Oja & Clopton, 2017). The more powerful elites of the society do not often like to join bridging groups with ‘others’ who are not like themselves (Szreter, 2002). Instead, they form exclusive groups that preserve their social distance from the groups that are not like them or do not have their power and resources.

Social connections, in the Arab world, that are created around kinships and clan lines could be described as a type of bonding because the single distinctive characteristic of the group is the shared ancestral heritage which is exclusive to them. While HEI employees of different backgrounds share some attributes including their employment for the same institution, subject area and office space, they also belong to ethnicities, genders, nationalities and other characteristics that are rooted outside the institution. Not only this but also the same internal ‘labels’ like departmental or research group affiliations can be converted to bonding social
capital that serves the interests of its exclusive members. If these groups identify a type of knowledge as a key resource that bonds them together and makes them unique, there is a likelihood that this type of knowledge will become a commonly guarded resource.

The bridging social capital, on the contrary, allows memberships that are not from the same identity to form networks and share gains that take all of them ahead in their lives (El-Said & Harrigan, 2009). The types of mutual trust and reciprocity created by this type of social capital are more valuable to development, group cohesion and stability (Fukuyama, 1995; Menahem, 2011). The concept of ‘Wasta’ mentioned earlier in section 2.2 is a form of bridging social capital that is common in the Arab world (El-Said & Harrigan, 2009). The Wasta is utilized to solve community disputes, cut through red tape when dealing with governmental authorities and to get access to scarce resources or break barriers between groups. In HEIs, effective knowledge sharing takes place when different teams and organizational units have access to each other’s knowledge. The bridging social capital is, therefore, more conducive to knowledge sharing because it allows members from different groups to share resources (Mäkelä, 2007).

2.4.4 Social Capital in Organizations

Organizations, including academic institutions, require its members to share knowledge with other members in the organization or within a team. In such an environment, the theory posits that the members of a group will promote collective goals over individual interests. This assumes every individual understands that improving the overall group performance will also improve his/her status. Researchers like Ju, Chen, & Ju (2006) found that people are more likely to share their knowledge when knowledge sharing enhances their social network.

One of the drivers of the interest in social capital is the rise of knowledge-based organizations. As knowledge moves to replace the traditional production factors: land, labour, and capital as the primary source of competitive advantage, organizations realize the importance of creating new knowledge, sharing the existing knowledge and applying the organizational knowledge (Lesser, 2000). As such, strengthening social bonds within the members of staff becomes of paramount importance. The management style of the organization and the culture within the team may shape how individual members of staff perceive their position in the group and how they react to other members’ actions.

Furthermore, the literature indicates that one of the embedded values of social capital is that it facilitates the flow of information (N. Lin, 1999). Two practical problems may arise in some organizations; the first one is that knowledge is not always adequately documented especially
in a changing business environment where new work processes are continuously emerging. In such a situation, knowledge workers may not be able to keep up with the latest developments, and it may be extremely difficult to document the newly created knowledge. The second problem is that even when the knowledge is recorded, there may not be adequate dissemination and these knowledge manuals, whether in print or online, stay unused or often unheard of by knowledge users (Bock et al., 2005). Social connections can, therefore, solve these two problems because as the knowledge seeker builds his/her network of friends and colleagues, it enables him/her to gain access to information and knowledge by communicating directly to a knowledgeable colleague. If knowledge is considered a capital (Lesser, 2000), or a resource (Chatzkel, 2003), then it can be accessed like any other resource through social ties.

Knowledge sharing will no longer be an activity where individuals simply advance their personal knowledge as illuminated by Huysman (2004). The emphasis on social capital shifts the knowledge sharing initiative from the individual level to the community level.

2.4.5 Measuring Social Capital
Several studies have attempted to conceptualize social capital theory into measurable dimensions. Nahapiet & Ghoshal (1998), suggest three clusters of social capital: the structural, relational and cognitive dimensions. The structural refers to the properties or the patterns of the social network. It includes identifying who communicates to who and how, the easiness of joining a network, and the configuration of the network (Narayan & Cassidy, 2001).

On the other hand, the relational dimension includes the type of relations members have developed through their history of interactions. Examples of these include the respect and friendship that develops among staff members through their use of a knowledge sharing network. The last cluster, the cognitive dimension, indicates the resources that provide interpretations and meanings among members of a network like shared language and shared narratives.

When members of a community facilitate knowledge sharing, their mutual aid creates new knowledge (Araujo & Minetti, 2011). This leads more members to engage in mutual aid. However, since the knowledge created by the mutual aid is available to all members, this gradually erodes the need for mutual aid. The three dimensions may be seen as successive steps leading to each other. For instance, through the structural dimension of the social capital, which
entails social interaction, members can share tacit knowledge. Individual or group interactions would enable members to engage in conversations that lead to the less knowledgeable member gain knowledge and skills.

During the first periods of the group formation, individuals may not know each other’s potential and hence the level of ‘trust’ among members may be low. However, over time, frequent interaction among members will strengthen the social bonds among members and the relational dimension of social capital will develop and employees will be more willing to share or seek knowledge from other members that they deem trustworthy (C.-W. Chang, Huang, Chiang, Hsu, & Chang, 2012; W. Tsai & Ghoshal, 1998). This prolonged interaction will also result in the development of trust, where actors behave trustworthy as the expectation of incentives and prospects for opportunism diminish (Jong & Klein-Woolthuis, 2004). It also increases the norms of reciprocity, and the shared identity among members (Filieri, McNally, O’Dwyer, & O’Malley, 2014). Not only this but it also shapes the shared understanding and cognition among members. This shared understanding will enable employees to exchange knowledge with relative ease. The cognitive social capital minimizes the potential for misunderstanding among members during knowledge sharing interactions (Hu & Randel, 2014).

Social capital can, therefore, be defined as the network of relationships formed by social groups through their prolonged interactions, regardless of reciprocation, which leads to shared understanding and formation of trust.

Departments, teams or even individual employees of an organization possess knowledge that is necessary for their work. That same knowledge is also required by others who perform similar activities in the organization. When organizations encourage and facilitate bridging the gaps in the network structure, the privately held knowledge will become accessible to all. Hence, the overall organizational performance, value creation and its competitive prowess will improve. In research focusing on European social capital, Oorschot & Arts (2005) identify three measurable dimensions of social capital: networks, trust and norms. As these researchers were targeting ‘societies’ rather than business ‘organizations’, some of the terms they use as yardsticks for measuring social capital may not be applicable to organizations.

An apparent problem with social theories is the difficulty in devising a mechanism to measure them. These theories include abstract concepts that are difficult to translate into operational
measures (Narayan & Cassidy, 2001). However, several researchers have tried to find a way to propose a measurable framework of constructs to social capital (Gaag & Snijders, 2005; Grootaert, 2003; Siegler, 2014). Table 2-2 below shows these proposed constructs.

Table 2-2 Social Capital Constructs

<table>
<thead>
<tr>
<th>Researcher</th>
<th>Constructs</th>
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<tbody>
<tr>
<td><strong>Siegler, 2014</strong></td>
<td>Personal Relationships</td>
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<td></td>
<td>Social Network Support</td>
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<tr>
<td></td>
<td>Civic Engagement</td>
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<tr>
<td></td>
<td>Trust and Cooperative Norms</td>
</tr>
<tr>
<td><strong>Narayan and Cassidy, 2001</strong></td>
<td>Group Characteristics</td>
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<tr>
<td></td>
<td>Generalized Norms</td>
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<tr>
<td></td>
<td>Togetherness</td>
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<td></td>
<td>Everyday Sociability</td>
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<td></td>
<td>Neighbourhood Connections</td>
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<tr>
<td></td>
<td>Volunteerism</td>
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<tr>
<td></td>
<td>Trust</td>
</tr>
<tr>
<td><strong>Grootaert et al., 2003</strong></td>
<td>Groups and Networks</td>
</tr>
<tr>
<td></td>
<td>Trust and Solidarity</td>
</tr>
<tr>
<td></td>
<td>Collective Action and Cooperation</td>
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<tr>
<td></td>
<td>Information and Communication</td>
</tr>
<tr>
<td></td>
<td>Social Cohesion and Inclusion</td>
</tr>
<tr>
<td></td>
<td>Empowerment and Political Action</td>
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</tbody>
</table>

The above elements can be grouped into three main items of social capital: socialization (personal relationships, social network support, group characteristics, togetherness, everyday sociability, neighbourhood connections, groups and networks, social cohesions and inclusion, informal interaction among individuals); trust (trust and cooperative norms, trust, trust and solidarity, social trust); and active participation (civic engagement, volunteerism, collective action and cooperation, empowerment and political action, formal membership and participation in groups).

a) Socialization

The socialization in the context of HEI knowledge sharing means the ability of group members to connect to other group members that can exchange information with them. This connection may be formalized or facilitated and encouraged by the management of the organization or it can take place outside the limits of the organization’s facilities or formal procedures. However, the informal ties that occur outside the workplace may yield more social capital than the
connections facilitated or managed by the organization. This is because when members build this informal relationship, their communication gradually moves away from the formal work-related purposes and they will start sharing a more variety of resources (Oh, Chung, & Labianca, 2004). A further benefit of the informal socialization is that it is more personalized; it is managed by the participants of the interaction; the new members get exposed to organizational knowledge individually. They get the opportunity to ask any pressing matters openly without going through the formal institutional communication mechanisms. Therefore, organizational environments that nurture opportunities for their employees to create and utilize informal networks facilitate the development of their social capital (Fang, Duffy, & Shaw, 2011).

b) **Active Participation**

When members of a group are fully involved in the decision-making process and are confident to share their thoughts, their trust in the network increases (Dodds, 2016). The cognitive dimension of social capital is created through the shared understanding and codes of communication. This dimension can only reach its full potential when all barriers to communication are removed. In addition, agreeing on shared goals, meanings and culture often requires a thorough and transparent negotiation (Inkpen & Tsang, 2011). Team cultures that enable members to voice their views without fear of any consequences also enable them to confidently bring their opinions to the negotiating table. Participation is also an essential characteristic of the clan culture (Choo, 2013). Employee participation and engagement does not only build trust, it also strengthens the relationships among employees who would be more forthcoming to share and seek knowledge. Knowledge is shared more smoothly when the organization has a relationship-based culture.

Although the common culture in Saudi Arabia is more inclined towards the clan culture, that does not guarantee full engagement and participation of all employees in knowledge sharing activities or in the policy making process. This is because the clan culture may set boundaries to who can participate or share the group resources. A solution to this would be to remove any internal boundaries that may exclude some members by enacting and enforcing clear organizational policies that guarantee equality in participation (Bolade-Ogunfodun, 2017; Tangaraja, Mohd Rasdi, Ismail, & Abu Samah, 2015).
c) Trust

Trust is defined as the “extent to which a person is confident in and willing to act on the basis of the words, actions and decisions of another” (McAllister, 1995:25). The trustor has positive expectations of the actions of the trustee, and that leads the trustor to feel secure or allow to be vulnerable when dealing with the trustor (Shockley, Neal, Pytlikzillig, & Bornstein, 2016). Trust is widely discussed in both social capital and knowledge sharing literature and its positive role in knowledge sharing is highlighted by many researchers (H. H. Chang & Chuang, 2011; Chiu et al., 2006; M. Evans, 2008; García-Sánchez, Díaz-Díaz, & De Saá-Pérez, 2017; Goh & Sandhu, 2013). Although Siisiäinen (2000) claims that the concept of trust is completely missing from Bourdieu’s sociological vocabulary, trust can be included in the ‘resources’ that can be aggregated and utilized as identified by Bourdieu in his above definition (Akbar & Aldrich, 2017; Carpiano, 2006). In HEI teams and departments, members will feel secure based on their expectations of their colleagues’ benevolence, knowledge and integrity during knowledge sharing interactions. Factors that influence trust include familiarity, ethnicity, shared communication patterns and styles of interaction (Bahry, Kosolapov, Kozyreva, & Wilson, 2005; M. Evans, 2008). This means HEI employees that share the same ethnicity or language will find it easier to communicate and build trust than those who differ in these characteristics.

In Arab culture, trust interactions often take place within closed groups (Bohnet et al., 2012). And as stated earlier in section 2.3.3, these groups are often formed based on ancestral lineages or ethnic backgrounds. With such congenital prerequisites, these groups are impossible for an outsider to join. In Saudi HEIs, the majority of the employees are Saudi nationals while about a third of those holding academic positions are foreign nationals. If the shared language and ethnicity can shape trust, then employees of different nationalities may form their own circles of trust. This does not help the implementation of the organisation-wide knowledge sharing policies, and it would be the responsibility of the institution to ensure that barriers are removed to allow employees of different nationalities to develop trust. Further, in a culture where social connections are based on familial or tribal relations, there is a possibility that employees will find it easy to form their trust around their kinships rather than the common goal of the team. It is, however, possible to design organizational policies and practices in a way that empowers employees and makes their allegiance to the organization.
The link between social capital and trust is that in the relational dimension of the social capital, trust develops among group members. This reduces conflict and creates goodwill among team members. As knowledge is shared better in cooperative environments (Idrees et al., 2018; Tangaraja, Mohd Rasdi, et al., 2015), this goodwill will also facilitate cooperation and allow employees to feel comfortable in the sharing process.

2.4.6 Summary of Social Capital

Social capital emphasizes on the value of social networks. Members of these networks collaborate to work towards common goals. Although it may be difficult to find a unified definition of social capital, this review highlighted two common characteristics in the definitions: the existence of some kind of social network, and the availability of resources shared by the members of the network. The role of reciprocation in the formation of a network is a debatable matter. However, there some cultures that do not necessarily expect any return from resources they share with other members of their social network. The local culture in Saudi Arabia falls under this category which is oriented towards group goals, group interests and group identities. Employees who have a collectivist culture are found to be motivated to share their knowledge without expecting incentives.

Many studies have attempted to produce measurable constructs of social capital. Although these studies came up with lists of elements, this review summarized them into three categories: socialization, participation and trust. When group members socialize with each other frequently they form closer friendships and their trust grows. In the context of HEI employees, this leads to less formality and they will start sharing more, otherwise, scarce resources. Furthermore, when group members feel empowered and participate in the decision-making process, their trust in the network increases. Their engagement also makes them understand the group vocabulary and codes of communication and that is how the cognitive capital is created. Trust is probably the most important element of social capital. Members feel secure when dealing with the members of the networks they trust. Although trust is often gained through social connections that are not related to the common organizational goal, the culture in the organization is what determines whether the trust is built within closed groups or around the shared goals.
2.5 Knowledge Sharing (KS)

Knowledge sharing is one of the many activities of knowledge management. The majority of the definitions of knowledge management are related to its lifecycle or processes. It may be, however, difficult to agree on the number of stages of the knowledge management processes and their boundaries. Davenport & Prusak (1998) defined knowledge management as managing the organization’s knowledge through a systematically specified process for acquiring, organizing, sustaining, applying, sharing and renewing both the tacit and explicit knowledge of employees to enhance organizational performance and create value. Similarly, (Alavi and Leidner, 1999:3) define knowledge management as the professional and managerial systems that focus on “creating, gathering, organizing, and disseminating an organization’s knowledge.” The majority of the literature provides a description of a knowledge management process that is similar to the above two definitions.

Knowledge is created when new ideas are discovered or observed (Intezari, Taskin, & Pauleen, 2017). The new idea could be related to any of the institutional functions, its team responsibilities or solving some of its recurring problems (Chugh, 2015; Sinha, Kakkar, & Gupta, 2015). To avoid losing the newly discovered knowledge, it has to be captured immediately and stored in a format that is easily accessible and retrievable (Agarwal & Marouf, 2014; Singh, Racherla, & Hu, 2007). During the capture, knowledge is coded, (in text, audio, video images, etc.), to make it explicit and more comprehensible (Lima, Barbosa, & De Souza, 2016). This knowledge can only be useful to the institution when it is shared and made available to all its users (Muhammad Jawad Iqbal, 2011; Rafique, Hameed, & Agha, 2018). The process of sharing knowledge includes making it publicly visible, consolidating the new knowledge with existing knowledge and rating the sharing process (Jeong, Ahn, & Rhec, 2013; Melo, Netto, Filho, & Fernandes, 2010). The last step is the application of knowledge where it is put to practice (Maryam Alavi et al., 2006; Islam, Agarwal, & Ikeda, 2017). The knowledge is utilized by the relevant units and individuals in the institution; its fitness to decision-making and solving problems is evaluated; and adjustments are made to improve its effectiveness (I. C. Hsu & Sabherwal, 2012; King et al., 2008; S. Wu, 2016).

The routine business activities in an organization enable employees to extend their knowledge. In other words, they learn from their actions. Although such knowledge forms in the minds of employees (I Nonaka, 1994), their interaction with their colleagues amplifies their knowledge
and often transfers the knowledge from the personal domain to the organizational domain. Nonaka proposed a spiral model showing how different types of knowledge could be transferred from source to destination (see Figure 2-4). This model shows that knowledge transfer is central to all knowledge management processes as knowledge is created the process of conversion of knowledge from one form to another (Richtner, Åhlström, & Goffin, 2014).

The premise of this model, known as the Socialization, Externalization, Combination, Internalization (SECI) model, is that knowledge is either explicit or tacit. Explicit knowledge is the knowledge that can be codified (Mathiassen, 2003; E. A. Smith, 2001), uttered and captured in drawings and writing (Nonaka & Krogh, 2009) documented and transmitted (Jasimuddin, Klein, & Connell, 2005), can be expressed directly in terms of rules, data or knowledge representations (Moss & Kubacki, 2007). On the other hand, tacit knowledge is defined as the knowledge that is unstructured, implicit, not self-evident and cannot be expressed (Moss & Kubacki, 2007), difficult to transfer (Sharon Ryan & O’Connor, 2013), and attached to person’s mind (Panahi, Watson, & Partridge, 2013). The terms knowledge sharing and knowledge transfer are often used interchangeably or have overlap in their definitions (Asrar-ul-Haq & Anwar, 2016; Paulin & Suneson, 2012). This research used the two terms interchangeably.

Figure 2-4 Knowledge Spiral, Nonaka & Takeuchi 1995

The four modes of transfer or conversion proposed by Nonaka are as follows: knowledge can be converted from tacit to another tacit through socialization. This is where the two individuals
interact so that the less knowledgeable learns skills and experience from the more knowledgeable one. Coaching and mentoring are examples of the methods through which socialization can take place.

The second mode is when tacit knowledge is converted into explicit knowledge through externalization. This requires the individual that owns the tacit knowledge to articulate their views, ideas and mental images to make them understandable to others. A similar example is when a knowledge worker elicits and codifies another person’s knowledge into a more comprehensible form which can then be shared with other individuals and groups in the organization. When less knowledgeable individuals learn or absorb tacit knowledge from their mentors and colleagues, it is called internalization. When knowledge is transferred from manuals, documents and any explicit form to a new person, this is called internalization. This mode is where information technology is most helpful. The last part of Nonaka’s model of knowledge conversion is combination whereby explicit knowledge is converted into a different form of explicit knowledge by expanding or reconstructing it.

2.5.1 Knowledge Sharing Barriers and Enablers

The above modes of knowledge transfer describe a process of knowledge sharing that may not answer the ‘how and why’ questions of knowledge sharing. Whether an individual or group, there must be reasons that persuade a person to participate in the knowledge sharing process (Moss & Kubacki, 2007; Walsham, 2001). Perhaps, he/she has something different or new to offer to the receiving side. Nevertheless, the ‘new’ contribution will not necessarily be appreciated unless it fills a suitable gap in the knowledge repository of the receiving side. Therefore, the sharing side should correctly anticipate the needs of the other side. The above argument is held by (Walsham, 2001) who also found that knowledge sharing will be more successful when the two sides (sender and receiver) know each other in person. The reason for such success may be attributed to the trust that exists between the two sides. This trust may not be available to employees who only meet through formal knowledge sharing mechanisms like discussion boards. The importance of trust and its positive impact on knowledge sharing is also highlighted by many researchers (Alawi, Al-Marzooqi, & Mohammed, 2007; Alsharo, Gregg, & Ramirez, 2017; Buckley, 2012; Moss & Kubacki, 2007; Seba et al., 2012). Trust is gained through repeated, reciprocal interactions (DeConinck, 2010). Consequently, the organizational
culture needs to stimulate positive, continued socialization among its employees (Oyemomi, Liu, Neaga, Chen, & Nakpodia, 2019; Zarankin & Kunkel, 2019).

Jeung, Yoon and Choi (2017) argue that while organizations plan and execute a certain type of socialization for newcomers via training programs or orientations, the primary aim of these types of socialization is to transmit the norms and knowledge to the newcomers. That type of socialization can be viewed as a kind of control mechanism that maintains the status quo in the institution. Instead, they argue, the institution should consider the newcomer as a proactive agent that can build relationships and seek and share knowledge rather than a passive reactor to organizational stimuli. As a result, the relationship between the organizational environment and individual attitudes, and their impact knowledge sharing should be properly attuned.

Individual beliefs of academics cannot be underestimated when designing knowledge sharing policies. This is because individual academics’ views on knowledge sharing are influenced by their personal attitudes more than the culture in the institution (Roger Fullwood & Rowley, 2017). As mentioned earlier in section 2.2.1, it is difficult for HEIs to implement institution-wide policies, for example, KS policies, unless these are accepted at the individual level and its benefits are clear to employees (Cranfield & Taylor, 2008).

The positive impact of rewards, in general, on knowledge sharing is supported by (Donnelly, 2019; S. T. Hussain, Abbas, Lei, Jamal Haider, & Akram, 2017; Law, Chan, & Ozer, 2017; Lyu & Zhang, 2017; Muhenda & Lwanga, 2014; Turton, 1972). However, Seba, Rawley and Lambert (2012) and Muqadas et al. (2017) found none or negative relationship between rewards and knowledge sharing. The way rewards are managed or linked to the overall knowledge sharing strategy and employee appraisal may affect how employees view the role of rewards in the knowledge sharing policy (Muqadas et al., 2017). There are two types of rewards: hard rewards that include financial rewards and promotions; and soft rewards which include getting or keeping reputation and making relationships with significant others. Both types of rewards are found to have a significant positive impact on knowledge sharing (Naser et al., 2016; Skok & Tahir, 2010; W. T. Wang & Hou, 2015a).

The existence of a shared cognitive space between the sharing side and the receiving side of the knowledge is also necessary for knowledge sharing to take place. Alavi & Leidner (2001) and Rosenthal (1970) argue that if individuals and teams need to share knowledge, they first need to have a shared knowledge space. In other words, anything outside one’s personal
experience cannot be comprehended in its true form. This is especially true when the shared knowledge relates to a specialized area of organizational work and expertise. If knowledge is a state of mind, that state needs be translated into a form that ensures its integrity not only through the medium of transfer but in the way the receiver deciphers and registers that state. “The inextricable linkage of tacit and explicit knowledge suggests that only individuals with a requisite level of shared knowledge can truly exchange knowledge.” (Alavi and Leidner, 2001:112). This state of mind is created through the cognitive dimension of the social capital which includes members’ shared understanding (Hu & Randel, 2014).

If knowledge is constructed meaning, what is it that is transferred from person to person? The notion of transfer is more relevant to information than knowledge (Matthews & Shulman, 2001). If knowledge is constructed by the individual based on the information they receive, it would then be difficult to share knowledge, rather, what is transferred from individual to individual is actually the information and not the knowledge. As will be mentioned in the next section, however, it is hard to differentiate between knowledge and information in the sharing context. Similarly, differentiating the term ‘data’ from information may also be necessary as there could be some overlap between the two (Liew, 2007; Tilly, Posegga, Fischbach, & Schoder, 2015).

2.6 Data, Information and Knowledge
Discussing the differences and the meanings of data, information and knowledge in this research not only fortifies our understanding of a foundational concept of this research which is ‘knowledge’, but it also allows organizations to set their policies clearly by defining what constitutes knowledge in their business processes. Even in an academic environment where knowledge is seen to be at the heart of the institution’s existence, the types of knowledge to be ‘managed’ needs to be clearly defined to make meaningful the whole process of knowledge management.

Many researchers uphold that data, information and knowledge are part of a hierarchical, sequential, transformational order (Zins, 2007), (Weinberger, 2010), (Bernstein, 2009). The Oxford English Dictionaries Online defines knowledge as “Facts, information, and skills acquired through experience or education; the theoretical or practical understanding of a subject” (Oxford Dictionary, 2018). Equally, the Longman Dictionary of Contemporary English defines knowledge as “the information, skills, and understanding that you have gained
through learning or experience” (Longman Dictionary, 2019). This simply reminds us that the common linguistic understanding represented by these dictionaries may not differentiate knowledge and information as separate stages of a sequential chain as seen by some scholars of Information Systems. Instead, information and skills are constituent parts of knowledge. Even paradoxically, the earliest recorded usage of the terms information and knowledge in the English language occurs in reverse order, i.e. the earliest recorded usage of knowledge was in the early 14th century while information and data were first used in the late 14th and mid-17th centuries respectively (Faucher, Everett, & Lawson, 2008).

There are two main factors that may complicate the attempt to define data, information and knowledge. Firstly, because these are abstract concepts, it may not be easy to form a common understanding and definition, as is the case in any abstract term (Barsalou & Wiemer-Hastings, 2005). Secondly, scholars of a broad range of disciplines consider these terms to be at the heart of their speciality and therefore see the terms through the lenses of their particular disciplines. Information management, information systems, computer science and mathematics are among some of the disciples that study data and/or information.

One of the most comprehensive research into definitions of data information and knowledge is conducted by Zins (2007) who approached over 45 leading scholars in the field of Information Science seeking their definitions of the above elements. This found that a commonly held view among these scholars is that data and information are external to the knower while knowledge is considered to be internal. In other words, knowledge is the only element that a person can retrieve without resorting to external resources.

2.6.1 Data
The above-mentioned hierarchical model places the data at the bottom of the pyramid. It is seen as the material that information is made of (Tayi & Ballou, 1998), a representation of objective facts (Hey, 2004), the raw facts that have no meaning (M. Alavi & Leidner, 2001). When a customer makes a payment for a certain item, that transaction can be described as data because although the name of the product, price and quantity of order are known, we still do not know why the customer came to that particular shop or bought that particular item (Davenport & Prusak, 1998). It is, however arguable that when generating data, there must be
a prior knowledge which informs us how to identify or collect that specific piece of ‘data’ (M. Alavi & Leidner, 2001).

2.6.2 Information
Definitions place information somewhere between data and knowledge. It is defined as the processed and interpreted data that reveals meaning, (Spender, 2007); or as data placed in context, (Lumpkin, 2003), or data that have been shaped into a form, (Laudon & Laudon, 2009). When humans receive data through their senses, their cognitive processes, prior experience and knowledge add meaning to that data. An example of this is- a number on a piece of paper has no meaning on itself. However, when this is written on a student I.D. card, a bank statement or in a newspaper article, it provides us with a context which will help us attach a meaning to that number.

2.6.3 Knowledge
Throughout history, philosophers debated the concept of knowledge (Aamodt & Nygård, 1995; M. Alavi & Leidner, 1999). For instance, Plato defined knowledge as ‘justified true belief’ which implies a strong link between belief and knowledge. However, some philosophers tend to distinguish between the two citing that a person may think that s/he knows something, but when it turns to be wrong, he says ‘but I had believed it” (North & Kunta, 2014; Wheatley, 2000). The majority of definitions of knowledge relate it to experience, experts and actions (Faucher et al., 2008). For example, knowledge is said to be personalized information, with conceptual commitments and interpretations (Firestone, 2007), knowledge is situated (Khazraee & Gasson, 2015) and constructed (Bodner, 1986). Attempting to compare the various definitions of data information and knowledge shows only how complicated it is to bring about a unified understanding of these terms.

Indeed, some researchers argue that the distinction between data and information is not a clear cut distinction. Alavi & Leidner (1999) posit that knowledge is not radically different from information; instead, information becomes knowledge when it is processed in the learner’s mind, and that again becomes information when it is articulated by the ‘knower’. In this view, knowledge is what the receiver of the information constructs in his/her mind. In contrast, information is the representation of that knowledge when it is communicated to a receiver (Wilson, 2002).
2.6.4 Knowledge Sharing in Academic Environments

Knowledge acquired by academics, researchers and the administrative staff of any higher education institution improves innovation, research and education, (Abreu & Grinevich, 2013). In this knowledge-intensive work system, intellectual property rights may not be enough to define the boundary between individual and organizational knowledge. When a member of staff spends time to work in a department or school, s/he gains experience and skills that are relevant to the demands of their position. Cranfield and Taylor contend that “Academics also generally tend to provide very long service to a university and hence, once they decide to leave, this could have a detrimental impact on the School, Faculty and ultimately the Institution, especially if the academic is a renowned expert within a particular field attracting students and funding for the School, Faculty and the Institution as a whole.” (Cranfield & Taylor 2008:93). And as such, HEIs need to develop mechanisms that enable them to continue their success and performance after the departure of these employees.

Academics acquire different types of knowledge including their specialized discipline knowledge. However, as we stated in section 1.7, this research does not cover discipline knowledge. It focuses on the types of knowledge that relate to work processes within the HEI environment. Fullwood, Rowley and Delbridge (2013) divide this type of work-related knowledge that can be shared by academics into four categories: knowledge relating to research information and activities; knowledge on teaching and learning resources; knowledge about university processes and procedures, and knowledge on social and work news. These types of knowledge may be tacit or explicit and different HEI employees may place different emphasis on the types of knowledge they see as important depending on their work situation and culture. Each type of knowledge may demand a different sharing method. It may be easy to transfer codified or explicit knowledge through formal training where a knowledgeable individual trains less knowledgeable individual(s). It is also possible to learn codified knowledge from its sources e.g. manuals, policies and procedures, books, etc. The same may not be possible when the knowledge resides in someone’s mind. Such tacit knowledge needs a more delicate approach as it involves human behaviour.

Academics are by nature engaged in managing knowledge in their roles in teaching and research activities. Their work involves managing knowledge (Cranfield & Taylor 2008). It may, therefore, be a spontaneous behaviour that members of staff share knowledge regardless
of whether the organization they work for has knowledge sharing policies and mechanisms. The shared beliefs, assumptions and knowledge needs of individuals and groups are what shape how they share their knowledge (Lucas, 2006).

In academic environments, knowledge can be shared by an individual or by a group of academics or administrators. Although the behaviours of individuals and groups may differ when sharing knowledge, they share many factors that determine the smooth flow of the knowledge sharing process. For instance, the sharing side, whether individual or group, should be knowledgeable and capable of overcoming any barriers that may inhibit the transfer process (Cummings, 2003). Further, some researchers suggest that for a knowledge management endeavour to be successful in academic institutions, collaborative knowledge sharing should become part of the work culture. (Kumaraswamy & Chitale, 2012). The technology, communication medium and the organizational environment are what shape the transfer channel. For instance, faculty members that described their organizational environment as open, innovative and entrepreneurial are found to be more effective in their knowledge sharing and job-related responsibilities (Mohammadi et al., 2010). Moreover, frequent meetings among staff and better communication were also found to facilitate cooperation, collaboration, socialization and trust (Moss & Kubacki, 2007).

2.6.5 Summary of Knowledge Sharing

Knowledge sharing is one of many stages of the knowledge management process. The literature places knowledge sharing somewhere between the creation of the knowledge and its application. When knowledge is discovered, the sharing facilitates its dissemination across the organization or within the concerned unit. The Socialization, Externalization, Combination, Internalization (SECI) model, probably the most cited knowledge shared model (Goswami & Agrawal, 2018; Holden & Glisby, 2014), states that knowledge can be converted from tacit to explicit or vice versa through these four modes of conversion. Nonetheless, these modes do not explain some hidden barriers that can hinder knowledge sharing. In addition, they cannot also describe the conditions that can facilitate knowledge sharing.

For instance, the higher the trust between the two sides of the knowledge sharing interaction, the more successful the interaction. In addition, employee socialization enables them to build relationships within which they can share and seek knowledge. However, the organization should not undermine the usefulness of the socialization by restricting it to formal training or
meetings. Further, any knowledge sharing initiative that is not accepted at the individual level, may not succeed. A majority of literature supports the importance of rewards to knowledge sharing but the way they are linked to the overall employee appraisal system is equally important. The shared knowledge also has to be comprehensible and valuable for the receiving side. Understanding the interplay between data, information and knowledge is also important for organizations if they need to properly identify what they need to record and share as knowledge.

HEIs are knowledge-intensive organizations. However, even with effective knowledge management practices, it may not be possible for an institution to fully externalize the tacit knowledge of its employees. When these employees leave, some of the knowledge that goes with them will be irreplaceable. It is, therefore, necessary for the institution to adopt and implement policies that nurture trust, empowerment, cooperation and socialization to maximize the flow of knowledge.

2.7 Integrating Research Components

Throughout this review, some recurring concepts were seen within each of the main components. These include the importance of socialization which is a product of social capital. It was also found that organizations that create an environment where informal socialization can take place increase their social capital, which in turn enhances the knowledge sharing capabilities of their employees. Another concept repeatedly mentioned was trust. It is a vital element of social capital which comes when group members engage in prolonged communication. Trust in the organization is also enriched when its employees are given the ability to participate in the decision-making process. Knowledge sharing takes place within teams that have individual attitudes and are also influenced by the cultures of their institutions. Similarly, while social capital is something that takes place during the interactions of individual employees, it can also be fostered by organizations through their policies and practices.

Furthermore, both social capital and organizational culture shape the behaviours and attitudes of employees including their knowledge sharing behaviours. The role of rewards in knowledge sharing is supported by many researchers both in the areas of social capital and in knowledge sharing (Asrar-ul-Haq & Anwar, 2016; Donnelly, 2019; Xing Zhang et al., 2017). Figure 2-6 shows the interactions between social capital, organizational culture and knowledge sharing in HEIs. Knowledge sharing affects organizational culture and the level of social capital in the institution (Alaarj, Abidin-Mohamed, & Bustamam, 2016; Farooq, 2018; Mura, Lettieri,
Radaelli, & Spiller, 2016; Widén, 2017). However, as indicated by the dotted line in figure 2-6, due to the time constraints, this research will not look into how knowledge sharing affects organizational culture and social capital. It will focus on the interactions between organizational culture and social capital, and how these two impact on knowledge sharing in HEIs.

Based on the overall review undertaken in this chapter, this research aims to understand how social capital and organizational culture influence knowledge sharing in Saudi HEIs. To achieve this, it will address the following research issues: a) the importance of knowledge sharing to HEIs in Saudi Arabia, b) the relationship between organizational culture and knowledge sharing, c) the relationship between the attitudes of HEI employees and their knowledge sharing behaviours, d) the role of social capital in knowledge sharing, e) proposal of a knowledge sharing model for HEIs in Saudi Arabia.

The research, therefore, proposes the following question: *What effects do employee attitudes and organizational culture have on knowledge sharing in higher education institutions in Saudi Arabia?*

The three main components of this research are knowledge sharing, social capital and organizational culture and there is an abundance of studies in each of these components. However, there are limited studies connecting the three and there is almost none, as far as the researcher knows, that combines the three elements in the context of the HEIs in Saudi Arabia. This research, therefore, holds that there is a lack of literature in the research topic. Looking at the review above, it is possible to say that the components of this research can be studied from two main perspectives: personal attitudes of employees, and organizational culture.
Many studies identify the culture of an organization from the views and attitudes of groups and individual employees (Aarons & Sawitzky, 2006; Alaskar et al., 2019; Hartnell et al., 2011; Tong et al., 2015). Other studies compare between individual attitudes and organizational culture in relation to knowledge sharing (Al-Kurdi, El-Haddadeh, & Eldabi, 2018; Alawi et al., 2007; Donnelly, 2019; Roger Fullwood & Rowley, 2017). In addition, some studies investigate knowledge sharing from the perspective of employee attitudes (Akhavan, Hosseini, Abbasi, & Manteghi, 2015; Henttonen, Kianto, & Ritala, 2016; Skok & Tahir, 2010). Social capital is also studied from the individual attitudes of employees or through the culture in the organization (Akhavan & Mahdi Hosseini, 2016; Carrillo Álvarez & Riera Romani, 2017; Engbers, Thompson, & Slaper, 2017). Furthermore, social capital is also utilized to study knowledge sharing (Hoffman, Hoelscher, & Sherif, 2005; Lefebvre, Sorenson, Henchion, & Gellynck, 2016; Xing Zhang et al., 2017).

Figure 2-7 shows the research implementation framework which includes the two areas of research implementation: organizational culture, and personal attitudes. It also shows that the
research takes place in a Saudi HEI environment. The elements of social capital can be studied from the personal or organizational perspectives. Although the data collection methods will elicit data germane to these two categories, they will contain questions relating to knowledge sharing behaviours and the presence of social capital in the teams. This is because, as mentioned in the above literature, elements of social capital and knowledge sharing behaviours can be viewed from the attitudes and beliefs of the individual employees, as well as from the cultural characteristics displayed by the organization.

2.8 Chapter Summary

This chapter discussed the main components of this research and integrated them to form a comprehensive picture of the problem at study. It described the organizational culture in general and highlighted some of the commonly cited models and how they relate to the research problem. The local culture in Saudi Arabia and how it impacts on the Saudi HEIs is also explained. The theories used mostly to study knowledge sharing were described and the social capital theory, which is the most relevant in this research, is discussed in detail. The chapter also summarized the elements that can be used to measure the social capital in organizations into three constructs: socialization, active participation and trust and each of these is briefly described. Knowledge sharing and its role in knowledge management in organizations was highlighted. A model describing how tacit and explicit types of knowledge are created and transferred is also explained.

The chapter asserts that knowledge sharing may not be effective without considering some of the barriers and enablers commonly mentioned in previous research. It also discusses the interactions between data, information and knowledge and how they relate to knowledge sharing. Knowledge sharing in academic environments and its importance to HEIs is also discussed. The chapter closes with discussion and diagrams showing how the main components of this research are integrated and how the research investigation can be implemented.

The integration of the main components of this research demands a research methodology that can connect the complicated elements which include organizational and individual cultures, as well as the theory of social capital within Saudi HEIs. The next chapter discusses the methodologies relevant to collect and analyse data for this research.
Chapter 3: Research Methodology

3.1 Introduction

The previous chapter revised the background research of knowledge sharing, social capital theory and organizational culture. It discussed knowledge in general and how it relates to information and data. Sharing knowledge in academic institutions and the role of culture in knowledge sharing in general and in higher education institutions was also discussed in detail. The theory of social capital was introduced and a mechanism to measure it was proposed.

This chapter discusses the methodologies used in conducting this research. It starts with a general background on the necessity of utilizing systematic fact-finding, data analysis and presentation tools and how they contribute to the quality of scientific enquiry. It then moves to explain and evaluate the particular tools and techniques used to collect data for this research and how such data was validated and analysed. The chapter also discusses research ethics and some of the difficulties faced during the process of acquiring approvals for data collection.

3.2 Research Paradigms

Research methods fall under broader worldviews or paradigms (Kivunja & Kuyini, 2017; McGregor & Murnane, 2010; Oates, 2005). It is common for a researcher to employ various methods or mix methodologies while conducting their research (Creswell & Creswell, 2018; Sharma, 2015). This is because the nature of the inquiry, its participants and the environment under which the research is undertaken do not necessarily behave the same throughout the research. Not only this but as will be discussed later in this section, studying human subjects is complex and it may not be enough to use a single method of enquiry to fully understand their behaviours. Information Systems (IS) studies organizations and humans as information processors (Davis, 2000) or the interplay between humans and technology (Kautz, 2018). And as such, the methods of research in this discipline may vary greatly.

Research can be undertaken for a variety of reasons including to explain why events happen or things behave as they do (Polkinghorne, 1983) and to develop theories that can describe and explain phenomena (Bot & Larsen-Freeman, 2011). To attain their objectives, however, researchers employ a set of methods, fact-finding techniques and other tools that enable them to handle their investigation systematically while observing the ethical requirements necessary for the type of research they are conducting.
Although enquiries can be conducted without pursuing any structured approach, the findings will be more convincing and reliable, if one or more research methods are utilized (Prajapati, Dabhi, & Bhensdadia, 2015; Reich, 2014). While some researchers entertain the possibility of a research output that is not presented according to a particular methodology (Stahl, 2014), or using methodologies with no identities or strict boundaries (Koro-Ljungberg, 2020), it would seem difficult to organize research throughout all stages - planning, data collection, analysing and presenting the findings - without an overall framework or methodology.

There are two main routes to research: positivist; and interpretivist (anti-positivist). The roots of these two philosophies can be traced back to ancient Greek scholarship where two philosophers took different routes to investigate phenomena. Plato, for instance, argued for logical intuition and Aristotle emphasized empirical investigations (Hjørland, 2005; Saritas, 2006; Walliman, 2016; Walsham, 2006). The two approaches differ in the way questions are formulated, how data are analysed and how conclusions are drawn from the findings (A. C. Lin, 1998).

The positivist approach (scientific method) emphasizes the existence of facts and objective realities that are observable and are, therefore, independent from the researcher (Mays & Pope, 2000; Stahl, 2014). The results of the positivist research are assumed to be the same whoever conducts the research, given that the conditions in which the research was carried out remain the same. Besides that, the positivist researcher would be inclined to look for causes and effects and generalizable outcomes (Sato, 2016). This methodological approach is often associated with the natural sciences where scientists observe the environment around them for patterns and similarities and through this observation, they arrive at particular certainties (Walliman, 2016). The observations made in a sample of a particular population in natural sciences is often assumed to be the same for that whole population.

When positivism is applied to the social sciences, the researcher is searching for patterns and relationships in the social world. Social reality is assumed to be as same as the natural reality where experimentation and observation are the basis for conclusions. Social reality is also supposed to be independent of the people and their actions (Eriksson & Kovalainen, 2016; Häuberer, 2011). The findings that are discovered in a certain group of people e.g. employees, students, customers, etc. are thought to be generalizable to other similar groups.

However, there is a clear difference between the two areas of study and it may not be fully plausible to employ the same tools of inquiry to reach conclusions in social and natural
Cohen, Manion and Morrison (2013) point out that although the scientific method of research has a proven record of success in the natural sciences, it is less successful in studying human behaviour.

Their justification is that human nature is immensely complex and that the social phenomena are illusive and intangible in contrast to the regularity and relatively orderly behaviours of the natural world. Another weakness of the positivist approach is its mechanistic approach to life which is said to ignore choice, freedom, and moral responsibility (Cohen et al., 2013). While some of the natural (e.g. chemical properties of water) or physical (e.g. gravitational force) patterns show more permanence, social life is in constant transformation. In addition, it is possible to question the ability of researchers to exclude their personal views and values from the research process (Saunders, Lewis, & Thornhill, 2009). The positivist researcher chooses what area to investigate, how to design the research and s/he also selects the field and, to a certain level, the subjects to study.

The interpretivist perspective, on the other hand, advocates that social reality is constructed by human actors and, as such, it cannot be separated from the viewer (researcher) (Walsham, 2006). The interpretivist researcher aims to identify, explain and explore how the social factors in a particular setting are interrelated (Oates, 2005). S/he is attempting to softly elicit the meanings constructed by individuals and groups. This is achieved through interactions and informal communications rather than the highly structured procedures used in empirical data collection. S/he is wading through swamps and streams of feelings, attitudes and opinions that are difficult or impossible to weigh, shape, measure or quantify. Moreover, the researcher’s personal views are an integral part of the research and that is why it is difficult to mention objects and subjects in the interpretivist approach.

It is, however, noteworthy that some researchers argue that the dichotomy between the two above schools of research is blurred (Meckler & Baillie, 2003; van Offenbeek et al., 2012; Weber, 2004) and it is common to collect and use empirical data for interpretivist research. If the positivist school prefers experience and the interpretivist inclines to reasoning, is it possible to separate experience from reason? Reasoning requires ‘things’ to compare and those things are only known through experience. Similarly, attempting to use experimentation as a method of inquiry, would also involve a reasoning process.

The above account on the existence of different methodologies or epistemologies in IS research leads to the idea that knowledge produced by research is not always based on the same
philosophical assumptions. Rather, different but logical philosophies are employed to form the basis of how we perceive or know the world around us (A. Lee & Hubona, 2009; Shanks, 2002).

3.3 Quantitative and Qualitative Methodologies

These two approaches of research design are widely discussed in the research literature (Creswell, 2009; Leavy, 2017; Oates, 2005). In the Information Systems literature, they are called methods (Williamson & Johanson, 2017), approaches (Al-Emran, Mezhuyev, & Kamaludin, 2019), strategies (Pima & Mtui, 2017) or methodologies (Kung, Kung, Jones-Farmer, & Wang, 2015). The quantitative approach investigates the phenomena under study by collecting and analysing numerical data. It examines relationships between certain variables through surveys and experiments to get answers to its questions. It is mainly employed by the positivist researchers but it may also be used under the interpretivist paradigm (Oates, 2005).

The qualitative approach, on the other hand, looks for the meanings that individuals or groups assign to the problems under study. Data are collected from participants and theories emerge from the particulars to the general themes (Creswell, 2009). This approach is commonly favoured by the interpretivist researchers as it allows the researcher to make interpretations from data collected in the field (Temple & Young, 2004).

The quantitative approach is generally associated with the deductive reasoning where an existing theory is either proven or rejected based on the results from the tests and experiments conducted. In contrast, the qualitative approach employs inductive reasoning where the theory and meanings emerge from the data (Leavy, 2017; Young, 2007). Information Systems research started as a positivist dominated approach which required hypothesis testing, collecting empirical data and quantitative data analysis (Walsham, 2013). However, it currently utilizes both major routes or philosophical perspectives – positivism and interpretivism (Davison & Martinsons, 2015; Tsang, 2014). This shift in the philosophical position may be a part of a wider journey made by the discipline from the mechanical, machine-centred to a more organic, human-centred field. This can be seen in the historical evolution of the areas of software development (H. Lu, Tang, & Guan, 2012), governance (Donald, 2014), search result ranking (Y. A. Kim & Park, 2013) and others.

Selecting an appropriate research methodology to investigate Information Systems (IS), in general, is not an easy undertaking. This, perhaps, stems from the interdisciplinary nature of the subject of information systems which deals with humans, technologies, systems and their
functions. The diversity of disciplines in information systems knowledge are shown by (Davis, 2000) who summarizes the bodies of knowledge that underpin information systems as Psychology, Cognitive Psychology, Sociology/Organization Behaviour, Management Strategy, Economics, System Concepts and Principles, Communications, Decision-making, Information Concepts. This is list is based on the researches presented in ICIS1998 and ICIS1999 and those published in eight issues of MIS Quarterly from late 1997 to late 1999. The list is not therefore exhaustive. It is these diverse streams of disciplines which feed into information systems that make it a complex subject (Jacucci & Hanseth, 2006). It is, therefore, necessary to diversify the research approaches in Information systems.

3.4 Adopted Methodology

Researching Knowledge Management (KM), social capital and cultures in organizations take a wide variety of disciplines on board and the diversity in those areas of research within the territory of IS discipline makes the selection of an appropriate research methodology more challenging. As mentioned earlier, investigating the behaviours of humans and behaviours of smartphones may require different approaches of study. In such a situation, IS researchers would be compelled to borrow or adapt the various research methods available in these diverse disciplines.

As outlined in section 2.8, this research investigates and address the following research objectives: a) the importance of knowledge sharing to HEIs in Saudi Arabia, b) the relationship between organizational culture and knowledge sharing, c) the relationship between the attitudes of HEI employees and their knowledge sharing behaviours, d) the role of organizational culture in knowledge sharing in Saudi HEIs, e) the role of social capital in knowledge sharing. These broad and complex issues can be achieved by mixing both quantitative and qualitative methods.

The mixed methods approach utilizes both qualitative and quantitative methods for a number of reasons that include: triangulation, where the two methods enhance each other’s credibility; complementarity, where one of the methods is used to cross-validate the other or give a deeper understanding of the results; initiation, in which the findings of a study requires further understanding and therefore lead to a new study; expansion, where the study’s reach and extent need to be expanded using a different approach and; development, whereby the results of one of the methods leads to the development of the other approach (Greene, Caracelli, & Graham, 1989; Hesse-Biber, 2010).
There are a number of strengths in utilizing mixed methods in information systems research. For example, mixed methods can serve to study either confirmatory or explanatory studies simultaneously better than any single method. Furthermore, mixed methods can bridge the weaknesses that may be associated with qualitative or quantitative approaches, and as such, it provides stronger inferences that any single approach. Lastly, when studying complex IS issues, mixed methods can unearth a greater assortment of conflicting (or complementary) views which can provide an opportunity to further develop, extend or test those issues (Iaquinto, 2016; Venkatesh, Brown, & Bala, 2013).

3.5 Why Mixed Methods

The selection of a research approach may be dictated by the standpoint of the researcher and the circumstances of the research, especially as this research investigates the attitudes and cultures at the workplace. It aims to understand how employees of higher education perceive the relationships they have with their colleagues, managers and the culture in their organization. The research further examines the attitudes of higher education managers towards their roles, colleagues and work processes. Furthermore, the employees, from different levels of management, academic disciplines and cultural backgrounds were expected to provide their views about the organizational environment, policies and practices.

Mixed methods are better used when the researcher wants to get a holistic view of an area in which the research is fragmented, inconclusive or equivocal (Venkatesh et al., 2013). As explained in section 1.4, this research is conducted at two HEI institutions that fall under the same organization in Saudi Arabia where the HEI environment is experiencing significant transformations. Although the two institutions conduct research as part of their missions and to maintain accreditations, this is still in its infancy and their research policies are not stable. The strict hierarchy in decision-making and policy formation often brings new changes that are difficult to implement by the employees that are away from the decision-making circles. It is therefore common to see some units applying outdated policies and procedures.

Collecting data in such an environment is difficult because employees may have different views of what constitutes organizational policy. Not only this, but researchers may also face obstacles in getting access to data and people. Section 2.8 also found that the literature in the field is very limited. This method was, therefore, thought to be better suited to discovering the relationships between the diverse elements of this research, and linking it to the scare literature that is available in the area.
Moreover, utilizing mixed methods will allow the researcher to gain greater understanding of overlapping issues in the research (Petter & Gallivan, 2004). The overlap in this research is that social capital in organizations can be examined from the individual attitudes and behaviours as well as from the organizational policies and practices.

Therefore, this research will collect quantitative data pertaining to individual employees’ attitudes towards knowledge sharing in the organization of the two HEIs. This will be supplemented by collecting qualitative data from employees in management positions. This is because, as Saudi HEIs have a strict managerial hierarchy, it is assumed that managers may be privy to some information or decision-making practices that are not disseminated to the rest of the employees. Such information is expected to elaborate more on the data gathered from the individual employees.

3.6 The Process of Mixed Methods Chosen for this Research

There are a number of strategies that researchers can employ to mix quantitative and qualitative methods. These strategies include the sequential explanatory strategy in which the quantitative data is collected and analysed first, then the qualitative data, which is built on the results of the quantitative data, is collected. This strategy is useful when ambiguities or unexpected results arise in the quantitative data; the sequential exploratory strategy which is the opposite of the above strategy. The qualitative data is collected first and then the quantitative data is built on the results of the qualitative data; convergent or concurrent strategy in which qualitative and quantitative data are collected in parallel and then the two sets are brought together for comparison. They also mention two more strategies where either the quantitative or qualitative data is assigned as the primary data collection while the other is used to enhance the primary method (Creswell, 2009; Leavy, 2017).

In this research, none of the methods was given a primary role over the other. Instead, the results of the two methods were combined to see the existence of any convergence, elaboration or divergence. In IS research, when the research has a broad goal and it aims to understand a phenomenon as it happens, a concurrent mixed methods design can best serve its purpose (Venkatesh et al., 2013). It is also important to note that, as in this research, convergent mixed methods are suitable when the researcher wants to connect the results of the two approaches (Hesse-Biber, 2010).
This research falls under the above description because its purpose is to understand the current interplay of organizational culture, social capital and knowledge sharing of the two institutions under study. Hence, the data for this research were collected from the employees of the two HEIs. The purpose of this was to elicit their attitudes towards knowledge sharing, social capital and the culture in the institution. In addition to this, employees holding managerial positions were interviewed to gauge their views on organizational policies and practices relating to knowledge sharing, organizational culture and social capital.

The two data sets were then analysed separately and the results compared to check for similarities and/or differences that can help elaborate on the research question. In addition, a knowledge sharing model proposed from the data analysis and literature review was validated through another questionnaire. This was aimed, again, at managers as they normally take the responsibility of implementing knowledge sharing policies. Their views on the applicability of the model in their work environment were used to validate the model. Table 3-1 shows the research methodology used in this research and the data collection approaches. The table also shows the purpose of the data collection and targeted participants.

Table 3-1-Research Methodology Overview

<table>
<thead>
<tr>
<th>Methodology</th>
<th>Mixed Research</th>
</tr>
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<tbody>
<tr>
<td>Approach</td>
<td></td>
</tr>
<tr>
<td>Quantitative</td>
<td>Questionnaire (A)</td>
</tr>
<tr>
<td>Qualitative</td>
<td></td>
</tr>
<tr>
<td>Purpose</td>
<td>Data Collection</td>
</tr>
<tr>
<td>Participants</td>
<td>HEI Employees</td>
</tr>
</tbody>
</table>

3.7 Sampling and Participants
One of the major steps in any research is selecting a study sample. Sampling is defined as the process of selecting a subset from a population to be included in a research project (Daniel, 2014). By focusing on a small sample of a wider population, the researcher saves resources such as time and money with the assumption that the selected sample and the population share the same characteristics that are of interest to the researcher.

There are a number of sampling methods that are used in qualitative research including: *purposive sampling* which categorizes participants using predefined criteria based on research questions; *quota sampling* in which the researcher decides how many people of the same
characteristics (e.g. age, education level, marital status) are to be included as participants, and; *snowball or chain referral sampling* where the participants who are already contacted recommend further candidates for the research (Lapierre & McMullan, 2016; Mack, Woodsong, MacQueen, & Guest, 2005). All these methods are called non-probability sampling methods which also include the *convenience sampling* in which the researcher selects the sample according to accessibility, availability or degree of collaboration (Healey, 2012; Oates, 2005; M. Saunders et al., 2009).

The two institutions were chosen because they offer degree programs and they follow the standards of HEIs set by the Saudi Ministry of Education. In addition, it was easy for the researcher to gain access and permission to collect data in these two institutions. Gaining and maintaining access to individuals and organizations is critical for researchers (M. Saunders et al., 2009; Walsham, 2006). The sample in this research was selected on the basis that the researcher was an employee of the organization and with the assumption that the academic institutions were more collaborative to research requests. This decision was made after several unsuccessful trials to gain access or secure approval from a number of other institutions. It is, therefore, reasonable to say that the sampling method used in this research falls under convenience sampling.

### 3.7.1 Sampling for Questionnaire A

There were about 400 employees including academics and non-academic professionals in the two HEIs. The workplaces of these employees were physically distributed in three different centres of the same city and it was not possible for the researcher to visit all of them as there were some administrative restrictions in place. For instance, one of the centres houses the female campus where male visitors are not allowed during working hours. Any work or research-related visits can only be carried out on strictly vetted appointments. Given the large sample size, it was easier to use a questionnaire to collect data. Questionnaires are the most relevant technique when data is collected from a large number of participants that are scattered across multiple locations (Leavy, 2017; Jenny Rowley, 2014). The questionnaire was sent to all employees through the institutional emails therefore every individual employee had the chance to respond.

Onwuegbuzie and Collins (2007) argue that as quantitative research tends to make statistical generalizations from the sample to the population from which the sample was selected, the sample size must be representative of that population. Therefore, they propose a list of
minimum sample sizes for a variety of research designs. The highest sample size they propose to be acceptable for the quantitative part of the mixed methods research is 82 respondents. This questionnaire targeted a population of about 400 individuals and the responses achieved, 168 in total, were much higher than that minimum number.

There are a number of sample selection criteria for mixed methods research including purposive sampling which has two goals: finding instances that are representative of the area of research interest; and/or to achieve comparability across different types of cases in the area of interest (Teddlie & Yu, 2007). The criteria for selection used in this questionnaire approach was that the research question aims to understand how the attitudes of HEI employees and institutional cultures relate to knowledge sharing. For that reason, the targeted HEI employees were deemed to fall under the area of interest of this research. This was also coupled with the convenience of obtaining permission to collect data in the two institutions.

3.7.2 Sampling for the Interviews

The aim of the interviews was to get information about how the two institutions manage knowledge sharing. It focused on the organizational policies and practices related to creating an environment that can support knowledge sharing. The managers of the two institutions were therefore selected for this purpose. As the questionnaire respondents were selected because of their availability to the researcher (convenience sampling), it is fair to say that the selection of the interview sample also falls under the same category. The above questionnaire contained a question asking the respondents to provide their contact details if they are willing to participate in an interview. However, as the questionnaire was sent to all staff members, only four of those volunteered were selected as they were holding managerial positions. In parallel to this, the researcher approached the employees holding managerial positions to ask for their participation in the interviews. The contact details of these employees were available on the departmental websites which listed their office phone numbers and emails addresses.

The number of managers interviewed were 17. As the new recruits were not adding new information to what has already been said, no more participants were sought. When the information provided by the participants decreases as the number interviews increase, a saturation point is reached and interviews can be called off (Rosalind Edwards & Holland, 2013; M. Saunders et al., 2009; Teddlie & Yu, 2007).
3.7.3 Sampling for Questionnaire B

The purpose of questionnaire B was to get expert opinions that can validate the applicability of a knowledge sharing model. Information systems models are often validated through the elicitation of judgements from field experts (Beecham, Hall, Britton, Cottee, & Rainer, 2005; Goldsman, Yaacoub, & Sargent, 2016). As the model was designed to manage knowledge sharing in academic environments, the managers of HEIs were in a position to validate the effectiveness of the model.

The target population for this group was 17 members who were holding relatively higher managerial positions. However, 12 of them responded representing 70% of the population. In information systems expert model validations, sample sizes of 10 to 12 are acceptable (Beecham et al., 2005; Estep, 2017; Lavoie & Daim, 2019). Table 3-2 shows the mapping of methodology, methods, strategies, sampling techniques and their purposes.

Table 3-2 - Sampling Summary

<table>
<thead>
<tr>
<th>Methodology</th>
<th>Strategy</th>
<th>Method</th>
<th>Sampling</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixed Methods</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quantitative</td>
<td>Questionnaire</td>
<td>Convenience</td>
<td>To give every employee a chance to respond.</td>
<td></td>
</tr>
<tr>
<td>Qualitative</td>
<td>Interviews</td>
<td>Convenience</td>
<td>To get specific information</td>
<td></td>
</tr>
<tr>
<td>Qualitative</td>
<td>Questionnaire</td>
<td>Convenience</td>
<td>To get an expert opinion (validation)</td>
<td></td>
</tr>
</tbody>
</table>

3.8 Pilot study

The advantage of piloting questionnaires include that: they ensure that participants will have no problem answering the questions; the researcher can get feedback on how to record the responses; and they will help the researcher know the validity of the questions and the likely reliability of the data produced (M. Saunders et al., 2009). The purpose of the pilot questionnaires was to see how usable the questionnaire was across all types of participants. It is not uncommon for questionnaires to fail because respondents have difficulty understanding, completing or keeping their interest throughout the questionnaires (Boynton, 2004).

Initially, two experienced researchers were asked to comment on whether the questions were suitable and representative. The purpose of this initial checking was to get an expert opinion on the design of the questionnaire so that any necessary corrections could be made prior to piloting the questionnaire to the intended respondents (M. Saunders et al., 2009). No changes
were recommended by the two researchers. The questionnaire was then piloted to 28 employees including some who were actively engaged in research and others who were solely in teaching or administrative positions. Respondents for the pilot were also employees of HEIs in Saudi Arabia with similar organizational characteristics. However, they were not included in the population targeted by the main questionnaire (Jain, Dubey, & Jain, 2016; Tanner, 2002). The pilot resulted in corrections in statements, sequencing and adding more items in some statements. There were also some suggestions regarding the overall format of the questionnaire and how it should be communicated to the respondents. Following are some of the corrections made as a result of the pilot questionnaire:

1. For the question “Does your organization have a system that is designed to support knowledge sharing between employees?” Respondents could only choose between Yes or No answers. However, ‘I don’t Know’ was added as recommended in the responses.
2. In the demographics section, the ‘High School’ was added in the education.
3. There was also a suggestion to edit the ‘I can only…’ and ‘I hardly…’ question stems as these are ‘borrowed from spoken English’. This was not implemented as the focus was on the personal attitudes of respondents.
4. The statements “I am happy to share my knowledge with others” and “I do not like to share knowledge with someone I don’t know” where placed next to each other in the sequence to highlight their relationship.

The interview questions were also piloted to 5 HEI employees who were not included in the main interview. All of them were holding managerial positions at the time apart from one respondent who was not active in management but was a Course Director a few months earlier. The piloted sample included two members from JUC male campus, two from JIC and one from the female campus of JUC. The purpose was to check that interview questions were easy to understand and produced useful data. The interviews were conducted in an environment similar to the one used for the main interview. The pilot interview also helped in estimating the interview duration and possible distractions. Some of the work-related distractions were unforeseeable as they did not occur during the pilot interviews.

However, the outcome of the pilot interview resulted in making minor changes to the interview questions. For instance, the number of questions was reduced from 15 to 12 questions. Two of the removed questions were seen as ‘difficult to answer’ because, as 2 respondents pointed out, the questions related to an area in the organizational policy that was undergoing through
substantial changes at the time, therefore, it would have been impossible to elicit useful answers to these questions. Another question was removed because of the length of the interview questions.

3.9 Validity and Reliability

Validity means that the findings of the research are accurate in the view of the researcher, the participants, the readers or any other stakeholders (Creswell & Creswell, 2018; M. Saunders et al., 2009). The internal validity focuses on the accuracy and correctness of the research design, its process and outcomes (Ihantola & Kihn, 2011). The external validity, on the other hand, describes how far the findings can be generalized outside the population under study (Leviton, 2017). In mixed methods research, it is possible to validate the quantitative and qualitative approaches separately in line with the validity requirements dictated by the two approaches (L. Cohen, Manion, & Morrison, 2018). There are a number of techniques that can be employed to demonstrate the validity of the findings of qualitative research (Creswell & Creswell, 2018; Henry, 2015; Noble & Smith, 2015; Whittemore, Chase, & Mandle, 2001). These techniques include:

- Triangulating data sources where the researcher collects the data from multiple sources and then converges the findings.
- Member checking in which the researcher takes the final report or specific descriptions back to the participants to determine if the participants agree with the accuracy of the findings.
- Inclusion of rich and thick descriptions of respondent accounts to provide shared experiences and support the findings.
- Peer debriefing where the researcher invites his/her peers to question the work in a systematic way. The peers can also provide their constructive feedback to improve the quality of the work.

Accordingly, this research employed the following steps to ensure validity:

1. Two different methods of data collection (questionnaire and interviews) were used which led to the data being analysed separately and the findings merged to come to conclusions. Moreover, the data were collected from two, albeit overlapping, groups of participants (all employees and managers). This also adds to the strength of the triangulation technique (L. Cohen et al., 2018; Vanner & Kimani, 2017).
2. The questionnaire and interview questions were piloted to sample populations that were similar to the targeted populations. This ensures the clarity of the instruments and hence their validity (Krosnick & Presser, 2010).

3. Two experienced researchers were asked to give their feedback on the design of the questionnaire with the aim of providing content validity which can be obtained from the expert researchers in the field (Ayre & Scally, 2014; M. Saunders et al., 2009)

4. The interview notes were shown to all respondents while parts of the analysis were shared with three of the interviewees (CH1, CRD2, PRD3) who confirmed that it was a true representation of their accounts.

5. Saturation was achieved during the interview sampling. Failure to attain saturation negatively impacts on content validity (Fusch & Ness, 2015; Nelson, 2017).

6. The data collected from interviewees were analysed using deductive thematic analysis in which the themes were predefined. The codes generated from the data fully mapped to the themes and none of the themes was underrepresented. This type of theme saturation further enhances the content validity (B. Saunders et al., 2018).

7. The interview analysis includes a number of quotes from respondent accounts in support of the interpretations. These descriptions make the results more realistic and can support the validity of the findings (Creswell & Creswell, 2018).

8. All the data collection instruments were piloted before adopting them. The results of the pilot studies helped in improving these instruments (Bowden, Fox-Rushby, Nyandieka, & Wanjau, 2002).

Moreover, reliability analysis of questionnaire A was conducted using IBM Statistics SPSS 25. The internal consistency of the items measuring the personal attitudes of employees and their perceptions about the organizational culture was computed using Cronbach’s alpha (see table 3-3). Although it is suggested that the minimum acceptable value of Cronbach’s alpha to be 0.7 (Nedjat, Montazeri, Holakouie, Mohammad, & Majdzadeh, 2008; Nunnally & Bernstein, 1994), the values between 0.6 and 0.7 have also been described as satisfactory, acceptable or sufficient (K. W. Cho et al., 2015; Taber, 2018; Ursachi, Horodnic, & Zait, 2015; Zalma, Safiah, Ajau, & Khairil Anuar, 2015). Table 3-3 shows the measured constructs, the number of questionnaire items relating to each construct and the reliability score (Cronbach’s alpha).
One of the main obstacles to validity is bias which is described as deviating from the truth or misrepresenting the correct value of something (Grimes & Schulz, 2002; Porra, Hirschheim, & Parks, 2014). The fact that the researcher and the participants worked for the same institution could cause bias and potentially influence the way the researcher conducts the research or interprets the findings (Jootun, McGhee, Campus, Lanarkshire, & Marland, 2009).

Although it is difficult to claim pure objectivity in which the investigator fully detaches him/herself from the process (Kerruish, 1995), it is important to clarify that the researcher did not know the majority of the participants in person. In addition, while the selection process was not random, it was fully transparent where all employees were sent an email inviting them to take part in the interview. When this invitation did not yield enough participants, the researcher targeted those employees that fitted into the target population (Grimes & Schulz, 2002). This was again achieved through an email which was sent to over 50 candidates of which 17 were interviewed. No special treatment was given to any participant in the sequence of interviewing or in any other manner.

Table 3-3 Internal consistency of questionnaire A items

<table>
<thead>
<tr>
<th>Construct</th>
<th>Number of Items</th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal attitudes</td>
<td>19</td>
<td>0.872</td>
</tr>
<tr>
<td>Organizational culture</td>
<td>11</td>
<td>0.704</td>
</tr>
</tbody>
</table>

The researcher kept their neutrality during the interviews by not sharing their views on the topics covered in the interview questions. Researcher neutrality is a technique that can be used to reduce bias in research (Appleton, 1995). The possibility of bias was also reduced by giving the participants full assurances on their anonymity and the confidentiality of the data they provide. They were also allowed to review the interview notes and some of the analysis to ensure that their views were fully recorded and understood by the researcher. Furthermore, participant codes were written on the interview notes rather than respondents’ real names to avoid identifying who made these responses during the analysis (Ibiyemi, Adnan, & Daud, 2016). Inviting other researchers to check the codes generated from the interviews was another method to minimize the possible bias in the analysis process (Noble & Smith, 2015).
3.10 Questionnaires

Given the large number of employees in the organization, using a questionnaire survey as a data collection method was thought to be relevant. Questionnaires are very effective when gathering information from a large number of respondents in a standardized and systematic way (Oates, 2005). The same set of questions/statements is sent to all respondents in the same order to ensure that all of them are treated equally and that their responses can be compared later (Burton, 2000). It may also be argued that to minimize the chances of misunderstanding, statements may be tailored for the individual respondent’s vocabulary or their level of knowledge (Brace, 2008). Questionnaires are mainly used in positivist research as it provides data that can be coded and presented numerically. However, it is also used in the interpretivist research (Oates, 2005). The fastest way to distribute the questionnaire was to use an online questionnaire where an email containing a link to the questionnaire was sent to all respondents. Google Docs was used to design, distribute, and partially analyse the results.

There are advantages and disadvantages associated with conducting online questionnaires including that the researcher can collect data from distant respondents without travelling there. The automation of data collection and presentation is another added value in online questionnaires. On the other side, there are some disadvantages relating to online questionnaires like the concerns surrounding the low response rates and problems that come with the technology used by the respondents (J. R. Evans & Mathur, 2005; McGuirk & O’Neill, 2016).

3.10.1 Questionnaire Design

The purpose of the questionnaire was to gauge employees’ personal attitudes towards knowledge sharing and organizational culture. Statements were inserted in a Google Form with a Likert scale anchored from 1 (strongly agree) to 5 (strongly disagree). Linear Likert scales are favoured by many researchers because they are simple to construct and offer a range of choices to the respondents instead of simple yes/no alternatives (McNabb, 2013; Monette, Sullivan, & Cornell, 1994).

The scale produces a homogeneous result which is easy to compare or measure. Nevertheless, Likert scales have some disadvantages including the respondents' bias (acquaintance bias where participants ‘please’ the researcher by agreeing with statements, central tendency bias where respondents avoid the margins of the scale, and social desirability bias in which respondents portray themselves as socially desirable instead of being honest). It is also difficult
to demonstrate that it measures what is said to be measuring (Bertram, 2007). However, this can be enhanced by observing the quality of the questionnaire design and its implementation. The degree of agreement or disagreement is not a clear-cut concept shared equally by all respondents. When two respondents choose the same item on the scale it is difficult to prove that they have the same meaning in their mind.

There was no standardized instrument used in researching the issues studied in this research. Therefore, the researcher purposefully designed all the questions in this questionnaire. The statements in the Likert scale were developed according to the research components stated earlier in section 2.8. Although it was not possible to find earlier research combining all the elements of this research, it was possible to find some scattered literature that measured knowledge sharing, social capital and organizational culture in different environments which could be used to guide the development of research questions and statements. This research, therefore, consulted earlier literature in designing its questionnaire. This questionnaire aimed to measure four of the five objectives of this research, while the fifth one will be an outcome of the analysis of the qualitative and quantitative data. Table 3-4 shows the items measured in questionnaire A. The suitability of the questionnaire design to the research objectives was also confirmed by two experienced researchers as stated earlier in section 3.8.

The clarity and the smooth flow of the questionnaire were taken into consideration during its design by dividing the statements into five categories: the first section explored the demographics of the respondents including their age groups, gender, educational level, etc. The second section focused on respondents’ personal attitudes towards knowledge sharing. The third section examined the sharing methods currently used in the institutions. While sections fourth and fifth explored the respondents’ attitudes towards general organizational and workplace environment respectively. The primary purpose of creating these sections was to ease the navigation of the online questionnaire. Besides, the questionnaire mixed between scrolling and paging navigation to accommodate the varying needs of participants and the types of devices used in the responses (Mavletova & Couper, 2014; Peytchev, Couper, McCabe, & Crawford, 2006).
Table 3-4 – Questionnaire A items.

<table>
<thead>
<tr>
<th>Measured items</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Welcoming environment</td>
<td>OC1</td>
</tr>
<tr>
<td>Perceived withholding of knowledge</td>
<td>OC2</td>
</tr>
<tr>
<td>Accommodating disagreeing views</td>
<td>OC3</td>
</tr>
<tr>
<td>Encouragement to share knowledge</td>
<td>OC4</td>
</tr>
<tr>
<td>Availability of time to share knowledge</td>
<td>OC5</td>
</tr>
<tr>
<td>Ease of Communication</td>
<td>OC6</td>
</tr>
<tr>
<td>Knowledge sharing and job description</td>
<td>OC7</td>
</tr>
<tr>
<td>Knowledge sharing and appraisals.</td>
<td>OC8</td>
</tr>
<tr>
<td>Socialization outside the workplace.</td>
<td>OC9</td>
</tr>
<tr>
<td>Clarity of knowledge sharing policies.</td>
<td>OC10</td>
</tr>
<tr>
<td>Consultation of employees</td>
<td>OC11</td>
</tr>
<tr>
<td>Recognition of individual achievements.</td>
<td>OC12</td>
</tr>
<tr>
<td>Valuing employees’ knowledge</td>
<td>OC13</td>
</tr>
<tr>
<td>Incentives to share knowledge</td>
<td>OC14</td>
</tr>
<tr>
<td>Expectation of rewards</td>
<td>OC15</td>
</tr>
<tr>
<td>Clarity of knowledge to capture</td>
<td>OC16</td>
</tr>
<tr>
<td>Recognizing knowledge as asset</td>
<td>OC17</td>
</tr>
<tr>
<td>Investing in KM systems</td>
<td>OC18</td>
</tr>
<tr>
<td>Utilization of knowledge</td>
<td>OC19</td>
</tr>
<tr>
<td>Happy to share knowledge</td>
<td>ATT1</td>
</tr>
<tr>
<td>Sharing with unknown others</td>
<td>ATT2</td>
</tr>
<tr>
<td>Asking others to share knowledge</td>
<td>ATT3</td>
</tr>
<tr>
<td>Learning from others in the organization</td>
<td>ATT4</td>
</tr>
<tr>
<td>Learning from seniors</td>
<td>ATT5</td>
</tr>
<tr>
<td>Sharing knowledge with new colleagues</td>
<td>ATT6</td>
</tr>
<tr>
<td>Knowledge as power</td>
<td>ATT7</td>
</tr>
<tr>
<td>Contribution to Knowledge sharing policies</td>
<td>ATT8</td>
</tr>
<tr>
<td>Knowledge withholding</td>
<td>ATT9</td>
</tr>
<tr>
<td>Attitudes and organizational policy</td>
<td>ATT10</td>
</tr>
<tr>
<td>Learning from manuals</td>
<td>ATT11</td>
</tr>
</tbody>
</table>

Keeping in mind that a plethora of devices was available for the respondents, both scrolling and paging navigation were used in the current questionnaire. The information in the questionnaire was separated into five pages. The first page contained a message from the researcher introducing the purpose of the questionnaire and at the same time ensuring the anonymity of participants and the confidentiality of the information they provide.

The telephone number and the email of the ethics committee at Brunel University were also provided on the first page to inform respondents where to contact if concerns arise in the content or in the manner the questionnaire was conducted. The second page included the demographics while the rest of the pages included the body of the statements. All pages, apart
from the first page, required scrolling. There was one question which required yes/no response and a textbox allowing the respondents to further explain their ‘yes’ choice. The demographic section used multiple-choice as it required participants to select only one item from the choices as shown on figure 3-1. This was followed by the questionnaire statements as shown on figure 3-2. The questionnaire statements were numbered sequentially and subtitles were inserted where necessary to ensure that respondents understood what they were about the answer.

Figure 3-1 Demographic Section

An approval was received for using the internal email system to distribute the questionnaire. The organization targeted by this research has a strict policy on data collection. The researcher
is required to complete a form ‘data collection form’ and submit this to his/her line manager. The form is then taken up to the next level of management until it reaches the highest office in the institution where the final approval is granted. The signed form is then attached to all online and print questionnaires.

It is, however, noteworthy to mention that when this research was submitted for approval, there was no official form to complete and the application had to be returned several times back to the researcher with suggestions coming from various levels of management. The last suggestion was to ask the researcher to design a form for data collection to be utilized later by all applicants. Therefore, one of the achievements of this researcher is that the form designed by the researcher was approved as the official data collection form currently used throughout the institution.

The respondents were sent a reminder three weeks after the initial distribution of the questionnaire but the response was still low. To raise the rate of responses, the researcher approached the management to help in getting responses and, as a consequence, another reminder was sent by the management and this raised the responses substantially. The significance of reminders in online questionnaires is also found by Kaplowitz, Hadlock, & Levine (2004) and Sauermann & Roach (2013). One of the problems with questionnaires is that it is difficult to ask follow-up questions regarding why respondents gave particular answers. Similarly, if the respondents misunderstood something it is impossible to provide clarifications to them.

3.10.2 Questionnaire analysis methods
The results of the questionnaire in this research were gathered on a Likert scale and it was, therefore, possible to present the scores on charts and percentages. Analysing data will enable the researcher to translate the data into intelligible information that can be interpreted and upon which conclusions can be built.

The total responses received were 168 or 42% of the total population. Baruch & Holtom (2008), who identifies 490 studies that utilized surveys, found that the average response rate for questionnaires sent to individuals was 35.7%. The slightly above average response rate in this research may be attributable to the fact that supporting emails were sent by managers of the two organizations to all employees to participate in the questionnaire. No incentives were offered to any of the participants to increase the responses for this survey. The only mechanism to encourage responses was the reminders mentioned above.
The questionnaire was divided into five categories; demographics, personal attitudes, sharing methods, organizational culture and the general work environment. Under each category, there were a set of statements probing faculty members’ attitudes towards that area. The categories were numbered from 1 to 5 and the statements within these categories carried indented numbers branching from the category number e.g. 1.2, 2.3, 4.5, etc.

The demographics category explored the gender, age, educational qualification, job title and the number of years in the current job. The reason for gathering such information is: firstly, although the questionnaire was sent to the employees of the organization, these data help the researcher to ensure that the respondents are within the target audience for this research; secondly, it helps the researcher to group and categorize the results during the analysis. Patterns may appear from the responses of one specific demographic group compared with another.

![Figure 3-4 Sample of Responses](image)

An advantage of online questionnaires is that they minimize the time taken to organize and analyse responses. Before questionnaire data can be analysed, it must be properly recorded, organized and labelled. This not only ensures data safety, but it allows the researcher to track the responses and easily categorize them (Brace, 2008). This questionnaire utilised a web survey tool that permitted statements to be grouped under logically related themes.

As soon as respondents completed the questionnaires, a summary of results was automatically displayed on a chart showing the number of responses on each statement and their distribution (as shown on figure 3-4). This is another advantage of using web questionnaires as the
summary dashboard significantly reduces the time taken in data analysis. In addition to the charts, the web tool also displayed the whole responses in an online spreadsheet table. The benefit of showing all responses in one table is that it immensely aids the researcher to focus and view the full data set in a single location while it is systematically arranged to answer the research question (Huberman & Miles, 1994).

This research employs summary descriptive analysis (counts and percentages) to report findings from the questionnaire data. Crosstabulation tables were also presented to check relationships between responses and/or demographic groups. To test associations between responses to questionnaire statements, the chi-square test for goodness of fit was used. However, the results of the analysis were not reported if they were not statistically significant (Jarosch, Slatyer, Elliott-Kemp, Todd, & Grealish, 2018).

This research also holds that respondents may interpret the middle category of the Likert scale differently. In the personal attitudes part of the questionnaire, respondents gave more answers in the Strongly Agree/Agree’ and ‘Strongly Disagree/disagree’ areas of the Likert scale. The average ‘neutral’ for all items was 18%. In contrast, in the organizational culture part, that average was 31%. This may show that they are unsure or have less knowledge in the general environment of the organization. In knowledge management research, it is very common for respondents to choose the middle response (neutral) and that leads many researchers to exclude the neutral responses from their analysis (Earl & Bordt, 2004).

Omitting the middle response from the design of the Likert scale restricts the respondents who may have a genuine ‘neutral’ opinion on that item (X. Chen, Yu, & Yu, 2015). In this case, respondents will be forced to select a different category and that distorts the data (Menold & Bogner, 2016). Respondents may choose the middle response for many reasons including that: they are less motivated to complete the survey (Masuda, Sakagami, Kawabata, Kijima, & Hoshino, 2017; Yusoff, 2015); it is socially desirable (Domingues, Borges, Ruviaro, Guidolin, & Carrijo, 2020); the answer choices are too broad (Gragnano, Miglioretti, Frings-Dresen, & de Boer, 2017); they have no well-informed opinion (Tijmstra, Bolsinova, & Jeon, 2018). Respondents in collectivist cultures also may tend to choose the middle response for conformity (Bu & Park, 2016; Shulruf, Hattie, & Dixon, 2011). If the interpretation of the neutral response requires the researcher to give it a meaning, then that meaning should be the one intended by the respondents and that is difficult in this situation.
The strict organizational hierarchy in the two institutions targeted in this research does not allow effective knowledge flow in the organization and some of the information necessary for the completion of the questionnaire may not have been widely disseminated. This does not only make some employees less informed, but it also creates uncertainty about how to respond to questionnaires requesting information about the institution (Dundon & Ryan, 2010). Another important point is that to increase the responses, the researcher asked the heads of the two institutions to forward this questionnaire to employees. This did not affect the confidentiality of the responses in any way. Nevertheless, as often happens in the Middle Eastern organizations, some employees may not want to disagree with their managers or to say something that does not conform with ‘norms’ of the institution (Arif, Mohammed, & Gupta, 2015; Warner & Moonesar, 2019). For the above reasons, the respondents may have interpreted the neutral category into many possible meanings and responded accordingly. It would be very difficult to assign any useful meaning to the neutral category.

Therefore, this research does not include the middle responses in the analysis of the responses (Al-Hussain & Al-Marzooq, 2016; Z. Hussain, Wallace, & Cornelius, 2007; Kour, El-Den, & Sriratanaviriyakul, 2019; Larson, 2018; McKendrick, 2003; Murphy, Scyphers, & Grabowski, 2018; Solis & Durband, 2015). The research will combine the ‘strongly agree’ and ‘agree’ categories into agreement and ‘strongly disagree’ and ‘disagree’ categories as disagreement. The strategies to adopt in the analysis, when the labels used in the Likert scale are ambiguous and may not have the same meaning for the researcher and the respondents, include treating the neutral category as missing and collapsing the adjacent categories as agreement and disagreement (Murray, Booth, & Molenaar, 2016; E. V. Smith, Wakely, De Kruif, & Swartz, 2003). While ignoring the neutral responses, in this research context, has its own limitations of reducing the overall number of cases that can be analysed, it also increases the validity of the remaining cases as the interpretations will be more reliable. Removing questionnaire responses that may reduce the quality of the data does not change the substantive results (Greszki, Meyer, & Schoen, 2015).

### 3.11 Interviews

The second data gathering method used in this research is an interview study. Interviews are a planned, structured conversation between a researcher and a participant(s). In general, this method may be used in both qualitative and quantitative types of research and it is useful when
the interviewer wants to gather data about the background, experience and attitudes of the interviewees or when searching for sensitive information (Oates, 2005).

Interviews can be divided based on their structuredness where the extremes are the structured, which is pre-planned and less flexible, and unstructured where the interviewer may deviate from the pre-set plan (Britten, 1995; Gill, Stewart, Treasure, & Chadwick, 2008; Oates, 2005). However, Edwards & Holland (2013), Cohen et al. (2013) and Brinkmann (2014) maintain that qualitative interviews tend to move away from the structured form into unstructured interviews with an open ended type of questions where participants are allowed to project their own ways of explaining their world. Restricting the conversation with participants by limiting the words used in questions and the sequence they are presented my not suit with the qualitative approach which endorses openness in knowledge creation (Rosalind Edwards & Holland, 2013). Interviews are used as vehicles for knowledge construction as the interviewer analyses and interprets the results provided by interviewees to reach conclusions.

The purpose of the interview was to investigate the views of managers regarding knowledge sharing and organizational culture. Although attitudes of all staff members, including managers, were surveyed in the questionnaire, managers are the decision makers and are therefore a principal factor in any knowledge sharing initiative. Moreover, it is found that there is a link between the culture in the organization and attitudes of managers (Tangaraja, Mohd Rasdi, et al., 2015; S. Wang & Noe, 2010). In the organizations targeted in this research, the information does not properly flow through managerial levels and across departments. However, managers often attend meetings where the policies are discussed and are therefore in a better position to provide information relating to how the organization operates its business.

The interviewees were selected based on their job titles. There was a statement at the bottom of the questionnaire that asked respondents to provide their contact details if they were willing to be interviewed for this research. A further email was sent to those who provided their details asking if they held any managerial positions. This produced only 4 participants that qualified for the purpose of the interview. As the two data collection methods were not designed to be sequential, the researcher started to directly approach managers of both colleges to find enough sample for the interview. The targeted managers were in a position to comment on the knowledge sharing activities of the teams they manage and how it is related to the culture within the team or with the general organizational culture. Table 3-5 shows the targeted participants, their job titles and their responsibilities.
Although the participants were interviewed under their current job titles, many of them held various managerial positions during their time as employees of this organization. This gave them a broad background knowledge to bring to the interview as they see events from different perspectives.

Table 3-5- Profiles of the managers (interviewees)

<table>
<thead>
<tr>
<th>ID</th>
<th>Job Title</th>
<th>Gender</th>
<th>Institution</th>
<th>Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>CH1</td>
<td>Chairperson</td>
<td>Male</td>
<td>JIC</td>
<td>Chairs department meetings, assigns tasks to staff members, monitors teaching/learning activities, resolves conflicts, sets staff development targets.</td>
</tr>
<tr>
<td>CH2</td>
<td>Chairperson</td>
<td>Male</td>
<td>JUC</td>
<td></td>
</tr>
<tr>
<td>CH3</td>
<td>Chairperson</td>
<td>Female</td>
<td>JUC</td>
<td></td>
</tr>
<tr>
<td>CH4</td>
<td>Chairperson</td>
<td>Male</td>
<td>JIC</td>
<td></td>
</tr>
<tr>
<td>CH5</td>
<td>Chairperson</td>
<td>Male</td>
<td>JUC</td>
<td></td>
</tr>
<tr>
<td>CRD1</td>
<td>Course Director</td>
<td>Female</td>
<td>JUC</td>
<td>Sets and reviews course descriptions, ensures that courses are delivered according to the course description, writes course reports. Reviews the course material.</td>
</tr>
<tr>
<td>CRD2</td>
<td>Course Director</td>
<td>Female</td>
<td>JUC</td>
<td></td>
</tr>
<tr>
<td>CRD3</td>
<td>Course Director</td>
<td>Male</td>
<td>JUC</td>
<td></td>
</tr>
<tr>
<td>CRD4</td>
<td>Course Director</td>
<td>Male</td>
<td>JIC</td>
<td></td>
</tr>
<tr>
<td>CRD5</td>
<td>Course Director</td>
<td>Male</td>
<td>JIC</td>
<td></td>
</tr>
<tr>
<td>CRD6</td>
<td>Course Director</td>
<td>Male</td>
<td>JUC</td>
<td></td>
</tr>
<tr>
<td>CRD7</td>
<td>Course Director</td>
<td>Female</td>
<td>JUC</td>
<td></td>
</tr>
<tr>
<td>CRD8</td>
<td>Course Director</td>
<td>Male</td>
<td>JIC</td>
<td></td>
</tr>
<tr>
<td>CHQC1</td>
<td>Chairperson of Quality Committee</td>
<td>Male</td>
<td>JUC</td>
<td>Chairs committee meetings, sets policies and procedures for all college activities, ensures all programs and courses meet the criteria set by accreditation bodies, seeks accreditation for programs, ensures all activities comply with internal policies and procedures and reminds staff about the quality cycle deadlines.</td>
</tr>
<tr>
<td>PRD1</td>
<td>Program Director</td>
<td>Male</td>
<td>JUC</td>
<td>Designs and reviews degree-plans, writes annual program reports.</td>
</tr>
<tr>
<td>PRD2</td>
<td>Program Director</td>
<td>Female</td>
<td>JUC</td>
<td></td>
</tr>
<tr>
<td>PRD3</td>
<td>Program Director</td>
<td>Male</td>
<td>JIC</td>
<td></td>
</tr>
</tbody>
</table>

3.11.1 The interview structure
The interview contained 12 questions propping the social capital in the organization and how it relates to organizational culture and the knowledge sharing activities in the institution. Because the respondents were interviewed during their working hours, the time allocated for the interview was about an hour for each respondent. This was not easy to achieve as often
happens when subjects are interviewed during their working hours. The pressure endured by these employees may not allow the researcher to get the information required (Walsham, 2006).

However, the estimated time taken ranged from 30 minutes to about 70 minutes. Although all participants were given enough time to respond, some of them chose not to answer some questions. In addition to this, there were occasions where the flow of the interview was interrupted and that affected the time planned for the interview. The majority of these interruptions were coming from people visiting the interviewee. However, there were times where the researcher required to change the topic to ease the tension and continue the interview in a comfortable environment.

The majority of the questions in the interview were open-ended to allow interviewees to give the fullest possible answer to the questions. There were few questions that were worded in a manner that required a simple yes/no response but they were often supported with follow-up questions if further clarification was needed. It was important to gain the confidence and the full consent of the interviewees before the interview started. The researcher, therefore, gave them the necessary information about the research and the reasons behind the interview. In addition to this, the interviewees received full assurances regarding their privacy and the confidentiality of their contributions.

The advantages of interviews as a data collection method include its adaptability where the interviewer can provide further explanation on the pre-set questions to correct any misunderstandings. The interviewer can also ask extra follow-up questions if the responses were short, unclear or open up new areas that demand further questioning.

On the other hand, a disadvantage of interviews is that they are time-consuming as they need setting appointments that suit both parties. In organizations where staff members are extremely busy and have responsibilities that span across different committees, finding a suitable time is often difficult. Almost half of the interviewees demanded to reschedule their appointments at least once. The majority of respondents chose to be interviewed in their offices during working hours and that, obviously, involved interruptions coming from ringing telephones, students and other members of staff knocking the door.

Edwards & Holland (2013) postulate that qualitative interviews can take various forms all of them allowing the interviewee to tell their narrative uninterrupted. However, they also propose the possibility of the researcher not standing apart but taking part in the discussion by sharing
their own narrative especially when the interview is about a narrative shared by both sides. In this type of interview, the researcher is aiming to encourage the interviewee to discuss their narrative. The researcher and the participant are seen as co-producers of the narrative in such a situation. In the current research, although the interviewees and the researcher shared the same narrative as they worked in the same organization the researcher decided to avoid interrupting the flow of the interview by not sharing anything other than questions or necessary clarifications. This was mainly to make use of the time available for the interview.

3.11.2 Conducting the interviews

After shortlisting the participants of the interview, an appointment schedule was created for the interview. The most critical factor in setting an appointment was to ensure that participants were available and comfortable. A brief background introduction was given to each interviewee at the start of the interview about the nature of the interviewee and their right refuse to take part in the interview, end the interview whenever they feel so and their right to skip any question they feel they should not answer. A form containing the above was also given to them to sign. Questions were then asked sequentially unless an answer to a question led to a related question from the list.

The depth of the answer given by respondents varied significantly as some of them were quite guarded and kept their words to the very minimum even when the researcher paraphrased the question or asked further clarifications. There were a number of occasions that some respondents showed signs of evading to answer some questions for no obvious reasons. Although full confidentiality was promised and their right to end the interview at any time or choose not to answer any of the questions were clearly pronounced at the beginning of the interview, there were instances where participants simply showed reluctance in completing answers. The uncertainty or unpredictability in the organizational decision-making may cause some employees to be guarded with their words. For instance, Bjerke and Al-Meer (1993) argue that, in Saudi organizations, decisions pertaining to employee appraisals are made subjectively and that may cause some uncertainty of what effects their answers could have on their appraisals.

Another reason could be the lack of clarity of organizational policies and procedures on ‘what can be said, and/or who can say it’. Researchers found high secrecy, uncertainty in the decision-making process and lack clarity to be common in Saudi Arabian organizations (Alfaadel, Alawairdhi, & Al-Zyoud, 2012; M. F. Alharbi, 2018; Franklin & Aguenza, 2016). The two
institutions have written and disseminated policies and procedures and some of these are publicly available on institutional websites. However, the majority of the interview questions related to the actual practices or how these policies are implemented. The lack of clarity and uncertainty here does not mean that respondents did not know the answers to the questions, it is probably more of the consequences of their answers. Al-Adaileh and Al-Atawi (2011) uphold that, because of the high uncertainty avoidance in Saudi Arabia, employees often feel threatened by unknown situations. With that said, the depth and the variety of the responses provided by the interviewees gave enough answers to the questions.

The perceived identity of the interviewer plays a role in the way people respond to questions (Oates, 2005). The interviewees may feel that the interviewer is finding faults or exploiting their weaknesses. As a consequence, they may not open up and become cautious with their responses (L Cohen et al., 2018). Not only this, but the interviewees were holding medium to senior positions and people with power often maintain and represent certain organizational policies and may not open up or provide useful answers (Welch, Marschan-Piekkari, Penttinen, & Tahvanainen, 2002). The researcher has to deconstruct any negative perceptions that may influence the purpose of the interview by ensuring that s/he appears professional, assure the safety and confidence of respondents and present themselves as they want to be seen during the interview.

If the researcher feels that the mood of the interviewee is not normal at the beginning of the interview s/he may continue talking until they feel that the situation is permissible for a proper interview to continue (Walsham, 2006). Similarly, Dundon & Ryan (2010) suggest a number of tactical solutions to persuade reluctant interviewees and gain their cooperation. These include giving subtle support indicators like smiles and nods, emphasizing the potential benefits of the research to the respondent and engaging in more detailed follow-up questions.

For the current research, advance information was given to interviewees about the identity of the interviewer, the purpose of the interview and how the information is used after the interview. In addition to this, the researcher assured the participants during the interview about all the concerns they may have. The body language of some interviewees suggested some reservations and it was important to unfreeze the situation before the questions were put forward to them. The researcher often took the discussion away from the interview topic until the participants got more relaxed and comfortable.
It was then possible to bring them back to the topic and continue the interview. This technique was used for a number of respondents and although it allowed the researcher to collect enough information, it unnecessarily prolonged the duration of the interviews. In parallel to this, as the researcher was known to some of the interviewees as a colleague, it was also important to create an environment where participants were able to express their opinions as naturally as possible. The above-mentioned assurances paved the way for such an environment while the researcher made more clarifications during the interview.

3.11.3 Recording the interview

Various ways of recording interviews are available for researchers including tape recording, taking notes during the interview and taking notes after the interview (Britten, 1995). Tape recording has the benefit of capturing the authentic and exact record of the interview as it has taken place. In addition, it is possible to refer back for the recording anytime for corrections and it frees the researcher’s time to focus on the interview rather than on taking notes (Walsham, 2006). On the other hand, a simple malfunction of the recording device may cause all the interview to be lost. The interviewer may not regularly check if the recording is taking place as s/he is busy listening and talking to the interviewee (Opdenakker, 2006). While the tape recording takes the true conversation, some researchers argue that it misses an important element in communication which is the non-verbal elements of the interview (Walsham, 2006). Transcribing the tape is also difficult and time-consuming.

Note-taking during the interview allows the researcher to automatically log important statements made by the interviewee in relation to the question in the discussion. A drawback is the limit of words a researcher can write/type in a short period of time. Open-ended questions allow the participant to expand their descriptions of the phenomena being discussed and it may be quite difficult to write down every word said by the participant correctly while staying attentive to comprehend the answer as some answers may lead to further questions.

Taking notes after the interview may free the researcher’s time during the interview but the memory of the researcher may not be fully reliable to keep the precise discussion and answers. Longer interviews with open-ended questions may not suit this type of note-taking.

In the current research, the participants that were approached at the beginning of the research rejected their voices being recorded. It is possible that some employees may not feel comfortable when their voices are recorded during interviews (Hughes, 2016). The presence of a recording device plays an active role in the interview and it may influence how respondents
answer questions (Rapley, 2004). If the participants feel discomfort when their voices were recorded, then an alternative solution is to take notes during the interview and later confirm with the participants that the notes are an accurate reflection of their responses (Gauche, de Beer, & Brink, 2017).

Therefore, the researcher decided to take notes during the interview and then expand them with any missed information immediately after the interviews (Creswell & Creswell, 2018; Oates, 2005). The same method of note-taking was also employed for the remaining respondents. The depth of answer given by respondents varied significantly as some of them were quite guarded and kept their words to the very minimum, in some questions, even when the researcher paraphrased the question or asked further clarifications.

3.11.4 Analysing the interviews

It is often thought that the advantages and disadvantages of qualitative and quantitative methods exist in the data collection phase of the research. However, it also important to note that data analysis and interpretation requires similar attention (Talja, 1999). Analysing and interpreting interview data which may include extremely varying and subjective opinions cannot be treated as the orderly quantitative data. In general, the process of analysing qualitative data can be summarized into four steps; coding the data or searching for phrases or words that have the same meaning or point towards the same argument; grouping the similar codes under a common category; searching an emerging pattern within each category and then checking whether this can lead to a particular theme (J.-H. Kim, 2016).

While qualitative research includes a plethora of methods, some Information Systems researchers often employ meticulous coding schemes and provide a detailed description of how they conducted their analysis. Nevertheless, such practice may distract the researcher from focusing on the development of empirical findings and the contribution of new knowledge or theory (Conboy, Fitzgerald, & Mathiassen, 2012). Below is a brief description of some of the methods and theories used in analysing and interpreting qualitative data.

a. Grounded theory

In grounded theory, the researcher does not set a particular hypothesis to prove or disprove. Instead, the hypotheses are extracted from the data itself. The researcher then makes further examinations to ascertain the adequacy of that hypothesis. The purpose of the grounded theory is not to test a theory but it rather constructs a theory from the acquired data (Fletcher, 2015).
This emergent theory explains the phenomenon under investigation or the situation of the studied participants (J. Mills, Bonner, & Francis, 2006).

A strength of the grounded theory is that it allows the researcher to look at the researched phenomena from a neutral viewpoint without any preconceived belief (Hense & McFerran, 2106). Not only this, but the researcher will be in a position to systematically analyse the data by reading between the lines and trying to make sense of all that is said by respondents (Hussein & Hirst, 2014). On the other hand, a weakness of the grounded theory is that it is painstaking to do a thorough coding of the data especially when the number of respondents increases. There will often be similarities between coded views and some categories may seem to overlap which also complicates the process of analysing the data. The theory is also not suitable for studies that assume a pre-existing theoretical framework (Braun & Clarke, 2006).

b. Content Analysis

The qualitative content analysis helps the researcher discover the meanings conveyed by the textual data (Hsieh & Shannon, 2005). A key difference between content analysis and grounded theory is that content analysis is flexible in its use of deductive or inductive approach to data analysis while the grounded theory is inductive (J. Y. Cho & Lee, 2014). The data analysis process in content analysis is dictated by the researcher’s choice of whether to take an inductive or deductive approach. While the inductive route has no preconceived theory, the deductive approach builds its categories based on a prior theory.

One of the main advantages of content analysis is that it provides the researcher with a clear procedure for inspecting the quality of the analysis undertaken. However, it may be argued that researchers of content analysis may detach meanings from the contexts that yielded the data under study. For instance, the repetition of one word may occur more in the talk of one person or a group for a myriad of reasons (Marks & Yardley, 2011; Stemler, 2001). The frequency of these words in the talk of that person or group does not necessarily show that they all hold the same view of that specific term or phrase. This is more obvious in an organization where employees have different opinions on the definition of some terms like ‘knowledge sharing’.

c. Thematic Analysis

Thematic analysis is defined as “a method for identifying, analysing, and reporting patterns (themes) within data. It minimally organizes and describes your data set in (rich) detail” (Braun and Clarke, 2006:6). The Thematic Analysis is very flexible and, like the content analysis, it
can accommodate inductive, deductive or mixed approaches of research (Javadi & Zarea, 2016). Moreover, thematic analysis is not bound by a particular epistemological or theoretical approach. On the contrary, this type of analysis can be applied across multiple theoretical and epistemological approaches (Boyatzis, 1998; Joffe, 2012).

The process of the thematic analysis follows certain steps which include: becoming familiar with the collected data, generating codes, categorizing the codes into themes, reviewing or validating the themes, defining and naming the themes, and reporting and discussing the results (Braun & Clarke, 2006). However, these steps are not necessarily sequential as some of them can be merged or done in time (Labra, Castro, Wright, & Chamblas, 2019). This research utilized a simple semantic thematic analysis (Braun & Clarke, 2006), to categorize and analyse the interview responses. Statements recurring in the responses were grouped together to extract meanings conveyed by respondents. The original ideas expressed by respondents were used in this research instead of the implicit meanings usually discovered in the in-depth thematic analysis (Vaismoradi, Turunen, & Bondas, 2013).

The analysis started by firstly reading the interview notes several times to understand the responses and see their relevance to the research topic. During the later phases of the reading, the researcher started to mark the notes and label the similar parts of the text with codes. The names of these descriptive codes were taken directly from the statements provided by the participants. The researcher’s interpretation of the testimonies also played its part in the coding process (Labra et al., 2019; Terry, Clarke, & Braun, 2017). The codes represented the unique or recurring concepts stated in the data. Respondents’ agreements or disagreements to these concepts were later discussed in the analysis. In the second step, the researcher undertook several reviews to ensure that all relevant information is properly coded. Two experienced independent researchers were then asked to peer review the code generation process which resulted in creating one more code and merging two others. The review done by the independent researchers also brought trustworthiness to the coding process (Braun, Clarke, & Terry, 2014; Labra et al., 2019).

Because the interview questions were mapped against the research question and the theory of social capital, the third step was to group the codes under a set of predefined themes (5 in total) in reference to the objectives and the underpinning theory using the deductive approach of thematic analysis (Cassell, Buehring, Symon, Johnson, & Bishop, 2005; Gauffin & Öster, 2019; Guest & McLellan, 2003; Mazza, Chapman, & Michie, 2013; Ureta, 2007). The fourth
step was to review the themes to check if they correctly represented the data and whether there was coherence between the themes and their associated codes. During this step, all the data were read again and this provided a further opportunity to discover any missed information that has not been included in the previous coding.

Two subthemes were identified under two of the five themes and the three remaining themes had no subthemes. The limited subthemes may have resulted from how the predefined themes and the interview questions were tightly related and that made the majority of answers conform to the main themes (Thompson, Vowles, Sowden, Ashworth, & Levell, 2018). A further step was to define the themes and determine what codes can be included or excluded in each theme. The integrity and uniqueness of each theme were checked and its relation to other themes was determined. A majority of the information relating to the definitions were taken from chapter 2 (section 2.3.3) where the theory underpinning the research was discussed. A sample code generation is shown in appendix 7.

As a result of the above process, two subthemes and twenty-one codes were identified under the predefined five themes. Table 3-6 shows the themes, the subthemes, the codes and some sample extracts from the data.

Table 3-6 Themes and Codes

<table>
<thead>
<tr>
<th>Themes (subthemes in red)</th>
<th>Data extract (sample)</th>
<th>Respondent (frequency)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Trust</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Welcoming environment</td>
<td>“…we fully welcome everyone into the department”</td>
<td>11</td>
</tr>
<tr>
<td>Inter-departmental bonds</td>
<td>“…in the department, we are open to each other…”</td>
<td>13</td>
</tr>
<tr>
<td>Intra-departmental bonds</td>
<td>“…this is in addition to proctoring examinations where all college staff come together in the exam hall and see each other or sometimes communicate.”</td>
<td>10</td>
</tr>
<tr>
<td>Limited interaction</td>
<td>“…that is the closest we get to interacting with other departments”</td>
<td>14</td>
</tr>
<tr>
<td><strong>Participation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consultation during meetings</td>
<td>“…during meetings all of us discuss matters that are related to our work.”</td>
<td>13</td>
</tr>
<tr>
<td>Accommodating different opinions</td>
<td>“Opinions are often seen as criticism and therefore staff members are reluctant to say anything.”</td>
<td>5</td>
</tr>
<tr>
<td>Inclusive policy making</td>
<td>“Procedures, forms and work instructions are developed in complete consultation with staff.”</td>
<td>15</td>
</tr>
<tr>
<td>Anonymous feedback</td>
<td>“We have suggestion boxes, anonymous surveys that are dropped in the boxes”</td>
<td>4</td>
</tr>
<tr>
<td><strong>Socialization</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limited socialization</td>
<td>“…we only have some occasional events.”</td>
<td>14</td>
</tr>
</tbody>
</table>
Encouragement to socialize: “That [encouragement] is very hard. Well, we only have some occasional events.”

Workload as a barrier to socialization: “We work 8 hours a day five days a week and it is extremely difficult to organize meetings outside work.”

Socialization Mediums

Socialization through social media: “Yes, we have WhatsApp groups and I receive many messages even late at night.”

Unplanned get-together events: “Some departments may also arrange their own events.”

Socialization at work: “In our department, this happens every day in our office…”

Rewards

Rewards tied to performance: “The annual evaluation is based on how that member of staff performed during that year.”

Clarity of appraisal policy: “reasons for promotion are not necessarily pronounced.”

Knowledge Sharing

Existence of KS policy: “The answer is no.”

Formality of KS: “…without any formal procedures… they are doing fine. They teach, take assessments and follow procedures as anyone else”

KS Mechanisms

Sharing knowledge through department drives: “…still people share knowledge through shared drives”

Informal training: “I can’t remember any formal induction given to new staff members.”

Sharing knowledge in meetings: “…meetings…”

3.12 Ethics

Protecting personal privacy and confidentiality are of major concern for information systems researchers (Remenyi, Swan, & Assem, 2010; Walsham, 2006). Moreover, when collecting data from employees, acquiring research approval from their organization is also essential (Dundon & Ryan, 2010; Kirby, Greaves, & Reid, 2006). A number of hurdles had to be overcome before a data collection approval was acquired from the institution as there was no written procedure for requesting data collection. After a number of email communications with the management, the researcher was asked to create a template for data collection request from the institution. This was not an easy task as there was no prior template to use as a benchmark for the design of the new form.

However, after several trials, a template was accepted and approved as the standard data collection request form for the institution. The organization is hierarchical and there were three levels of management that needed to comment on each draft of the template. Finally, the researcher used the request form to provide background information about the research.
including, its title, abstract and the collaborating university. The questionnaire and the ethical approval from Brunel were also attached. After receiving acceptance from the Managing Director of the organization, the questionnaire was distributed among the staff.

As the majority of the data were collected online, all endeavours were made to ensure that the statements and questions were clear to participants. The purpose of these clarifications was to ensure that respondents fully understood the statements in the questionnaire. Fossheim et al. (2015) posit that researchers need to be extra cautious when conducting research online as it is not possible to directly observe participants’ reactions or how the research affects their behaviours.

As required by the research institution, an application was made to the university (where the researcher was registered as a student) ethics committee and their approval was secured. In addition to this, the researcher gave an informed consent form to participants. The form included information about the purpose and duration of the interview, it also informed the participants about their rights including the right voluntarily decline or participate in the research without any negative consequences.

Informing participants about the nature of the research, what it involves and their role is also important (Oates, 2005). Not only that, but the way information is provided to participants is equally important because participants can only give their consent when they understand the questions and statements contained in the research. And to this end, the researcher or the ‘principal investigator’, as in the form, explained to participants that their responses will be fully confidential and that they were only to be used for the sole purpose of the research. The form also informed the participants that their names will not be linked to any report produced by the research.

3.13 Research Overview

As outlined in this chapter, this research utilizes quantitative and qualitative methods to seek answers to its research question and achieve its objectives. It employs two questionnaires (A and B) and a set of interviews to collect data and validate a proposed knowledge sharing model. The statements in questionnaire A were organized under two major categories: the organizational culture and personal attitudes. This was done for implementation purpose as mentioned in section 2.7.
The interview questions were also themed under five predefined categories: trust, participation, socialization, rewards and knowledge sharing. These categories were discussed in the literature review under the concepts of social capital, culture and knowledge sharing.

The purpose of questionnaire B was to validate a model proposed from the results of the data analysis combined with the findings from the literature review. Table 3-7 shows the connections between the research question, the research methods and instruments employed for data collection and model validation in this research.

<table>
<thead>
<tr>
<th>Research Question</th>
<th>Purpose</th>
<th>Data Collection</th>
<th>Validation</th>
</tr>
</thead>
<tbody>
<tr>
<td>What effects do employee attitudes and organizational culture have on knowledge sharing in higher education institutions in Saudi Arabia?</td>
<td>Collect data about the organizational culture</td>
<td>OC1, OC2, OC3, OC4, OC5, OC6, OC7, OC8, OC9, OC10, OC11, OC12, OC13, OC14, OC15, C16, OC17, OC18, OC19</td>
<td>(Questionnaire A)</td>
</tr>
<tr>
<td></td>
<td>Collect data about personal attitudes</td>
<td>ATT1, ATT2, ATT3, ATT4, ATT5, ATT6, ATT7, ATT8, ATT9, ATT10, ATT11,</td>
<td>(Interviews)</td>
</tr>
<tr>
<td></td>
<td>Collect data about organizational policies and practices</td>
<td>TR1, TR2, PR2, PR1, SC1 KS4, KS3, KS1, KS2 RW1, SC2</td>
<td>(Questionnaire B)</td>
</tr>
<tr>
<td></td>
<td>Propose of a workable model of knowledge sharing for Saudi HEIs</td>
<td>(The model will be an outcome of the literature review and the result analysis of the quantitative and qualitative data).</td>
<td>MV1, MV2, MV3, MV4, MV5</td>
</tr>
</tbody>
</table>

ATT = Attitude, OC = Organizational Culture, MV = Model Validation, SC = Socialization, TR = Trust, PR = Participation, KS = Knowledge Sharing.
3.14 Chapter Summary
This chapter gave a broad introduction to research paradigms and how they differ in their views of reality and their approaches to investigating that reality. The quantitative and qualitative methodologies and how they are employed in information systems were also discussed. The chapter emphasised the complexity of the issues under study in this research and their demand for different methods that can allow the researcher to collect, analyse and interpret the data in a more comprehensive way. The role of the mixed methods methodology was therefore introduced and justified. The research uses qualitative and quantitative data collection and analysis methods and then combines the results to get a more comprehensive picture of the research problem and to propose a knowledge sharing model that can be used in the institutions targeted by this research.

The sampling methods for the two questionnaires and the interviews were discussed along with the pilot studies undertaken and how their results improved the instruments. The chapter also outlines how this research ensured the issues of validity and reliability. In addition, it provides details of the data collection methods including the justification for their selection, their design and how they were implemented. The interview analysis methods that were available and why the thematic analysis was chosen was also explained. The chapter also gives a brief description of the ethical considerations that were made during this research.

The issues addressed in this research: social capital, organizational culture and knowledge sharing, are very complex and multidisciplinary in nature and that further complicates the investigation. Getting a comprehensive research design that can accommodate all of these issues and allow clean data collection and analysis was very demanding. Using the existing literature in mixed methods in areas close to the areas of this research, and allowing experts to advise on methods used, reduced the impact of these limitations. The following chapter presents the findings of questionnaire A.
Chapter 4: Findings and Analysis of Questionnaire A Responses
The previous chapter described the methodologies used to conduct this research. It highlighted the sampling, data gathering techniques, research philosophies and the ethical considerations observed throughout the research.

Having carried out that research, this chapter analyses and discusses the results of questionnaire A. It highlights groupings of the statements in the questionnaire that were designed to explore the major themes of this research. The chapter then explores the details of the findings and how they relate to the general themes of the research. The statements were divided into two main categories: the personal attitudes of employees; and the organizational culture and environment.

The Colleges and Institutes Sector of the Royal Commission for Jubail and Yanbu currently manages three affiliate organizations; Jubail University College (JUC), Jubail Industrial College (JIC) and Jubail Technical Institute (JTI). The first two affiliates provide degree-level education while the last offers vocational diplomas and certificates. The questionnaire targeted the employees of JUC and JIC only.

In the following sections, the data collected through the questionnaire will be presented and analysed.

4.1 Demographics

4.1.1 Gender

It is difficult to get the exact number of employees who received the questionnaire. This is because this questionnaire was open for responses for four months during which new employees were joining the organization while others were leaving. However, the approximate overall targeted sample population was 300 males and 80 females, based on the organizational employment records. Responses were received from 168 of which 11% (n= 18) were female and 89% (n = 146) were male. These two figures were only reached after several emails reminding the respondents to complete the questionnaire. One of the institutions, JIC, employs all-male staff while JUC has male and female employees in two separate campuses.

The male and female employees do not meet physically but do have regular video conferences to discuss matters relating to shared programs. Although these conferences may enable employees to share some knowledge, not all programs are offered on both campuses. For example, the female campus offers a program in Interior Design for their female students while
The male branch offers a Mechanical Engineering program for the male students only. Staff members working in these programs have little communication with the other campus. As such, knowledge created in different campuses may not flow across the institution. This gendered segregation may diminish the ability of new staff members to acquire the academic and administrative knowledge they need for their positions (Almujally & Joy, 2019). Close contacts between employees is seen as essential in transferring tacit knowledge and the formation of the structural dimension of social capital (Filieri et al., 2014; Sheerin, Hughes, & Garavan, 2020). A further problem that can be caused by the physical segregation is that it does not support the formation of trust as this requires prolonged socialization between the parties (Filieri et al., 2014; Fine, 2010).

Comparing the attitudes of the male and female employees would have given a better picture into the impact of gender on knowledge sharing in this research context. However, the low number of female participants weakens any attempt at comparison between male and female employees. There were very few statements in which male and female respondents have shown a major difference in opinions. Reporting such difference is not to show any significance, instead, it is only to descriptively present the data as received. As a result, this research assumes employees as a single genderless group due to the above imbalance.

4.1.2 Age groups
The second demographic factor probed by the questionnaire was the age of the respondents. The purpose of this was to see how different age groups perceive knowledge sharing in organizations. Personal attitudes may be affected by the respondents’ age (Musick & Wilson, 2003). In the Arabian gulf organizations, employees of different age groups were found to significantly differ in the way they perceive knowledge sharing (L. Marouf, 2015). Age groups also vary in some other attitudes that may impact on their knowledge sharing behaviour. For instance, Oshagbemi (2000) found that academic employees who were younger than 35 years were more satisfied with their teaching duties than over 55’s.

The lowest score of the 163 responses received for this item was 8.6% (n=14) for the respondents aged between 20 and 30, while the highest, 39.9% (n=65) was for the 40-50-year olds. Figure 4-1 below shows the age distribution of respondents.
4.1.3 Educational Level

The third factor in this category was the educational level of respondents. As the research is done in an academic institution offering graduate studies, it was obvious that a majority of the respondents would have a postgraduate or graduate qualification. Nevertheless, there are some administrative staff who may not have had the chance to go to university and, therefore, college diploma and high school certificate were also added to the scale. This classification is based on the argument held by some scholars, that the level of education affects personal attitudes towards knowledge sharing and knowledge seeking (Edú-Valsania, Moriano, & Molero, 2016; Le & Lei, 2017).

At the time of data collection, there was no properly disseminated academic ranking policy in the institutions and all employees were vaguely categorized as Instructor, Lecturer or a Senior Lecturer. The academic ranking was therefore not included in the demographics. Seventy percent (n=114) of the staff reported that they had postgraduate qualifications, 24.5% (n=40) graduate and 5.5% (n=9) college diplomas. None of the respondents reported having a high school certificate as their highest qualification. This shows that the two institutions have a majority of employees with postgraduate education. Employees with higher levels of knowledge are more positioned to absorb and share knowledge (MacCurtain, Flood, Ramamooorthy, West, & Dawson, 2010). It is also important to note that knowledge sharing can only be effective when the two sides are on the same cognitive platform or have a shared knowledge space (M. Alavi & Leidner, 2001; Mäkelä, 2007; Walsham, 2001). Employees of the same demographic characteristics often find it easy to communicate with each other (Endo, 2017). That communication further strengthens the formation of the cognitive social capital which denotes shared language and understanding. Therefore, a proactive organizational policy
may be needed to ensure that differences in educational levels do not become a barrier to knowledge sharing (Huysman, 2004).

Table 4.1 - Age Groups and Educational Level Crosstabulation

<table>
<thead>
<tr>
<th></th>
<th>Count</th>
<th>20-30</th>
<th>31 - 40</th>
<th>41 - 50</th>
<th>51 - 60</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>College Diploma</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% within Educational Level</td>
<td></td>
<td>60.0%</td>
<td>20.0%</td>
<td>10.0%</td>
<td>10.0%</td>
</tr>
<tr>
<td>% within Age Group</td>
<td></td>
<td>42.9%</td>
<td>4.1%</td>
<td>1.6%</td>
<td>2.9%</td>
</tr>
<tr>
<td>Count</td>
<td>6</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>Graduate</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% within Educational Level</td>
<td></td>
<td>15.4%</td>
<td>35.9%</td>
<td>28.2%</td>
<td>20.5%</td>
</tr>
<tr>
<td>% within Age Group</td>
<td></td>
<td>42.9%</td>
<td>28.6%</td>
<td>17.2%</td>
<td>22.9%</td>
</tr>
<tr>
<td>Count</td>
<td>2</td>
<td>14</td>
<td>11</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td><strong>Post Graduate</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% within Educational Level</td>
<td></td>
<td>1.8%</td>
<td>29.2%</td>
<td>46.0%</td>
<td>23.0%</td>
</tr>
<tr>
<td>% within Age Group</td>
<td></td>
<td>14.3%</td>
<td>67.3%</td>
<td>81.3%</td>
<td>74.3%</td>
</tr>
<tr>
<td>Count</td>
<td>2</td>
<td>33</td>
<td>52</td>
<td>26</td>
<td></td>
</tr>
</tbody>
</table>

Table 4-1 shows that the 41-50 age group has the highest educational level with 46% (n=52) of them having a postgraduate qualification while the 20-30 group, although relatively smaller in number, have the lowest educational level with only 10% (n=1) of them have a postgraduate qualification.

4.1.4 Number of Years in Employment

The years in employment were divided into three intervals, less than 5 years, 5 to 10 years and more than 10 years. One hundred sixty four responses received for this item of which 38.4% (n=63) said they spent more than 10 years in the job, 32.9% (n=54) between 5 to 10 years, and 28.7 (n=47) less than 5 years. As bonds grow among employees who joined the organization around the same time, the research aimed to check how this affected their knowledge sharing behaviour. In earlier research, seniority has been found to influence knowledge sharing (Ardichvili, Maurer, Li, Wentling, & Stuedemann, 2006; Nesheim & Gressgård, 2014). HEI employees of different years of employment or tenure may form their own subcultures and shared understanding and interpretation (Chandler, Csepregi and Heidrich, 2018). This affects the creation of social capital and the way employees interpret knowledge. Figure 4-2
demonstrates that, unlike the gender and age groups, none of the three categories in this demographic item is disproportionately underrepresented.

**Figure 4-2 - Number of Years in Employment**

The employee profiles are listed in the institutional websites and it shows that the majority of the academic employees are contracted foreign nationals. The contracts are renewed every year based on the evaluations of the preceding year. With that said, the responses show that many employees have stayed for more than 10 years despite being uncertain about their future in the institution. Lack of job security is negatively related to employee performances (C. Q. Lu, Du, Xu, & Zhang, 2017) and knowledge sharing (Skok & Tahir, 2010). In addition, when employees know that their contracts will be determined by their performances, they may start to show their competitiveness by hoarding knowledge (Hernaus, Cerne, Connelly, Poloski Vokic, & Škerlavaj, 2019).

**4.1.5 Job Type**

This category gauged the type of job held by the respondent. Three subcategories were mentioned in the question, academic, administrative and other. 93.8% (n=152) of the staff stated that they held academic positions, 8% (n=13) said they were administrative staff and 1.2% (n=2) stated their job type as other. Those who said they ‘other’ job types were further asked to mention their jobs and one of them described his job as (academic/PhD candidate) while the other said s/he was a (lab technician). Although all staff members share and seek knowledge,
knowing their job types may help us understand more about how job types may affect knowledge sharing attitudes (L. N. Marouf & Khalil, 2015). In addition to this, employees who share the same job title may find it easier to relate to each other.

Table 4-2 - Summary of Demographics (168 Respondents)

<table>
<thead>
<tr>
<th>Gender</th>
<th>Male</th>
<th>Female</th>
<th>Non-Response</th>
<th>Total Number of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Respondents</td>
<td>145</td>
<td>18</td>
<td>5</td>
<td>163</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age Group</th>
<th>20-30</th>
<th>31-40</th>
<th>41-50</th>
<th>51-60</th>
<th>Non-Response</th>
<th>Total Number of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Respondents</td>
<td>14</td>
<td>49</td>
<td>65</td>
<td>35</td>
<td>5</td>
<td>163</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Educational Level</th>
<th>Post Graduate</th>
<th>Graduate</th>
<th>Diploma</th>
<th>High School</th>
<th>Non-Response</th>
<th>Total Number of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Respondents</td>
<td>114</td>
<td>40</td>
<td>9</td>
<td>0</td>
<td>5</td>
<td>163</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of Years in Job</th>
<th>&lt;5</th>
<th>5 to 10</th>
<th>&gt;10</th>
<th>Non-Response</th>
<th>Total Number of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Respondents</td>
<td>47</td>
<td>54</td>
<td>63</td>
<td>6</td>
<td>164</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Job Type</th>
<th>Academic</th>
<th>Administrative</th>
<th>Other</th>
<th>Non-Response</th>
<th>Total Number of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Respondents</td>
<td>147</td>
<td>9</td>
<td>2</td>
<td>10</td>
<td>158</td>
</tr>
</tbody>
</table>

4.2 Personal attitudes
The questionnaire then moved to a new set of statements clustered around the ‘personal attitudes’ category. Here, the research is aiming to investigate the personal attitudes towards knowledge sharing and how they relate to organizational culture. Twelve statements were presented in this category (details of the responses are shown below). A total of 168 responses
were received for the questionnaire. The analysis will compare the responses of different demographic groups in the sample and see if they hold different views on the topics relating to their personal attitudes and the culture in the organization. The gender and job type demographic groups are not adequately represented in the sample as there were relatively less responses from these groups. However, where there is a significant percentage of these demographic groups, the analysis will report and discuss it in relation to other findings in the data or to previous literature.

4.2.1 Attitudes towards knowledge sharing

The respondents were asked to indicate whether they saw knowledge as a critical factor in organizational success. Employees’ recognition of the importance of knowledge in their work environment is found to lead organizations and their employees to value the importance of its sharing (Asrar-ul-Haq & Anwar, 2016). For this statement, 150 responses were received and a majority, 96% (n=144), of the respondents agreed with the statement, while only 4% (n=6) disagreed. There were no noticeable differences among the different demographic groups in this statement. HEIs can tap into this positive attitude and allocate resources to enhance that understanding among their staff and create mechanisms to measure the increases and decreases of that asset in the institution (Loh, Tang, Menkhoff, Chay, & Evers, 2010). Effective enhancement mechanisms include employee empowerment activities, socialization, teamwork and reducing hierarchical barriers (Cavaliere & Lombardi, 2015).

Similarly, employees were also asked whether they would share their knowledge with others in general. The total responses received was 156 (neutral responses removed) from a total population of 168. The overwhelming majority, 98.1% (n=153), of the respondents showed their agreement with the statement. This only indicates that, at the individual level, employees are in favour of sharing their knowledge with other employees regardless of who, when or how they share their knowledge. The willingness of individual employees to share their knowledge is critical in HEIs even when there are effective codification and dissemination of knowledge. Certain solutions are difficult to codify or discover from databases until the owner shares them with knowledge seekers (Aliakbar, Yusoff, & Mahmood, 2012; Bock et al., 2005; Omotayo, 2015). Willingness to share knowledge is negatively affected by short-term contracts or the lack of job security (Skok & Tahir, 2010).

However, although the majority of the academic employees surveyed in this research are on short-term contracts, the responses show that the majority are willing to share their knowledge.
HEI employees’ willingness to share knowledge relies on how far they trust their colleagues and are committed to the organization (Goh & Sandhu, 2013). While the willingness to share knowledge is a personal choice, organizational policies and practices can create an environment conducive to trust, organizational commitment and knowledge sharing and encourage employees to share their knowledge (Gagné, 2009).

4.2.2 Unhappy sharing knowledge with unknown others.

This statement ‘I do not like sharing knowledge with someone I don’t know’ was probing how personal knowledge influenced employees’ attitudes to sharing knowledge. Familiarity leads to trust and trust nurtures knowledge sharing (M. Evans, 2008; Fang et al., 2011; Haas & Cummings, 2015). Although research indicates that employees are more open to sharing their knowledge when they know each other in person (Hur & Hara, 2007; Walsham, 2001), organizational structures may change individual preferences to conform with policies that break personal knowledge boundaries. A total of 121 responses were received for this statement of which 73.5% (n=89) disagreed with the statement while 24.5% (n=32) were in agreement with the statement.

The only demographic group that showed visible differences in opinion was the age group. The age groups that showed the highest agreement rate were the 31-40 group with 36.6% (n=13) of the respondents agreeing and the 41-50 group with 23% (n=11) of them said that they were unhappy sharing knowledge with unknown others (see table 4-3). Previous research indicates the 31-40 age group are poor in knowledge seeking (Ismail & Yusof, 2009; L. A. Mills, Knezek, & Khaddage, 2014). This is probably because they have a relatively low organizational commitment and job satisfaction (D. Brown & Sargeant, 2007; Nizamettin, 2014; Rafique et al., 2018; Saner & Eyüpoğlu, 2012; Toker, 2011). Higher job satisfaction is positively correlated with extroversion and openness to engage with others (Nicodemus, 2012; S. A. Smith, Patmos, & Pitts, 2018).

Respondents were also asked whether they give any priority to new staff members when sharing knowledge. It is common that new colleagues often need guidance and support until they get accustomed to the regulations and how to get solutions to certain problems (Jomah, 2017). Therefore, there may be a sense in the organization that only the new employees are in need of knowledge to perform their duties while the senior staff are more capable and, hence, require less support (M. Evans, 2008; Goh & Sandhu, 2013).
The majority of 90.9% (n=130) of the 143 responded disagreed with the statement while only 9.1% (n=13) agreed. There were no noticeable differences in the views of the different demographic groups. This shows that when employees share knowledge, they do not distinguish between their colleagues based on their seniority. New workers often bring with them diverse knowledge and skills and are in a position to offer their knowledge as soon as they join the new institution (Akgunduz & Cin, 2015; Suh, 2018).

Nevertheless, new employees may also have less confidence or take time to build strong bonds or to join networks where organizational knowledge is often shared (Doumit, Fortin, & Huet, 2015; C. P. Hsu, 2015). Especially, employees in hierarchical cultures may categorize their peers according to, inter alia, their seniority. A clear organizational knowledge sharing policy that enables new employees to get the confidence and the training they need may break the barriers they face (du Plessis, 2006). Such organizational policy should deemphasize employees’ ranks and seniority to allow a proper knowledge flow (Nooshinfard & Nemati-Anaraki, 2014). Strengthening the social capital among staff members would also bridge any possible differences between groups (Enfield & Nathaniel, 2013; Filieri et al., 2014; Webb, 2008).

### 4.2.3 Attitudes towards knowledge seeking

The questionnaire probed whether respondents ask others to share their knowledge with them. The purpose of this statement “I hardly ask others to share their knowledge with me.” was to check employees’ attitudes towards knowledge seeking. In total, 73.5% (n=86) of the 117 responses received disagreed with the statement while 26.5% (n=31) agreed. Although the number was relatively small, half of the 20-30 age group said they hardly ask others to share knowledge (see table 4-4). This group are mainly recent hires with the lowest academic qualifications with 73% (n=8) of the 11 responded to this question having a diploma or first-degree qualifications. The hiring process in the two institutions accepts first degree

### Table 4-3 - Age groups/Unhappy sharing knowledge with unknown others

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Agree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 – 30 (total=11)</td>
<td>27.2% (n=3)</td>
<td>72.8% (n=8)</td>
</tr>
<tr>
<td>31 – 40 (total=36)</td>
<td>36.1% (n=13)</td>
<td>63.9% (n=23)</td>
</tr>
<tr>
<td>41 – 50 (total=48)</td>
<td>23% (n=11)</td>
<td>77% (n=37)</td>
</tr>
<tr>
<td>51 – 60 (total=26)</td>
<td>19.2% (n=5)</td>
<td>80.8% (n=21)</td>
</tr>
</tbody>
</table>
(Bachelor’s) holders to work under a mentor until they are given scholarships (often within a year half) to complete their postgraduate studies. The new employees often need more personal support from their mentors and seldom rely on the use of codified knowledge from work manuals (S. A. Brown, Dennis, Burley, & Arling, 2013). Younger employees have a higher tendency to seek knowledge than older, more experienced, employees (Khalil et al., 2020).

It is therefore surprising that half of them do not seek knowledge from their colleagues. Younger employees may not feel confident to seek knowledge from their older colleagues because of the strong hierarchy in the institution. It was also found that the organizational environment that is less empowering may demotivate employees from seeking knowledge (Cavaliere & Lombardi, 2015; Matić, Cabrilo, Grubić-Nešić, & Milić, 2017; Xue, Bradley, & Liang, 2011). Furthermore, the level of trust between the mentor and the new employee may also play a role in motivating junior staff members to seek knowledge (Sheerin et al., 2020). Addressing this problem comes back, again, to the organizational knowledge sharing policy that monitors the levels of knowledge sharing and seeking across the organization (Boer, 2005; Loh et al., 2010).

Table 4-4 - Age groups/Knowledge seeking

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Agree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 – 30 (total=10)</td>
<td>50% (n=5)</td>
<td>50% (n=5)</td>
</tr>
<tr>
<td>31 – 40 (total=33)</td>
<td>36.4% (n=12)</td>
<td>53.6% (n=21)</td>
</tr>
<tr>
<td>41 – 50 (total=46)</td>
<td>24% (n=11)</td>
<td>76% (n=35)</td>
</tr>
<tr>
<td>51 – 60 (total=28)</td>
<td>10.7% (n=3)</td>
<td>89.3% (n=25)</td>
</tr>
</tbody>
</table>

The other age groups also showed some reservation towards knowledge seeking. For example, 33 respondents of the 31-40 age group responded to this statement and 36.4% (n=12) of them said they would rarely ask others to share knowledge with them. Similarly, 24% (n=11) of the 41-50 age group also said they seldom seek knowledge. The oldest age group, 51-60, have the highest percentage of knowledge seeking with 89.3% (n=25) of the 28 responded saying that they seek knowledge. This may be a surprise as older academics often accumulate knowledge and experience and may be less inclined to seek knowledge than the younger employees (Oye et al., 2011). However, unlike the younger employees, the older generation may be less knowledgeable in the use of new technology (C.-C. Liu et al., 2011).
The two institutions use a variety of applications for teaching, research management, teaching and completing routine Human Resources requests like applying for a leave. In Saudi Arabia, older academics are often assigned more responsibilities like managing accreditation processes which involve reviewing curriculum and building evidence to support compliance (Alaskar et al., 2019). The two institutions manage and submit their accreditation applications using a plethora of propriety applications that require training and continuous troubleshooting.

It is, therefore, possible that the use of the ubiquitous technology tools in the institutions and the raised responsibilities given to the older employees may have forced them to seek knowledge from their younger technology-savvy colleagues. Another possible reason, not unique to the older generation, is that the policies and procedures followed in the two organizations are changed frequently and these changes are not often communicated with the users. The hierarchical structure creates several committees that oversee the creation of new policies for different institutional areas (Onsman, 2010). For many employees, the easiest way to find how to complete certain tasks is to speak to a colleague who may have more knowledge on the latest procedures.

The employees who spent more than 10 years in the organization were also relatively more likely to resist seeking knowledge. Out of the 47 responses, 27% (n=13) said they would not ask others to share knowledge with them. The majority of this group are 40-51 year olds. While over 50s may be constrained by their technological skills, this group may not be under any pressure to seek knowledge from others. The middle-aged employees may feel threatened by the younger employees who may eventually take their jobs and, therefore, become protective of their knowledge (Bennett, Walston, & Al-Harbi, 2015; Finkelstein, Ryan, & King, 2013). When employees compete for resources, suspicion may replace trust and they may stop cooperating and sharing knowledge with each other (Inkpen & Tsang, 2011).

A Spearman's correlation was calculated to assess the relationship between ‘resistance to knowledge seeking’ and the ‘reluctance to share with unknown others’. There was a weak positive association between the two attitudes, which was statistically significant, $rs = .269, p = .003$. This means that the attitude of not sharing knowledge with unknown others slightly increases with the resistance to seek knowledge. This supports the findings of earlier research (He & Wei, 2009; Humayun & Gang, 2013; S. Wang & Noe, 2010; Y. Yan, Davison, & Mo, 2013) which emphasized the link between knowledge seeking and sharing beliefs and attitudes.
Moreover, a practical outcome for HEI institutions is that the same organizational policy can be designed to support both the knowledge sharing and knowledge seeking behaviours.

4.2.4 Valuing others’ knowledge

Willingness to learn from others is an important building block in knowledge sharing (F. H. Rusly, Corner, & Sun, 2012; J. Yang, 2007b). To measure the level of this willingness, the statement ‘I believe that I can learn a lot from others in the organization’ aimed to examine how far employees believed that other employees had knowledge valuable for their job needs. There were 148 responses for this statement. The overwhelming majority 96.6% (n=143) agreed, while only 3.4% (n=5) disagreed. While this is a very positive attitude which helps the knowledge seeking activities in HEIs, the belief itself may not guarantee the actual knowledge seeking happens (Muqadas et al., 2017). Valuing others’ knowledge and the willingness to seek their knowledge is linked to institutional innovation capabilities (H. F. Lin, 2007) and creating positive working environments (Letts & Sandlin, 2019; Wuim-pam, 2014).

While employees show that they value the knowledge held by their colleagues, they would need different sources of knowledge to call for the varied problems they face (Kurul, 2015). and the members of staff that hold these types of knowledge may not be members of the same close network. The knowledge owners’ willingness to share their knowledge is also important in this situation and this is where the facilitation of social capital becomes important. Institutions that build networks that can allow their staff to communicate quickly posses higher organizational advantage (Angervall, Gustafsson, & Silfver, 2018; Widén-Wulff & Ginman, 2004).

4.2.5 Learning from seniors

Because each employee may have knowledge critical for the organization, this statement “I think I can only learn from my seniors” was gauging whether employees thought only senior staff had the knowledge they needed to perform their duties. New employees may often experience a sense of isolation in the workplace (du Plessis, 2006; Moss & Kubacki, 2007). This isolation is not supportive of knowledge sharing which requires open communication across teams and levels of management. Junior colleagues may also be a source of knowledge as they are up to date on the use of the latest technology (Yun, Baldi, & Sorcinelli, 2016).

There were 138 responses for this statement of which 21.7% (n=30) agreed and 78.3% (n=108) disagreed. The agreement slightly increased with the years of employment with 15% (n=6) of
those with less than 5 years on this job (total = 41) indicating that they can only learn from their seniors. This percentage increased to 23% (n=11) of those who spent between 5 and 10 years (total = 47) on this job and 26% (n=13) of those who were employed more than 10 years (total = 50) saying that they can only learn from their seniors (see figure 4-3).

![Figure 4-3 - Years or Employment and Learning from Seniors](image)

The more employees stay in an organization, the more they get accustomed to the work procedures and they would obviously need less to learn. Those who were employed for more than 10 years are the most senior group in the institutions. That being the case, it is hard to expect them to learn from someone more senior than them. They may have accumulated power and privileges in the form of knowledge and seniority and may want to protect their hard-earned social capital. People with power often try to maintain their social position or impose their recognition (Bourdieu, 1986). They, therefore, may see their position as important and expect others to respect their seniority and seek knowledge from them (Akhavan et al., 2015; Kang, 2016). Issues relating to knowledge hoarding and power will be further discussed in the following sections.

### 4.2.6 Knowledge seeking from manuals

If staff members feel isolation, one of the possible routes they may take to familiarize themselves with the tasks they are assigned to, is to rely on reading information from guides and manuals both electronic and in print (Tantrabundit & Narkbunnum, 2019). The statement ‘Reading staff handbooks and manuals is not enough to familiarize employees with college policies and best practices’ was checking how far employees valued seeking knowledge from
their colleagues rather than resorting to documents. One hundred twenty-seven responses were received and the overwhelming majority of 90.6% (n=105) agreed that reading documents cannot replace human knowledge sources while 9.4% (n=12) disagreed.

Institutional knowledge may be codified and properly disseminated in manuals, university portals and other channels of communication. It also possible for many staff members to rely on these documents when solving organizational problems. However, documents cannot convey the tacit knowledge which is the type of knowledge that is related to the know-how of employees (Holford, 2020). This can be transferred through socialization and personal mentoring (Karnani, 2013). It is clear from the findings that the majority of the employees acknowledge the importance of face-to-face knowledge sharing and this is an advantage that the institutions can take into account when designing their knowledge management policies.

4.2.7 Knowledge as power

The belief that sharing one’s knowledge with others may decrease his/her importance in the organization, is a barrier to knowledge sharing found by some researchers (Bock et al., 2005; Mukhtar, 2007). One hundred forty-five responses were received for this statement “I believe that sharing my knowledge with others may decrease my importance in the organization” and 82.5% (n=121) of them showed their disagreement with the statement while 17.5% (n=24) agreed. The agreement decreased with the number of years employed in the organization. For instance, 31% (n=13) of those employed for less than 5 years (total responses = 43) indicated that sharing their knowledge may decrease their importance. This figure decreases to 9% (n=5) of the 48 responses received from those who were employed between 5 and 10 years, and to 3.5% (n=6) of the 54 responses received from the employees that were in service for more than 10 years.

The new employees may feel insecure especially when they have annual contracts and often see some of their colleagues leaving after their contracts were terminated (Skok & Tahir, 2010). In addition, job security provides HEI employees with a level of academic freedom and due process prior to dismissal (Adams, 2006). Saudi Arabia is described as a country with a high power distance culture (Aldossari & Robertson, 2016; Harbi et al., 2017). In such cultures, employees may not have an input or appeal regarding the organizational decisions that affect their work practice, promotions and contracts (Elamin, 2012). The temporary contracted workers may therefore protect their positions by showing their importance to the organization (Nahm, 2015). Withholding knowledge is influenced by the perceived importance of one’s
knowledge (Donnelly, 2019). As such, employees’ attitudes towards knowledge sharing may be influenced by the combination of a lack of job security and the perceived importance of their knowledge.

4.2.8 Empowerment and knowledge sharing

Knowledge sharing does not take place organically. The culture in the organization and the attitudes of its employees both need to converge to support its knowledge sharing activities (Cunningham, Seaman, & McGuire, 2017). Involving academics in the decision-making process positively influences organizational performance, commitment and knowledge sharing (Han, Chiang, & Chang, 2010; Sukirno & Siengthai, 2011). There were 111 responses of which 41.4% (n=46) agreed with the statement ‘I can only benefit from knowledge sharing policies if I contribute in the making of these policies’, while 58.6% (n=65) disagreed. This statement was meant to check if employees value policies imposed on them if they were not given the chance to take part in the policy making process. Employee empowerment is a strong determinant of social capital which significantly influences the knowledge sharing culture in the institution (Narayan & Cassidy, 2001; Xue et al., 2011).

Employees at the operational level who often implement knowledge sharing policies may think that they know the best way to capture and manage knowledge within their area of speciality or level of management. However, some HEIs may have multiple campuses sometimes operating in different countries and if KM policies are only decided at one location or level of management, without giving the rest of employees the chance to contribute their voices in the policy design, these policies may not be fully applicable to certain situations or acceptable to staff members (Twum-Darko & Harker, 2017). The only demographic group that showed significant variations was the age group where younger employees were relatively less likely to expect participation in policy making (see table 4-5).

Table 4-5 - Empowerment and Age Groups

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Agree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 – 30 (total=7)</td>
<td>71.4% (n=5)</td>
<td>28.6% (n=2)</td>
</tr>
<tr>
<td>31 – 40 (total=33)</td>
<td>45.5% (n=15)</td>
<td>54.5% (n=18)</td>
</tr>
<tr>
<td>41 – 50 (total=41)</td>
<td>43.9% (n=18)</td>
<td>56.1% (n=25)</td>
</tr>
<tr>
<td>51 – 60 (total=30)</td>
<td>26.7% (n=8)</td>
<td>73.3 (n=22)</td>
</tr>
</tbody>
</table>
The 20-30 group have low count but 71.4\% of the 7 respondents indicated that they would benefit from the implementation of knowledge sharing policies only if they were part of its formulation. The percentage then gradually decreases with age where over fifties show the lowest relative percentage supporting this statement. The older employees may have higher levels of organizational commitment and, therefore, are not necessarily concerned about the lack of consultation when making policies (Elele & Fields, 2010). Another reason could be that older employees are more likely to make decisions and face problems while the younger employees have difficulty making their own choices and prefer participative decision-making (Elango, Paul, Kundu, & Paudel, 2010; Wok & Hashim, 2013). Older employees may also tend to protect their long-accumulated social capital and, hence, may not like to advocate changes through participation in decision-making processes (Ng & Feldman, 2013).

4.2.9 Knowledge hoarding

The purpose of this statement “I prefer to withhold some of my knowledge” was to check how far employees were fully open to sharing their knowledge. HEI employees often hoard knowledge to enhance their position or gain personal benefits (Muqadas et al., 2017). As this research was conducted in public higher education institutions, it was necessary to see if the above findings exist in this environment. The total responses received were 125 of which 28.8\% (n=36) agreed with the statement and 71.2\% (n=89) disagreed. Table 4-6 shows that the shorter the years of employment, the higher the employees’ preference to hoard knowledge. Senior employees are sometimes suspicious of the quality of knowledge shared by the junior staff and, as a response, junior staff may think that the knowledge they share could put them in the spotlight for criticism (W. Lam, 2005).

<table>
<thead>
<tr>
<th>Years in Employed</th>
<th>Agree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 5 years (total=36)</td>
<td>30.6% (n=11)</td>
<td>69.4% (n=25)</td>
</tr>
<tr>
<td>5 – 10 years (total=42)</td>
<td>28.5% (n=12)</td>
<td>71.5% (n=30)</td>
</tr>
<tr>
<td>More than 10 years (total=47)</td>
<td>27.6% (n=13)</td>
<td>72.4% (n=34)</td>
</tr>
</tbody>
</table>

Earlier literature also reported that junior employees have relatively less power in the organization and may therefore refrain from sharing their views (L. W. Lam & Xu, 2019). This is in addition to the concerns relating to job security stated in the preceding sections. While the
overwhelming majority of employees said they saw knowledge sharing as a critical success factor and were happy to share and seek knowledge, they also hold some attitudes that may hinder the knowledge management process. Moreover, a Spearman’s correlation test to determine the relationship between knowledge hoarding and perceiving knowledge as power showed a weak positive correlation which was statistically significant $r_s = .310$, $p < .001$. This means that the more employees see their knowledge as a source of power, the more they tend to withhold it.

Hoarding knowledge leads to inefficiency and service breakdown in the organization (J. M. Evans, Hendron, & Oldroyd, 2015; Phung, Hawryszkiewycz, & Chandran, 2019). Enhancing the social capital among employees and introducing a value orientation systems that encourage trust and collaboration may reduce knowledge hoarding in the two institutions (Maryam Alavi et al., 2006; Hu & Randel, 2014).

**4.2.10 Knowledge management and organizational policies**

This statement (‘my attitudes towards knowledge management are shaped by the policies of my organization’) was checking the relationship between employees’ personal attitudes and the culture in the organization. Organizational policies are often documented and made available to employees. However, the written policies are understood and interpreted through the shared culture within the institution and employees will only relate to how the policies are interpreted and implemented (Yasir & Majid, 2017). Organizational culture and policies, in turn, influence the attitudes of employees towards knowledge sharing (Abdul Rashid, ambasivvan and Abdul Rahman, 2004; Chen and Cheng, 2012). It is, therefore, necessary for this research to understanding the relationship between the policies and individual attitudes.

There were 107 responses for this statement of which 65.5% (n=70) agreed and 34.5 (n=37) disagreed. This statement (‘my attitudes towards knowledge management are shaped by the policies of my organization’) was checking the relationship between employees’ personal attitudes and the culture in the organization. There were 107 responses for this statement of which 65.5% (n=70) agreed and 34.5 (n=37) disagreed. Table 4-7 shows that employees that the highest majority of employees that think their attitudes are shaped by the policies are those who were in employment for less than 5 years. This is followed by the most senior employees who were in the institution for more than 10 years. Those who were employed between 5 and 10 years have the lowest agreement with the statement. This U-shaped pattern conforms with the trends of job satisfaction and morale in academic institutions where employees have higher
morale and satisfaction early in their career which decreases with time until it climbs again later in their careers (Ajeyomi & Ekwoaba, 2020).

Table 4-7 - Years Employed/Attitudes and Organizational Policy

<table>
<thead>
<tr>
<th>Years in Employed</th>
<th>Agree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 5 years (total=26)</td>
<td>73% (n=19)</td>
<td>27% (n=7)</td>
</tr>
<tr>
<td>5 – 10 years (total=39)</td>
<td>59% (n=23)</td>
<td>41% (n=16)</td>
</tr>
<tr>
<td>More than 10 years (total=42)</td>
<td>66.7% (n=28)</td>
<td>33.3% (n=14)</td>
</tr>
</tbody>
</table>

In their first few years, new employees try to invest in building their careers which entail getting accustomed to the new environment, making connections and engaging in organizational commitment (Ng & Feldman, 2011). As they become more familiar with the environment, they focus more on building strong social capital and balancing between work and family responsibilities. Longer-tenured employees, on the other hand, are more resistant to change and do not like to learn new things including new organizational policies (Ng & Feldman, 2013) and are hardly reprimanded if they deviated from the written procedures (Santos & Eger, 2014).

Figure 4-4 shows that the agreement decreases as the age increases. Organizational policies often contain the latest approved instructions on how to perform the routine institutional tasks. They can only drive an employee’s attitudes if widely disseminated and that employee is willing to study these policies. Older employees are less motivated to study new regulations and skills (Iun & Huang, 2007).

Figure 4-4 - Age/Attitudes Shaped by Organizational Culture
4.2.11 Summary of personal attitudes

The overwhelming majority 96% (n=144) of respondents indicated that they consider knowledge as an essential asset in their institution. They also said they were happy to share their knowledge with other employees. Willingness to share knowledge is defined as the individual’s preparedness to grant other members access to their individual knowledge (Hooff & Ridder, 2004; Razak, Pangil, & Zin, 2018). This willingness to share their knowledge is very critical for organizations in establishing a successful knowledge management system.

It minimizes the efforts to motivate them as they are already happy to share their knowledge. Such a high level of willingness may indicate the existence of a collaborative and supportive culture in the organization which does not see mistakes as failures but as something that can lead to new solutions and knowledge (Wiewiora et al., 2013). It is also found that organizations where an atmosphere of trust exists, employees’ share and seek knowledge freely without worrying about whether others are allies or enemies (Inkpen & Tsang, 2011). On the other hand, employees may share knowledge because that is what they think will please their managers (Krok, 2013).

HEIs cannot compel their employees to share their knowledge (Razak et al., 2018), therefore, willingness to share knowledge becomes an important stimulus pushing staff members to share their knowledge (Olaisen & Revang, 2017). Forcing employees of higher education institutions to share their knowledge is not an effective way to implement a knowledge sharing policy (Akgün, Keskin, Ayar, & Okunakol, 2017; Mafabi et al., 2017). Willingness itself is an inert intention that may not lead employees to act. It requires an environment that allows this intention to proceed to action. Alsaadi (2018) who studied knowledge sharing in Saudi academia found that trust, availability of time and support from the institution as the main factors in the willingness to share knowledge. Trust can have two dimensions: the interpersonal trust among employees; and the trust of employees in their institution. The trust of employees in their direct managers can have both interpersonal and institutional dimensions (Porumbescu, Park, & Oomsels, 2012). Institutional support can incorporate trust-building and ensuring that employees have time to share knowledge. One of the key factors in trust-building is empowering employees and allowing them to take part in the decision-making process (A Ahmed & Aldakhil, 2012; Cavaliere & Lombardi, 2015; Gonaim, 2017).

In addition, 73.5% of respondents disagreed with the statement “I do not like to share knowledge with someone I don’t know.” Although people may be more comfortable to share
knowledge with people they know (Hu & Randel, 2014; Newell, 2004), this research shows that a majority of the staff at JUC and JIC do not necessarily value familiarity when sharing knowledge. There may be other positive organizational characteristics that have replaced familiarity and provided psychological safety to staff members. Inclusive leadership and healthy organizational climate were found to improve knowledge sharing where familiarity is not an option (Staats, Gino, & Pisano, 2009). Nevertheless, more than a quarter of the employees indicated that they would not share knowledge with unknown others. That could mean that a quarter of the knowledge in the organization will stay within networks of close-knit groups.

Cox (2007) observes that people often associate the idea of community with the individuals they shared histories, experiences and activities with. It is through this understanding that they interpret their position in the group and their relationship with others. It may be argued that such personal relationships are more helpful when sharing knowledge that is highly tacit (Newell, 2004) as this requires close contact and interaction. In addition to this, employees’ close interaction may help them discover locations of explicit knowledge (i.e. some procedures may not be properly disseminated or some information may exist in files or in email archives and can only be traced through personal memory. New employees can therefore rely on their colleagues to remind them of the whereabouts of these procedures. This requires the organization to facilitate the formation of bridging social capital that allows the knowledge to flow horizontally among employees (Erhardt, Martin-Rios, & Harkins, 2014; Li & Scullion, 2006). While the bonding social capital strengthens the internal relationships of the group, the bridging social capital breaks the barriers between different organizational units (Carrillo Álvarez & Riera Romaní, 2017; Lefebvre et al., 2016).

Employees’ understanding of the importance of knowledge sharing fosters positive perceptions towards the process of knowledge management (F. Rusly, Yih-Tong Sun, & L. Corner, 2014). Ninety six percent of respondents also said that they believed that knowledge sharing is critical for organizational success. The organization will be able to save time and resources in training employees to raise their awareness of the role of knowledge sharing. While this is a promising percentage, it must be understood along with the rest of the responses where many employees show reservations on aspects knowledge seeking or sharing.
The positive attitudes can be exploited by the organization if employees are empowered, given time to share knowledge, enabled to socialize and build trust in their colleagues and in the organization (Cavaliere & Lombardi, 2015; M. Y. Cheng, 2002; Inkpen & Tsang, 2011).

It is important to mention here that employees of the researched organizations show a strong willingness to share their knowledge while a majority of them are not in secure (permanent) positions. If employees are willing to share their knowledge without job security, then this is in contrast to what earlier researchers have found (D. Lee & Ahn, 2007; C.-C. Liu et al., 2011).

Knowledge sharing is complemented with knowledge seeking because the shared knowledge will have no value if it does not find a person(s) that needs and uses it. However, when there is a culture where staff members are reluctant to proactively ask others to share their knowledge with them, employees may not be able to perform some duties that are beyond their personal knowledge. 73.5% (n=86) of respondents said that they are not reluctant to seek knowledge from others.

Although the majority of the two affiliates hail from diverse cultural backgrounds, Haas & Cummings (2015) found that team members are less likely to seek knowledge from those who differ from them geographically, nationally or demographically due to difficulties in communicating or interpreting the knowledge. However, they also found that when members shared prior history, like membership of previous teams, the barriers to knowledge sharing are reduced by this familiarity. The two institutions use three different campuses and one of them is exclusively for the female staff and students. Even within the same campus, there is no guarantee that members of staff will be familiar with each other and will seek knowledge from those they know personally. Organizational intervention is, therefore, necessary to ensure that knowledge sharing and seeking activities thrive within the organization.

Another important aspect of personal attitudes which scored higher in the questionnaire was employees’ belief that they could learn a lot from others in the organization. 96.6% (n=143) said that they believed that they could learn from their colleagues. Employees acknowledge their lack of knowledge and the possibility of finding solutions by seeking knowledge from their colleagues. That belief obviously enables reflective practice within teams and facilitates organizational learning (Börjesson, Baaz, Pries-Heje, & Timmerås, 2007). It also strengthens the social bonds among employees as they interact more and communicate to those they deem to be more knowledgeable. Valuing the knowledge of other colleagues is a significant prerequisite for knowledge seeking (Tang, Mu, & Thomas, 2015).
Connecting between the knowledge seeker and knowledge provider is an important factor in building social capital in organizations (Khvatova et al., 2016). The communication and interactions among employees will create an environment where every employee can participate in the discussions as they have something to offer. With the belief that solutions can be found from other members, some employees will try to find various paths of connections with other members and thus provide them with more solutions and knowledge (J. Wei, Zheng, & Zhang, 2011).

Moreover, a majority of respondents also stated that they do not consider the seniority of the employees when seeking knowledge. Rather, they believe that all employees, regardless of their tenure or position, have knowledge to offer. Although senior employees may be more experienced in how ‘things are done’ or how policies are interpreted, members often prefer to speak to the colleagues they find easier to communicate with. The knowledge shared by a member of the same demographic group e.g. years of service, age group, education level, etc. may not be more relevant than knowledge provided by a team member from a different demographic characteristic (Haas & Cummings, 2015). New members of staff often have access to a small number of network ties that they can trust to ask questions (Randolph & Petter, 2008). When there is bridging social capital, their friends can introduce them to members of other networks that may have answers to some of the questions.

The two institutions heavily rely on regularly updated procedures that dictate how routine tasks are completed and many of these procedures require some technical skills (for example, using statistical tools, SPSS and advanced spreadsheets, to calculate KPIs or analyse annual program data). Senior academics in some disciplines may not have used such tools during their studies and, in this case, they may not be the most knowledgeable to answer questions relating to how these tools are used. Therefore, both junior and senior staff need to use their social capital contacts to get answers to their questions.

Similarly, respondents also indicated that they would share knowledge with all other employees regardless of how senior they are. A majority of 90% (n=130) disagreed with the statement ‘I only share my knowledge with the new colleagues.’ With the introduction of new policies and the continuous restructuring of organizational practices, some of the knowledge held by senior employees may not be relevant any more. In the same time, the new employees may be more prepared to digest the newly introduced procedures and therefore be in a position to assist the seniors to adjust their skills.
Relying on organizational manuals as the sole source of knowledge is not an idea favoured by respondents. Over ninety percentage of them agreed with the statement ‘reading staff handbooks and manuals is not enough to familiarize employees with college policies and best practices.’ This shows that employees regard the knowledge shared by other employees as important as the written knowledge. This attitude also invites more interaction and participation within teams as every member shares and seeks knowledge and solutions to the problems they face. In contrast, consulting manuals and other organizational documents inhibits employee interaction (Forsgren, Sabherwal, & Durcikova, 2018).

One of the barriers to knowledge sharing is seeing knowledge as power (Al-Athari & Zairi, 2001; Anholt, Stephen, & Copes, 2012; Griffiths & Arenas, 2014; King et al., 2008). This often stems from the view that one’s knowledge is the source of his/her importance in the team. Therefore, hoarding more knowledge is seen as raising one’s importance while sharing knowledge is seen as a cause for reducing their position in the organization.

A majority of respondents, 83.5% (n=121), disagreed with the statement “I believe that sharing my knowledge with others may decrease my importance in the organization”. This is another indicator that there is a culture of trust among members (Muhenda & Lwanga, 2014). Organizations that create an environment where individuals can actively participate and freely voice their views and are not sanctioned for their performance usually foster a knowledge sharing culture (Dube & Ngulube, 2012).

Finally, some members may be inclined to withhold some of their knowledge for one reason or another. Chua (2003) argue that members tend to withhold knowledge when they think others are also withholding knowledge. This behaviour leads to fragmentation in decision-making and service provision in the organization as well as inefficiency in performance (Tangaraja, Mohd Rasdi, et al., 2015). This research has shown that the majority of the participating employees do not like to withhold some of their knowledge.
4.3 Organizational Culture and Work Environment
The purpose of this category was to measure employees’ attitudes towards the organizational culture and the general work environment. There are 22 statements under this category and some of them are discussed under the same heading. Below are the statements and the responses they solicited:

4.3.1 Friendliness of colleagues/environment
An organizational environment where employees feel secure and welcomed fosters knowledge sharing (Tong et al., 2015; Vrailaki, Koloniari, Fassoulis, Zenelaj, & Kourniotis, 2015). There were 138 responses for the statement ‘the people I work with are friendly’ and an overwhelming majority of 92.8% (n=128) agreed with the statement while only 7.2% (=10) disagreed with the statement. In addition to the friendliness of employees, a healthy work environment where employees feel secure and valued raises employees’ knowledge sharing (J. Yang, 2007a). Another statement which checked whether staff members felt welcomed by the overall environment yielded a 92.7%(n=126) who showed their agreement with the statement “I feel welcomed in my work environment” and only 7.3% (n=10) disagreed. This high percentage indicates that employees have trust in their colleagues and in the institutional environment (Killingsworth et al., 2016).

4.3.2 Availability of time to share knowledge
Employees cannot share knowledge if they do not have time to engage in knowledge sharing (R Fullwood et al., 2013; B. Gupta, Sharma, & Ganesh, 2009). Setting knowledge sharing policies, implementing and monitoring these policies requires managers and committees that are working on these policies to have time to do their work. In addition, employees also need sufficient time to engage in knowledge sharing (Seba et al., 2012). The responses to this statement “I believe that there is enough time for me and for my colleagues to seek and share knowledge”, were relatively distributed. There were 115 responses in which 60.9% (n=66) agreed and 39.1% (n=45) disagreed. The working hours in the two institutions are 40 hours per week and many of the employees commute from the surrounding cities. Some departments have a high shortage of staff and this may force some faculty members to teach over 20 hours per week. Demographic groups had different views on there is enough time to share knowledge.
Figure 4-5 - Age Groups/Availability of Time

Figure 4-5 shows how the age groups differed in their views on time availability. The two oldest groups, 41-50 and 51-60, are the majority who think that there is enough time to share knowledge. The age of marriage in Saudi Arabia is around the age of 30 (Yousuf, Amoudi, Nicolas, Banjar, & Salem, 2012) and, as the majority of respondents are male, newly married husbands take responsibilities including shopping and taking the family to hospitals and family visits (women could not drive at the time of data collection). This responsibility grows as more children join the family. The older employees, on the other hand, may leave their sons or a paid family driver to take care of these responsibilities. Therefore, the young male employees that commute from another city and work in a department where they are expected to take extra teaching hours will have the least time available for knowledge sharing.

In the ‘years employed’ category, respondents also differed in their views to the availability of time. The group with the highest disagreement were those employed between 5 and 10 years with 54% (n=21) of them, and 43% (n=15) of those employed for less than 5 years disagreeing with the statement (see figure 4-6). The age groups of the respondents employed between 5 to 10 years include one employee from the 20-30 age group, 14 from the 31-40 group, 15 from the 41-50 group and 9 from the 51-60 group. Again, the work-family balance may explain their higher disagreement with this statement.
4.3.3 Perceived knowledge withholding

The respondents were asked whether they believed some of their colleagues sometimes withheld their knowledge. The statement “I feel that my colleagues sometimes withhold answers to my questions”, tested employees’ attitudes towards knowledge sharing when they believe that others are not sharing their knowledge. There were 107 responses for this statement and the percentage that disagreed was 54.2% (n=58) while 45.8% (n=49) agreed. A higher percentage of younger employees thought that other employees withhold knowledge from them. Fifty percentage of those between 20 and 30 years (n=10) and 50% (n=32) of the 31 to 40 year olds said they experienced knowledge withholding from their colleagues (see figure 4-9). That percentage slightly decreased with age with 46% (n=41) of 41 to 50 year olds and 37.5% (n=24) of 51-60 year olds (see figure 4-7). Although the number of females was small compared to males, 50% (n=6) of those responded to this statement said that their colleagues sometimes withhold knowledge. Similarly, although relatively small in number, 71.4% (n=5) of those in the administrative jobs said they felt other employees were withholding knowledge.

This shows that while a majority of employees said they would share and seek knowledge and were happy with the friendship of the people they work with and with the organizational environment, there are some hidden feelings that are not supportive of knowledge sharing. It is possible that, because there is no official policy in the organization which guides employees on how to share and seek knowledge, some of them may withhold knowledge after they weigh the costs and benefits of sharing based on their position and power. A knowledge provider who
is afraid that the knowledge requestor may gain more social capital through this knowledge and later use that capital to take the provider’s position may resort to withholding knowledge (Arain, Bhatti, Hameed, & Fang, 2019).

![Figure 4-7 - Age Groups/Knowledge Withholding](image)

To check the relationship between the perceived knowledge withholding and the self-reported knowledge hoarding, a Spearman’s correlation test was calculated showing a weak positive correlation which was statistically significant $rs = .294$, $p = .002$. This indicates that those who think others are withholding knowledge may also withhold their knowledge. The knowledge requestor and knowledge provider continuously switch roles as one person cannot own all the knowledge in the organization (Kang, 2016). This may lead to further retaliatory actions of knowledge withholding when roles are switched.

### 4.3.4 Empowerment and Active Participation

Empowered employees have a certain amount of power and autonomy to manage their work environment. They also contribute to the decision-making process and are consulted on affairs affecting their work environment (Choi, Goh, Adam, & Tan, 2016; Shaed, Ishak, & Ramli, 2015). The positive relationship between an empowering organizational climate conducive to knowledge sharing and employees intentions to share knowledge is supported by research (Bock et al., 2005; Hooff & Ridder, 2004; Idris, See, & Coughlan, 2018). The total responses received for the statement “Disagreeing views are usually accommodated in my work environment” were 112. A slight majority of 55% ($n=62$) agreed with the statement and 44.7% ($n=50$) disagreed. A majority of the youngest and oldest age groups, 62.5% ($n=5$) of the 20-
30 year olds and 58.1% (n=18) of the 51-60 age group indicated that disagreements are not accommodated in their environments. In contrast, the middle age groups thought that disagreements were accommodated as 61.9% (n=26) of the 41-50 group and 64.5% (n=20) of the 31-40 group agreed with the statement. The majority of the male respondents, 58.4% (n=59) also said that disagreements are accepted while 72.7% (8) of the female were of the opinion that disagreements are not accommodated in their environments.

Employees in the two institutions often present their views during departmental meetings or through communications with their line managers. Those who are members of committees may also share their opinions through committee meetings or may directly communicate to the committee chair. There are many staff members who are not members of their department councils or any other committee. These have less chance to contribute their views as there is no other formal platform to present views. The department meetings often have a long list of items for discussion ranging from curriculum adjustments, internal reporting on the progress of tasks assigned to the department (KPIs), reviewing internal reports on the quality of assessments. However, all departmental meetings are given one slot in the timetables and, therefore have to finish within an hour otherwise some of the faculty members will miss their classes. Needless to say, that the time may not permit the discussion of items outside the predefined agenda even if some members have strong proposals on certain departmental issues.

The chairpersons may also be powerless to enact changes in the department. Chairpersons are appointed by the management at the beginning of every academic year. The majority of them stay in the position for two academic years. The Chairpersons then appoint program directors for each program in the department and program directors appoint course leaders for each course in the program. There are parallel structures for each program that has male and female students. The female branch has its own chairpersons, program directors and course leaders while the two branches are expected to unify their syllabi, learning materials, teaching methods, and assessments. The parallel systems may create confusion as to who has the powers to take certain decisions. The hierarchal structure may minimize the powers of each level in the structure and may not allow chairpersons or program directors the autonomy to elicit the views of their subordinates and use them to transform departmental routines (Valero, 2015).

Empowerment also includes encouraging employees to share knowledge (W. Wu & Lee, 2017). This statement “My organization encourages me to openly share my knowledge” intends to measure whether the employees are not only required to share their knowledge but are also
motivated to do so. Earlier research established that motivating staff to have a positive effect on knowledge sharing (Tong et al., 2015). Seventy three percentage (n=87) of the 119 respondents agreed with the statement while 27% (n=32) disagreed.

![Figure 4-8 - Years of Employment/Encouragement to Share Knowledge](image)

Respondents of different years of employment showed a significant variation in opinion as shown in figure 1-10. While 67% (n=25) and 68% (n=24) of those employed for less than 5 years and 5 to 10 years, respectively, said they were encouraged, this climbed to 83% (n=38) of those employed for more than 10 years (see figure 4-8). When HEI employees are encouraged to share knowledge, they will seek out help from their colleagues (Yu, Lu, & Liu, 2010). As such, encouragement of knowledge sharing gives employees the information necessary for their work performance and, hence, their survival and renewal of their annual contracts. While those who were employed for more than 10 years, still have to get their contracts renewed, they may think that they have relative job security as they have survived so long. They may also have gained more social capital which allows them to find the information they need to bolster their performance. The perceived job security may, therefore, give them the motivation they need to share knowledge (Masum, Azad, & Beh, 2015). In HEIs, job tenure was found to be relatively important at an intermediate stage of their career (Castellacci & Viñas-Bardolet, 2020).
A friendly and trustworthy environment is found to encourage knowledge sharing (Tong et al., 2015). The relationship between respondents’ attitudes on the friendliness of their work environment and encouragement was tested using Spearman’s correlation and a weak correlation, albeit significant, was found, \( rs = .347, p < .001 \), see table 4-8. The encouragement, therefore, is not something that the management can enforce through instructions or setting KPIs (Rutten, Blaas-Franken, & Martin, 2016; Tangaraja, Mohd Rasdi, et al., 2015; Xiaohong Zhang, Long, Wang, & Tang, 2015). The leadership style and the institutional environment should be friendly and support staff members to openly share and seek knowledge (Bharati, Zhang, & Chaudhury, 2015; Hogan & Coote, 2014).

**4.3.5 Participation in policy making**

An inclusive and empowering environment where employees participate in the policy making process fosters knowledge sharing (Bodla, Tang, Jiang, & Tian, 2018; Foss, Husted, & Michailova, 2010; N. Lin, 2001). Currently, employee engagement is weak as indicated by the responses to the statement “employees are consulted when formulating policies affecting their work” where 64.3% (n=72) disagreed and 35.7% (40) agreed from a total of 112 responses received. The lack of engagement may have also led to a majority of 55.4% (n=61) of 110 who responded to the statement “there are clear knowledge sharing policies in my organization” to disagree compared to only 44.6% (n=49) who agreed. Organizations and individuals cannot manage their knowledge unless they are clear about what knowledge exists in the organization (King et al., 2008).
A Spearman’s correlation was calculated to check the relationship between encouragement and consultation. There was a weak positive, but statistically significant, correlation between the two items, \( rs = .396, p < .001 \). Therefore, the increase in consultation might lead to higher employee encouragement. The participation itself may be seen as an empowering factor where employees feel included and respected (Bolisani, 2014; De Kok, Koops, & Helms, 2014). Not only this, but when HEI employees are consulted and engaged in the policy development they will be able to discuss its details with their colleagues in the development team and will not need further training or clarifications from the management as to how to implement these policies (Kriščiūnaitė & Strakšienė, 2015).

In a relatively young and busy HEI environment, where there is a high shortage of staff in many academic and administrative positions, like the institutions surveyed for this research, it may be understandable why the organization has not still developed or fully disseminated many of its policies. However, having a clear knowledge management strategy is found to have a positive correlation with successful knowledge sharing in organizations (Almuayqil, Atkins, & Sharp, 2015; Vraimaki et al., 2015). The employees of the two institutions have diverse background knowledge relating to their academic disciplines and to their past work experience. While sharing the disciplinary knowledge may be important within a department or program of study, this research is concerned with the work-related knowledge which allows employees to solve common problems and make proper decisions.

The institutions need to identify the knowledge gaps that require closing and how this knowledge is relevant to their work processes (Naser et al., 2016). The process of identification of knowledge should also clarify how the knowledge is to be recorded in a proper knowledge management system (Almujally & Joy, 2019), stored safely (Baptista, Kanwal, & Arif, 2017), shared with relevant employees (Oye et al., 2011), applied effectively to support institutional processes (F. Rusly et al., 2014) and evaluated for further improvement (Centobelli et al., 2018). To get more information on the nature of consultation in this organization and how it relates to knowledge sharing, the interview questions in this chapter include further details about consultation and participation.

4.3.6 Recognition and Rewards

Acknowledging the importance of employees’ knowledge as an institutional asset is essential in creating a knowledge sharing environment (H. Smith & Schurink, 2005). Recognizing and rewarding employees for their contributions is also found to improve institutional innovation.
and work processes (Hasgall & Shoham, 2008; Hogan & Coote, 2014). Respondents were asked whether their institution acknowledges the importance of their knowledge and/or recognized their achievements. One hundred and sixteen responses were received for the statement “my organization's prevailing culture is that every employee has best of knowledge” of which 68.9% (n=80) agreed and 31.1% (n=36) disagreed. Similarly, of the 115 responses received for the statement “my organization recognizes and respects individual achievements”, 67.8% (n=78) agreed and 32.2% (n=37) disagreed. Recognizing employees’ value and achievements and creating a fair and effective reward system is an important factor in the development of trust in the organization (Bartol & Srivastava, 2002). The trust gained through recognition will, in turn, increase employees’ participation in the knowledge sharing process more effectively (Huysman, 2004; Loh et al., 2010).

While HEIs may rely on employees’ voluntary knowledge sharing (Amin, Hassan, Ariffin, & Rehman, 2009; Cavaliere & Lombardi, 2015), and employees may not be limited by their job descriptions when sharing knowledge, linking knowledge sharing responsibilities in the job description would ensure the effectiveness of the operational activities of the organization (Becerra-Fernandez & Sabherwal, 2010; Cui, 2017). One hundred and fourteen responses were received for the statement “Knowledge sharing responsibilities are clearly stated in my job description” and slight a majority of 51.8% (n=59) disagreed while 48.3% (n=55) said their job description clearly outlines their knowledge sharing responsibilities. Two demographic groups did not fit into this trend: 59.1% (n=25) of those who were employed for more than ten years agreed with the statement; and 61% (n=25) of 41-50 year olds were also in agreement to the statement. The two groups overlap as, the highest single age group, 43.2% (n= 19), of those employed for more than ten years are 41-50 year olds. On whether knowledge sharing is tied with performance appraisals, 54.3% (n=57) were positive while 45.7% (n=48) said knowledge sharing is not tied with performance appraisals.

The organizational documents which include procedures that delineate responsibilities may not be widely circulated or may have been updated and not shared with all employees. The lack of information about one’s basic responsibilities leads to confusion and creates an environment where employees do not have the same view of their shared responsibilities (Wild & Griggs, 2007). Although the interview results are expected to yield further clarification as to how the organization links between appraisals and knowledge management processes, the findings show that the majority of respondents either think appraisals are not tied with knowledge sharing or have no knowledge of such a link.
Furthermore, a majority, 66.7% (n=66), of the employees who responded to the statement “my organization offers employees an incentive to adopt Knowledge Management” disagreed and 33.3% (n=33) agreed. There were no visible variations in the attitudes of demographic groups in the statement. The lack of incentives may demotivate employees to take part in the knowledge sharing process (Lyu & Zhang, 2017). This is especially so when employees anticipate rewards and think that it would increase their participation in the process as shown in the results of the following statement “I believe I would increase my participation in a KM system if I know that I will be rewarded”. One hundred and four responses were received for this statement and 79% (n=82) believed that rewards would increase their participation while 21% (n=22) disagreed. The expectation of rewards motivates staff to share and seek knowledge (Hu & Randel, 2014; J.-C. Lee et al., 2016; Tan, 2016).

4.3.7 Socialization outside the workplace

Socialization means the mechanisms that allow employees to interact and build interpersonal familiarity and personal affinity which enable them to acquire the knowledge, skills and values that are expected from their roles in the institution (A. Gupta & Govindarajan, 2000; Khalil et al., 2020). Face-to-face meetings are an important enabler of knowledge sharing among employees (Diriye, 2019; Matthews & Shulman, 2001; Panahi et al., 2013). The institution can facilitate the interactions by connecting employees to more knowledgeable individuals and providing tailored training and orientation programs (Fang et al., 2011). In the formation of social capital, networks hold resources and individuals can access the resources by getting access to the network (Oh et al., 2004). While 93.3% (n=123) of respondents say they find it easy to communicate with their colleagues, only 23.3% (n=27) say they meet outside working hours.

Informal socialization allows employees to share sensitive information and solve ad hoc problems (F. Rusly et al., 2014). Moreover, the informal meetings that often take place outside workplace formality also allow employees to share their tacit knowledge and minimize misunderstanding among them (Hu & Randel, 2014). Minimizing misunderstanding among HEI employees working in the same units is a primary prerequisite for cognitive social capital where group members form shared understanding of their work situation (Hu & Randel, 2014; Kurul, 2015).
4.3.8 Valuing knowledge as an institutional asset

HEIs can improve their work environment and benefit from their knowledge when they view it as an institutional asset (T. T. Kim et al., 2013; Loh et al., 2010; Jennifer Rowley, 2010). The institutions must also invest in knowledge management systems and utilize their knowledge properly (Rauf, 2016; M. C. Wang, Chen, & Fang, 2018). There were 122 responses for the statement “my organization recognizes knowledge as an important asset” and 77% (n=94) agreed while 23% (n=28) disagreed. While a majority of respondents believe that their institution recognizes the importance of its knowledge, 46.4% (n=45) of the 97 who responded to the statement “My organization invests in information systems to facilitate knowledge sharing” disagreed. Similarly, 41.5% (n=43) of the 106 who responded to the statement “my organization effectively utilizes the knowledge of its staff” disagreed with the statement.

This shows that employees have mixed views on how their institution manages its knowledge. If the organizational knowledge is not used, then it loses its value and employees may not be motivated to participate in the sharing process (Islam et al., 2017; Torabi & El-Den, 2017). The mixed or opposing views of employees about their work environment is also evident from their response to whether their institution has a knowledge management system.

This question “does your organization have a system that is designed to support sharing knowledge between employees?” probed employees’ knowledge on the existence of any system to manage organizational knowledge. There were three possible answers to this question a) Yes, b) No and c) Don’t know. Those who chose the first answer were further given the choice of naming the system they think is designed to manage knowledge in their organization. The majority of employees, 40% (n=68) of the 168 respondents, said they did not know of any knowledge management system while only 28% (n=47) said there was a system and 32% (n=53) said there was no KM system.

Only 30 of the 47 who said there was a system that was aimed to manage knowledge gave a response when asked to name the system. Their responses showed further confusion on the name of the system that manages institutional knowledge. For instance, 11 respondents said the FDU (Faculty Development Unit) which is a unit that organizes training for each department is the system that manages the institutional knowledge. Another 7 named ‘Professional Development’ while the rest listed email, Moodle, intranet, shared folders, Quality Assurance System and MIS as the system they thought managed institutional knowledge.
4.3.9 Summary of Organizational culture and environment

The majority of respondents, 92.8% (n=128), said that the people they work with are friendly. This shows that all themes of social capital; trust, social connection and active participation are visible in the organization. A friendly environment encourages a learner to seek knowledge and the more knowledgeable to share their knowledge. Another important element which strengthens the social bonds among team members is the ease of communication. Again, 93.3% (n=123) of the respondents believed that they could easily communicate with their colleagues. Communication climate is found to be very helpful to knowledge sharing, knowledge seeking and effective commitment in organizations (Hooff & Ridder, 2004).

It is worthwhile to mention that while the data indicates the existence of an open and supportive climate at their workplace, 76.7% (n=88) of respondents said that they do not socialize outside work. Formal communication may establish the proper structures of knowledge sharing, however, the informal socialization creates stronger relational capital among members (Inkpen & Tsang, 2011; Lawson, Petersen, Cousins, & Handfield, 2009; Widén-Wulff & Ginman, 2004) and an environment that is conducive to knowledge sharing (Rahab & Wahyuni, 2013). Informal interaction does not only help teams to share complex and tacit knowledge, but it also facilitates the creation of such knowledge (Sharon Ryan & O’Connor, 2013). It was also found that, in HEIs, quality research output only emerges from the informal interactions of researchers across specializations (Moss & Kubacki, 2007).

Although Muhenda & Lwanga (2014) posit that members who support rewards are more prone to withholding knowledge, the anticipation of rewards was found to positively influence knowledge sharing (Scarso, 2008; E. A. Smith, 2001). The rewards that motivate members to share their knowledge could be tangible e.g. monetary rewards or intangible like peer recognition, building reputation, etc. Some researchers argue that intangible rewards are more practical and effective than financial rewards. They argue that monetary rewards may have a negative effect in the long run as they only increase the quantity of the ‘knowledge’ shared instead of its quality (Gagné, 2009; Leistner, 2010). However, if an organization decides to use this type of motivation, they need to continuously monitor the quality of knowledge shared by members. In contrast, Wolfe & Loraas (2008) found that non-monetary rewards are not enough and it leads to reduced knowledge sharing intentions. The rewards can also be individual or group level incentives. The benefit of group level incentives is that it encourages knowledgeable members to share knowledge with others to ensure that the overall team performance is improved (D. Lee & Ahn, 2007).
A majority of respondents, 73% (n=87), stated that the organization encourages them to share their knowledge. When organizations instruct their employees to share their tacit and explicit knowledge, they should also keep in mind that employees will expect extrinsic rewards for the efforts they undertake, (Hu & Randel, 2014; Tong et al., 2015). This is perhaps why, as mentioned above, respondents indicated the existence of a positive link between the anticipation of rewards and knowledge sharing. Knowledge sharing is a very sensitive and personal matter and it may be difficult for employees to engage in an effective knowledge sharing practice without encouragement from their managers.

The positive attitudes which show that the work environment and organizational practices are supportive of knowledge sharing are also mixed with some negative responses which indicate that a proper knowledge sharing policy review is required in the institutions. Many employees think that there is not enough time to share knowledge or that their colleagues may sometimes withhold knowledge. Those who believe that others may be withholding knowledge may also withhold their knowledge when others are in need. In addition, close to half of the employees who said that disagreeing views are not accommodated in their work environment. A majority of the employees also indicated that they are not consulted when policies are being formulated and that organizational policies relating to knowledge sharing are not clear.

There were also mixed responses on whether employees’ knowledge and contributions are fully recognized and acknowledged. Respondents did not agree on whether their knowledge sharing responsibilities are stated in their job descriptions or linked with their appraisals. A majority of employees would increase their participation in the knowledge sharing process if they knew that they would be rewarded. Furthermore, the responses were mixed on whether the institutions have a knowledge sharing systems, invest in the information systems that support knowledge sharing and whether they utilize their knowledge effectively. Table 4-9 summarises the findings of the questionnaire.
Table 4-9 - Summary of Questionnaire A Findings

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<th>Findings</th>
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</thead>
<tbody>
<tr>
<td>Personal Attitudes</td>
<td>Employees strongly indicated that they are generally happy to seek knowledge and to share their knowledge with others.</td>
</tr>
<tr>
<td></td>
<td>Knowledge sharing may be limited if employees are unfamiliar with each other.</td>
</tr>
<tr>
<td></td>
<td>Job insecurity and lack of satisfaction may lead some employees to withhold and use their knowledge as protection.</td>
</tr>
<tr>
<td></td>
<td>Empowering employees (giving them a voice in the decisions relating to knowledge sharing policy) increases their participation.</td>
</tr>
<tr>
<td></td>
<td>Employees believe that it is not enough to seek knowledge from organizational manuals indicates the importance of seeking knowledge from other employees.</td>
</tr>
<tr>
<td></td>
<td>Employees’ attitudes to knowledge sharing are mainly shaped by institutional policies.</td>
</tr>
<tr>
<td>Organizational culture</td>
<td>Employees strongly believe that the institution is welcoming and they can easily communicate in a fully friendly environment.</td>
</tr>
<tr>
<td></td>
<td>Non-availability of time in the institutions’ work environment may restrict employees’ ability to share knowledge.</td>
</tr>
<tr>
<td></td>
<td>Employees’ belief that others may be withholding knowledge may also lead them to withhold knowledge.</td>
</tr>
<tr>
<td></td>
<td>Employees’ responses indicate that disagreeing views may not be accommodated in the work environment.</td>
</tr>
<tr>
<td></td>
<td>Employees may see their environment as unfriendly if they are not consulted or encouraged to share knowledge.</td>
</tr>
<tr>
<td></td>
<td>Institutional knowledge sharing policies and responsibilities are not clearly articulated or linked to appraisals.</td>
</tr>
<tr>
<td></td>
<td>Recognizing and rewarding employees’ achievements increases their participation in the knowledge sharing process.</td>
</tr>
<tr>
<td></td>
<td>There is limited socialization outside the workplace.</td>
</tr>
<tr>
<td></td>
<td>Employees indicated that there is no proper knowledge sharing system supported by the institutional information systems.</td>
</tr>
<tr>
<td></td>
<td>Some employees believe that their institution does not see knowledge as an asset or may not utilize its knowledge properly.</td>
</tr>
</tbody>
</table>
4.4 Chapter Summary
This chapter used quantitative and qualitative methods to analyse the findings of questionnaire A. previous literature was also consulted to interpret the results. The chapter started with a description of the demographic groups of the sample population and their differences. The analysis of the findings was divided into two categories: the personal attitudes of employees; and their attitudes and view towards the culture in the institution. The results show that employees are, in general, happy to seek and share their knowledge with others. The majority also describe and institutional environment that is friendly and welcoming. There are, however, some limitations that may inhibit knowledge sharing in the institutions. For instance, job insecurity, non-availability of time, and lack of familiarity between staff members may limit employees’ ability or willingness to share knowledge.

Recognizing and rewarding employees increases their participation in the knowledge sharing process while the lack of consultation and encouragement has a negative impact on knowledge sharing. Employees indicated that, currently, their institutions do not have an active knowledge sharing system. Furthermore, there is very limited socialization outside the workplace and the knowledge sharing policies are fully disseminated. The summary of findings presented in table 4-9 will be taken further in the analysis of the interviews and in the discussions chapter, were a model based on the findings and previous literature will be proposed.
Chapter 5: Interview Analysis

The interviews further focus on the culture in the organization, because the surveyed respondents were relatively less open to discussing their work culture compared to their personal attitudes. It was, therefore, important to get a closer look at the culture by interviewing more employees. Defining what components of culture to include in our investigation is not an easy task. However, revisiting the literature review and the analysis of the survey to find what necessitated further scrutiny can be a stepping stone to designing questions for the interview. As found by Alawi et al. (2007), trust, communication, rewards and organization structure positively influence knowledge sharing in organizations. The theory of social capital is also an important component in this investigation as we need to shape our enquiry under a theoretical foundation.

5.1 The interview questions

The interview questions extend the findings of the analysis of the questionnaire data which has yielded some important insights which need further examination. These include the existence of a knowledge sharing mechanism within the organization and how different teams or levels of management view knowledge sharing. The survey analysis also highlighted that a majority of respondents were on the view that if they were to receive rewards for the knowledge sharing activities, they would have participated more in the knowledge sharing practice. Seeking the views of managers who represent the institution and implement its policies might give a more complete picture on these issues. Employees may show readiness and positive views on knowledge sharing. However, if the institutions do not share that view, the effectiveness of the employees’ efforts will be limited (Vraimaki et al., 2015). Without a well-defined institutional policy which provides guidelines and standards on how to share knowledge, the individual HEI employees may not be able to combine their efforts to achieve a common goal (Akosile & Olatokun, 2020).

The degree of employees’ openness to share knowledge within their units and across different units is also something that the questionnaire data has not fully clarified. In addition, the findings of the questionnaire did not fully explain how the institutions empower and encourage their employees to actively participate in the knowledge sharing process or engage in informal socialization. Knowledge hoarding among employees and the institutional strategies to utilize knowledge were also not clear from the responses to the questionnaire.
Therefore, the interview contains questions that were developed around willingness to share knowledge, inter/intradepartmental bonds, empowering employees to participate and share their views, the relationship between rewards and performance, and knowledge sharing. These questions were categorized under five themes: trust, active participation, socialization, the knowledge sharing mechanisms and rewards and their effects. The development of the themes was guided by the theory of social capital (trust, active participation and socialization), and a combination of the outcomes of the questionnaire and the literature in the field of knowledge sharing (rewards, knowledge sharing). Table 5-1 shows the interviews questions and their literature sources.

Previous literature indicates that employees leaving HEIs may depart with knowledge critical to institutional success and proper functioning (Chugh, 2015). If the institution does not have a plan to retain its knowledge, this departure may have a negative impact on its operations (Cranfield & Taylor, 2008). The interviews, therefore, seek answers to how institutions are prepared to retain their knowledge.

Table 5-1-Interviews Questions and their Sources

<table>
<thead>
<tr>
<th>Theme</th>
<th>Question</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trust</td>
<td>To what degree you think staff members are willing to share their knowledge?</td>
<td>(Darmasetiawan, Idrus, Troena, &amp; Salim, 2013; Razak et al., 2018)</td>
</tr>
<tr>
<td></td>
<td>Do you have any programs that enhance intra/interdepartmental bonds?</td>
<td>(W. J. Chen &amp; Cheng, 2012)</td>
</tr>
<tr>
<td>Participation</td>
<td>How far do you consult the staff members you manage when developing policies or involve them in the policy making process?</td>
<td>(Jomah, 2017; Onsman, 2010)</td>
</tr>
<tr>
<td></td>
<td>Are there any mechanisms to encourage employees to voice their views in improving their work system?</td>
<td>(Jomah, 2017)</td>
</tr>
<tr>
<td>Rewards</td>
<td>How far do individual performances contribute to staff rewards?</td>
<td>(Jeong et al., 2013)</td>
</tr>
<tr>
<td>Knowledge Sharing</td>
<td>How do you connect your staff to other more knowledgeable people to solve problems?</td>
<td>(Leyer &amp; Claus, 2013; Omotayo, 2015)</td>
</tr>
<tr>
<td></td>
<td>How do you ensure that you do not lose your knowledge anytime a member of your staff leaves your organization?</td>
<td>(B. Gupta, Joshi, &amp; Agarwal, 2012; Srivastava &amp; Joshi, 2018)</td>
</tr>
<tr>
<td></td>
<td>How do you encourage your staff to refer to the available information when making decisions?</td>
<td>(Ma &amp; Chan, 2014; Obeidat, Al-Suradi,</td>
</tr>
</tbody>
</table>
Do you have any policy or procedures to encourage staff to share the knowledge they create with other members of staff? (Masa’deh, & Tarhini, 2016)

Do you encourage or facilitate staff meetings outside working hours? Please explain further. (Chugh, 2015; Srivastava & Joshi, 2018)

To what degree do you value social interaction among employees and its importance in organizational effectiveness? (Razzak, Ahmed, & Mite, 2013)

Socialization

5.1.1 Trust
Trust has been found to have a positive influence on knowledge sharing (Darmasetiawan et al., 2013; du Plessis, 2006; Tong et al., 2015). The majority of respondents indicated the existence of ‘willingness to share knowledge’ among staff members they managed or worked with in this organization. The work environment was described as welcoming with high inter-departmental bonds. The relationship between different units is said to be indirect and limited. The majority of the employee relationships occur as results of voluntary initiatives. Examples were cited where many new employees gain organizational knowledge without getting a formal training or even initial orientation. Training and development do not only improve employees’ knowledge related to their routine work processes but it can also be used to cultivate a culture of knowledge seeking and sharing. The lack of training and orientation may hamper the ability of the organization to learn and innovate (Babaahmadi, Hemmat, & Poor, 2014). However, as the results of the interviews show, the two organizations sampled for this research display a level of trust that motivates existing employees to continuously share their knowledge with their new colleagues as stated by the following respondent.

In fact, I can’t remember any formal induction given to new staff members for the last three years but they are doing fine. They teach, take assessments and follow procedures as anyone else. This is because we fully welcome everyone into the department and, without any formal procedures, ensure that new colleagues can do all their daily tasks with minimum errors. (CH2)

HEI employees often work in a collaborative environment, however, they are also expected to perform or outperform their colleagues (Hernaus et al., 2019). When there is no trust among members of an interdependent unit, employees hardly share knowledge even when there are instructions to do so (Alaarj et al., 2016; Seba et al., 2012). The explicit knowledge could be...
shared through emails and institutional portals, but institutions have no direct control of the tacit knowledge that resides in their employees’ heads. The two institutions employ the majority of their staff on annual contracts and that brings insecurity and competition (Austin, Chapman, Farah, Wilson, & Ridge, 2014). Because the lack of job security normally increases knowledge withholding (Skok & Tahir, 2010), it is hard to imagine that the support and openness to knowledge sharing described in the above quote take place without a level of trust among employees. Competitive and mistrusted academics do not share knowledge, instead, they are found to employ evasive techniques to hide their knowledge (Hernaus et al., 2019).

Accordingly, the trust among employees in the two institutions may have overridden the negative effects of job security. The two sides need to believe in the benevolence and/or competence of the other before they engage in the knowledge sharing process (M. Evans, 2008; Moss & Kubacki, 2007; Wasko & Faraj, 2005). Trust nurtures an environment of cooperation and smoother interaction among the knowledge contributor and knowledge seeker (Hashim & Tan, 2015). Research indicates that, in some Saudi HEIs, the management may not trust their employees sharing knowledge as they may think sharing implies leaking (Jomah, 2017). The clarity of the overall Knowledge Management System in the institution may reduce this mistrust and allow all to work under a safe and productive environment.

One of the two institutions sampled for this study, Jubail University College, is relatively new (established in 2006) and is actively seeking national and international accreditations. This requires its different academic and administrative departments to collaborate and share information that is related to accreditation. When one of the programs succeeds to receive an award from an accrediting body, the same process can be applied to other programs. The reciprocal or mutual aid that develops among individual members, teams or departments is found to help the creation of new knowledge (Araujo & Minetti, 2011). The institutional knowledge is not situated in a single location (unit, department, committee, etc.). Employees can therefore perform their tasks only when they get access to the knowledge of their unit as well as that of the other ‘networks’ in the institution and that can only be possible when there are both bonding and bridging social capital.

The majority of respondents indicate a lack of formal policy or procedures that is aimed at strengthening intra/interdepartmental bonds. The questionnaire responses showed that employees see their environment as friendly and are willing to share knowledge. Therefore institutions should build on this willingness by connecting their employees and investing in the
systems that support knowledge sharing (Pee, 2018). The interaction between members of staff within or outside the department/team stimulates knowledge sharing especially the type of knowledge that cannot be readily articulated or documented in manuals (S Ryan & O’Connor, 2013). Below is a response from one of the participants when asked whether they knew of any programs that encouraged inter/intradepartmental bonds:

I don’t know any such program. But if you see how we work in the department, we are open to each other and I think the bonds are somewhat strong among colleagues. Again, we don’t have any formal thing to encourage us to interact with other departments., but some of my departmental colleagues are members of college committees and that is the closest we get to interacting with other departments. Obviously, this is in addition to proctoring examinations where all college staff come together in the exam hall and see each other or sometimes communicate. (PRD1)

This again emphasizes that interactions are voluntary especially between members of different departments who only meet on very limited occasions. Personal initiatives and altruism can positively influence knowledge sharing (Hossain et al., 2018). Although this culture of altruism shows to be effective in this organization, a weakness of such grassroots initiatives that are not supported by formal procedures is that it may take longer to bear fruits than when supported by top management (O’Dell, 2015). Moreover, as shown by the questionnaire analysis, some employees may expect reciprocation or rewards when they share knowledge. They may not, therefore, continue to share knowledge for free if they are not rewarded. The structural social capital and trust between members develop after prolonged interactions (C.-C. Liu et al., 2011; van Dijk et al., 2016). Organizational policies should therefore support the creation of an environment where employees can connect to others in or outside their units (Omotayo, 2015; Pee, 2018).

5.1.2 Active Participation
The results of the questionnaire analysis showed that there was a limited consultation with employees when formulating policies. Many also stated that disagreeing views were not accepted and they were not encouraged by their institutions to share knowledge. Enabling employees to participate and freely share their views and concerns is found to foster readiness to knowledge sharing in organizations (F. Rusly et al., 2014). In general, responses to interviews questions show that employees are consulted during regular meetings. There can also share their suggestions using different communication channels. However, some
employees may not contribute their views during meetings as they think that disagreeing views are taken as criticism. Results also indicate that managers device policies in consultation with staff members. With that said, respondents had varying views on the existence or the level of participation in their work environment.

When asked whether employees are consulted on the decisions concerning their work environment, the following respondent, who worked as departmental chair and was a long-standing member of both Curriculum Development Committee (CDC) and Quality Assurance Committee (QAC), had the view that employees are given the chance to actively participate and shape their work processes:

Yes, during meetings all of us discuss matters that are related to our work. In addition, the CDC and QAC are the ones that formulate all policies and almost every department has a member in these committees, whether the members consult their departmental colleagues before they come to meetings, is something I don’t know. But they should. (CH5)

The varying responses may be rooted in how respondents view their role and the information they had on how decisions are made in the college. Some researchers hold that Saudi HEIs offer limited academic freedoms to their employees (Alamri, 2011). The hierarchical administrative structure further limits the powers given to each level of management and this causes some roles to have very limited autonomy to make decisions without getting approvals from the occupants of higher positions (Jomah, 2017). When lower units in the hierarchy cannot directly make changes to their work environment, their motivation to participate or voice their suggestions and concerns may be diminished (Nazir & Shah, 2014). A major problem with this type of decision-making in HEIs is that it slows down the process of implementing the decisions (O’Mahony & Garavan, 2012). The employees who are stakeholders to the decisions are not consulted and do not know the details of the discussions. Therefore, they may be uncertain about the benefits and purpose of implementing the decisions. They also feel alienated and ignored and may not have the motivation to take the decisions forward (Bansal, 2017).

The majority of the employees who responded to the questionnaire indicated that their participation in the policy making process would allow them to see the benefits of implementing these policies. The following respondent (a program leader) portrays an
environment where, although mechanisms may exist to openly share one’s views, there are some obstacles that may hamper the effectiveness of such mechanisms.

During meetings people are allowed to air their opinions, yet, as said before, some do not want to listen and follow new ways. Opinions are often seen as criticism and therefore staff members are reluctant to say anything. Some staff members are also afraid of airing their views and just follow instructions - irrespective whether they agree or not. No other method of feedback or raising concerns and issues (PRD3)

Two team characteristics are displayed in the above quote. The first one is the team members who are reluctant to accept change. This behaviour probably leads to the second one which is others who do not speak up their views. If staff members know that their colleagues in the meeting do not embrace change or accept dissenting views, they may prefer not to voice their views and simply follow the ‘instructions’ or the outcome of the discussions even if they do not agree with the decisions taken. Organizations can enhance their innovative abilities when they empower their employees to express their opinions freely (Tangaraja, Dutta, Madalli & Biswanath et al., 2015). Even when the discussions pertaining to policy making are confined only among few committee members and the rest of employees simply receive instructions to implement those policies, the few may feel included but the rest will be reduced as mere followers. The following quote respondents illustrate more on this:

The need for new policies is usually discussed with subordinates. The main features of the policies are discussed. But policy details and guidelines are prepared jointly with managers only. Procedures, forms and work instructions are developed in complete consultation with staff. (PRD2).

Other respondents indicated that the general policies are initiated, discussed and approved by the concerned committees without taking input from the rest of employees who will be required to implement those policies. A head of department in JIC states the following in response to how far he consults department staff before he takes a decision: “Very much. We have a highly structured hierarchy; every task is discussed thoroughly at the department level before it is finalized or sent to the higher levels” (CH4)

It seems that a majority of respondents agree the existence of such a hierarchical level of decision-making and the availability of some sort of ‘consultation’ with all members. Whether the members who hold no managerial or supervisory roles feel fully empowered to exercise
these powers is where the respondents’ views are in disagreement. When the same above respondent was asked whether the college has mechanisms to encourage staff members to participate in the decision-making process, he said: “Yes, we have suggestion boxes, anonymous surveys that are dropped in the boxes and these tell us about the performance of the department leaders.” (CRD3).

Another respondent (CRD4) however, states that these surveys are not anonymous. When the surveys are accessed through the college network, or require usernames and passwords to start, employees may not consider them as anonymous. Nonetheless, only one respondent mentioned physical drop-in surveys and suggestion boxes. When employees are convinced that the channels they use to voice their concerns or send suggestions are not anonymous, this might reduce their trust in the organization (Mao & DeAndrea, 2019). As a consequence, their lack of trust in the organization could negatively affect their knowledge sharing attitudes (Khvatova et al., 2016).

5.1.3 Socialization

Socialization is the process through which employees learn the knowledge, skills and norms that are requisite for the proper functioning of the organization (Farrell, Payne, & Heye, 2015; Ge, Su, & Zhou, 2010). It is necessary for transferring social capital and it reduces free-loading because only those members who socialize will gain more social capital from each other (Chakraborti, Maloney, Roberts, & Shogren, 2016). Although employees can interact through social media, it is not as effective and reliable, especially when sharing tacit knowledge, as face-to-face interactions (Al Saifi, Dillon, & McQueen, 2016; Davenport & Prusak, 1998; Kumaraswamy & Chitale, 2012). Employees develop relationships and trust through socialization and it particularly helps newcomers to reduce uncertainty and get the support they need by forming effective relationships with their colleagues (Rahman, Mannan, Hossain, Zaman, & Hassan, 2018; van der Werff & Buckley, 2014).

The questionnaire findings show that the majority of employees do not meet outside working hours. The Interview responses have further shown that employees differ in their understanding of what constitutes socialization. They all state the existence of departmental meetings where pre-set agendas are discussed. One respondent described these meetings as very formal events where chairpersons have full control of the discussion and many members simply show their presence without taking part in the discussions. Whatever the case, it is clear that staff members share knowledge through their interactions in the workplace rather than their socialization
outside the workplace. The majority of respondents describe an environment where very limited face-to-face interaction of employees exists outside the workplace. With that said, some respondents consider communicating through social media as effective as face-to-face meetings. When asked whether he encouraged staff to socialize outside the workplace, the following respond said:

That [encouragement] is very hard. Well, we only have some occasional events that take place outside the college like closing ceremonies, but they most likely take place in RC [Royal Commission] owned facilities. Some departments may also arrange their own events, like farewell events when one of them is leaving, where they lunch outside in a restaurant. These are not planned far in advance, they are usually announced a few days before the event. There are also some employees who live in the same compound and they may have chances to meet outside. (CH1)

None of the respondents stated any form of formal induction that uses mediums like lectures, videos or documents taking place. However, as mentioned earlier in this chapter (section 5.1), many respondents agree that new employees get quickly accustomed to the routine tasks they are expected to perform within a short period of time. If the purpose of socialization is to ensure that employees share knowledge, especially the type of knowledge that is hard to formalize, then a practice of socialization has to be cultivated among the employees either as a spontaneous culture which needs no backing from the top management or as a planned policy initiated and supported by the management.

The questionnaire responses show that the time available for them to share knowledge may not be enough. One of the reasons for the lack of meetings outside the workplace may be because evenings are the only times members have to rest after a long day’s work. In response to whether he encourages staff members to meet outside the workplace, the following respondent says:

I cannot claim that we actively encourage this but we do facilitate if required. The work here is very tough and we all need to relax in the evenings but there are times in the semester that some members feel that we should meet outside in a restaurant or at the beach. As a chairperson, I try to facilitate that by sending emails to all members, perhaps calling them in the afternoons and so on. We usually contribute the costs if there is no petty cash from the department purse. (CH3)
Over ten respondents stated that work overload may reduce their ability to organize informal meetings outside working hours or weekends. Employees are expected to work 40 hours per week and the shortage of teaching staff forces some departments to raise the teaching loads to over 25 hours per week. The overloaded academics also need to prepare lessons, conduct and mark assessments and attend to other administrative responsibilities like committee memberships and accreditation assignments. Informal interactions could enable employees share or gain more tacit knowledge than formal meetings (Becerra-Fernandez & Sabherwal, 2010). The informal relationships help HEI employees to build mutual trust and collaboration (Naeem & Khan, 2019). Saudi HEIs follow strict formal procedures often approved by the Ministry of Education. That does not, however, stop employees using informal shortcuts to go around the hierarchy to achieve their goals (Adham & Hammer, 2019; Al-Omari, 2008). Informality is dominant in the Arab culture and the HEIs can use this cultural trait in a more beneficial way by facilitating and encouraging employees to formal informal networks which allow them to share knowledge (Abalkhail & Allan, 2016; Baro, Tralagba, & Ebiagbe, 2018; Durbin, 2011).

Almost all respondents agree on the importance of informal interaction and its role in organizational effectiveness. The following quote is an example of how the interactions are mainly limited to the workplace:

*Well, I think this is important in all organizations. In our department this happens every day in our office when members are not teaching or are not busy with administrative duties, they often gather around and talk about their work, their general life, or even discuss current events. There is no much contact among staff outside workplace though. (CRD6)*

As explained in sections 2.2.5 and 2.3, socialization is key to transferring tacit knowledge between employees. The formality at the workplace and its meetings may not yield the fruits that the informal interactions can bring to knowledge sharing (Foss et al., 2010; Wijngaarden, Hitters, & Bhansing, 2020). The Arab knowledge management culture is characterized by confidentiality and verbal communication (Skok & Tahir, 2010). The informal meetings, therefore, allow employees to share some private, work-related, questions that they may not otherwise ask in the official meetings or post on group forums that are open to all employees.
5.1.4 Rewards

Tracey & Tews (1995) argue that, when employees cannot link the knowledge they acquire on the job with rewards, this may lead to a lack of training transfer. The survey results showed that a majority of the employees would like to participate more in the knowledge sharing process if they knew they would be rewarded. The importance of rewards to knowledge sharing is supported by literature (see section 2.3.1). The positive role of rewards in HEI knowledge sharing is specifically found by (R Fullwood et al., 2013; Jomah, 2017; Naser et al., 2016).

The interview also aimed to measure the relationship between staff performances and rewards. With the assumption that knowledge sharing is part of the general performance measured in the organization. There were opposing responses on whether individual performances are counted in the promotions and rewards. Three interviewees believed that performances are taken into consideration during the annual appraisals while another eight said that the criteria for promotions are not clearly pronounced and it would be, therefore, difficult to know the factors that are counted in the promotions and those that are not. Further three respondents said the relationship between staff performances and promotions was either limited or non-existent (see table 5-2).

Table 5-2 The existence of reward systems

<table>
<thead>
<tr>
<th>Response</th>
<th>Sample quote</th>
</tr>
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<tbody>
<tr>
<td>Rewards are mostly tied with performances</td>
<td>“A lot. The annual evaluation is based on how that member of staff performed during that year. There are also performance appraisals, research rewards that take into account individual performance.” CRD5 “All the time. Emphasis has always been on teamwork, team collaboration and joint success.” CRD2</td>
</tr>
<tr>
<td>Rewards are, to some extent, tied to performances.</td>
<td>“To some extent, performances contribute to staff rewards but the rewards are not substantial. The yearly evaluations are often confidential although staff members see and sign the final form, they have very little input into it.” CHQC1</td>
</tr>
<tr>
<td>Not known or very limited relationship between performances and rewards.</td>
<td>“It is supposedly taken into account annually for appraisal.” CRD7 “Very limited. The HR rules apply to all regardless of their roles as academics or otherwise. There are, however, certain times when the individuals that are noticed to have made continuous contributions are rewarded.” PRD2 “The problem with this is that the reasons for promotions are not necessarily pronounced. Therefore, the link between performance and promotion is not officialised.” CRD8</td>
</tr>
</tbody>
</table>
The results of both the questionnaire and interviews are not conclusive on whether there is a clear institutional strategy that links employee knowledge sharing performances and their evaluations and rewards. In addition, there is no clarity on how the institutions reward their employees and encourage them to share knowledge. The questionnaire also highlighted that knowledge sharing duties are not in the job descriptions. As mentioned in section 2.4.1, the literature supports the importance of both soft and hard rewards to knowledge sharing (Donnelly, 2019; S. T. Hussain et al., 2017; Law et al., 2017; Lyu & Zhang, 2017; Muhenda & Lwanga, 2014).

5.1.5 Knowledge Sharing

Knowledge sharing and its role in HEIs was thoroughly discussed in sections 2.3 to 2.3.7. The interviews sought to discover the existence of formal procedures to encourage and connect staff members of the institution to share their knowledge and to use the available knowledge. It also enquired about whether the institution had any mechanism to ensure that it does not lose knowledge when a knowledgeable member leaves the organization. The questionnaire survey has shown that respondents did not agree on the existence of a Knowledge Management (KM) system in their institution. Furthermore, respondents emphasized the importance of knowledge sharing in their work environment.

When asked how they encouraged their staff to refer to the available knowledge to solve problems, eleven respondents stated that, while some instructions or documents may be stored in shared folders or in cabinets, their institution does not actively monitor the use of these folders. Nine others said that there is no plan or mechanisms to encourage employees to use the stored knowledge. The purpose of knowledge creation and storage is to utilize it for decision-making and to improve work processes (Mahdi, Nassar, & Almsafir, 2019). This is more important when the institutions are going through transformations initiated by the new changes in the Saudi HEIs (see sections 1.3.1, 1.3.2 and 1.3.3)

5.1.5.1 Connecting members to more knowledgeable staff

When interviewees were asked whether the organization connects knowledge seekers to those who could provide knowledge, the majority said there was no such practice. However, almost all of them mentioned the existence of informal, voluntary relationships among staff members that enable them to connect to each other and get answers to their questions. In addition to that, it was mentioned that questions may be raised during the formal departmental meetings as in the following response:
The answer is no. we don’t have any written procedure or practice we follow to connect them. The only time they may be able to learn from each other is when they are in formal meetings. (PRD1)

The connecting strategies that promote the bonding between employees include socialization and mentoring (Aslam, Shahzad, Syed, & Ramish, 2013; Sheerin et al., 2020; Tangaraja, Mohd Rasdi, et al., 2015). While employees may be happy to share knowledge voluntarily, they need to trust the seeking side to continue their sharing. This is because the two sides need to have shared objectives to continue interacting and for the trust to flourish (Owayid & Uden, 2014).

Shared drives, manuals and common sense are mentioned as sources of knowledge sharing among staff members as stated by CH5 below. The databases, portals and departmental network drives can be useful in sharing formal procedures and descriptions of courses, programs and assessment procedures (Baptista et al., 2017; Terzieva, 2014). Nevertheless, this will not help sharing the tacit knowledge which includes the personal skills and intuitions that are difficult to codify and store (Becerra-Fernandez & Sabherwal, 2010; Karnani, 2013).

No. But still people share knowledge through shared drives, meetings and informal discussions. They have been hired to do this. Their job descriptions and contracts dictate all they are required to do. They have clear duties and through this, they decide where to direct their questions. (CH5)

The institutions can facilitate the interactions by first identifying their business processes (e.g. teaching, research, quality procedures, etc.) and then inviting employees to self-report their areas of expertise. Employees can then connect to each other according to their needs using internal directories. A forum to log the questions and answers and a system to monitor the effectiveness of the forum and its frequency of use can then be developed (Hara, 2006; Leyer & Claus, 2013). To increase the participation of this system, the institution can offer incentives to reward its employees’ efforts to share knowledge (Almujally & Joy, 2019).

5.1.5.2 Employee turnover and organizational knowledge.

The interview also enquired about what mechanism were in place to ensure that the organization does not lose its knowledge when knowledgeable employees decide to leave. Organizations may not meet their targets effectively if they do not have a process of capturing the knowledge of staff remembers leaving their positions (Becerra-Fernandez & Sabherwal,
This is especially important when the majority of work processes are not externalized or documented (Jasimuddin et al., 2005).

Responses show that new employees do not get formal training from the institution but are voluntarily coached by benevolent colleagues who informally share their knowledge with their new colleagues. However, this approach may not sustainable as there are times that the organization may lose an employee(s) before s/he can train others and that is why it is necessary to create a formal knowledge management system to ensure that institutional knowledge is stored and properly disseminated.

When institutions design their employee retention policies, they can also take into account how to maximize the retention of employees’ knowledge after they leave the institution. Nonaka’s SECI model, discussed in section 2.4, states that employees’ tacit knowledge can be captured through the externalization dimension of the model. While employees are still active in the institution, they can be asked to transfer their knowledge into a comprehensible form that can be easily codified, stored and passed to other employees (E. C. K. Cheng, 2019; Panahi et al., 2013).

5.2 Chapter Summary
The interview results show the existence of a welcoming environment where employees accommodate each other well. Knowledge is shared without any formal procedures dictating how employees share or seek knowledge. There is also a lack of bonding programs aiming to connect employees within or outside their departments. Such bonds increase productivity and knowledge sharing among employees (Golden & Raghuram, 2010; Khvatova et al., 2016).

There are varying views on whether employees are consulted when formulating policies affecting their work environments. Although there are regular meetings that allow employees to give suggestions or raise any concerns, some staff members state that they do not benefit from these meetings as they think that their opinions are taken as criticism. Such an environment is not conducive to learning (C. P. Lin, 2008).

Employees also reported very limited interactions outside the workplace. This may limit the ability of employees to create and share tacit knowledge which was found to increase under informal interactions between the sharer and seeker (Easa, 2011; Taminiau, Smit, & de Lange, 2009). The informal meetings are not encouraged by the management as stated by respondents;
however, some managers reported that they do facilitate meetings outside the workplace if required.

Whether the organization links its reward structures and knowledge sharing is not conclusive from the interview results. This may be due to a misunderstanding of the meaning of ‘knowledge sharing’ among employees. Some managers consider the attendance of formal meetings and mentoring new employees as knowledge sharing activities, while others believe that as these activities are not formalized, documented or properly disseminated, it cannot be counted as knowledge sharing activities. The positive role of rewards in knowledge sharing is extensively supported by literature (Amin et al., 2009; Donnelly, 2019; S. T. Hussain et al., 2017; D. Lee & Ahn, 2007) Respondents also disagreed on the existence of a knowledge sharing system. As stated in section (4.1.2), the surveyed employees gave varying names for what they thought was a knowledge sharing system in their organization. This again emphasizes the misunderstanding stated above. However, all respondents believe that they informally share and seek knowledge.
Chapter 6: Discussion, Proposal and Recommendations

6.1 Introduction
The previous two chapters summarized and analysed the findings of this research. This chapter makes proposals to improve knowledge sharing in work environments of the Saudi HEIs studied in this research. It uses the findings of the empirical data (quantitative and qualitative) collected in this research and selections from previous literature which included knowledge management processes as a launchpad for its recommendations. It proposes a model which embeds components from the traditional knowledge management steps with the social capital elements emphasised in this research. It then adds further recommendations to smoothen the implementation of this model.

It is important to note that the two Saudi institutions studied in this research are going through multiple accreditation processes which demand knowledge to be shared across departments (JIC, 2020; Jubail University College, 2020b). In addition, the Ministry of Education requires all HEIs in Saudi Arabia to actively seek accreditation from the National Centre for Academic Accreditation and Evaluation (NCAAA) (Alghamdi, Alotaibi, & Ibrahim, 2020; Onsman, 2011). When several programs are seeking accreditation from the same accreditation body, they can share the knowledge and skills needed to create documents and build evidence to achieve that accreditation. Closing the gaps in the knowledge sharing processes identified in this research by improving the policies and procedures that guide institutional knowledge sharing practices might, therefore, help the institutions improve their knowledge sharing practices.

The findings of this research show that employees of two Saudi HEIs have an environment where knowledge is shared voluntarily in the institutions. The employees are willing to share and seek knowledge and the institutions are described to value the knowledge of their staff. Nonetheless, there are several barriers that may hinder the knowledge sharing system in the institutions. Hardly any formal policies that are designed to support knowledge sharing activities or facilitate the formation of social capital among employees. Recognition of staff achievements or rewarding their knowledge sharing efforts is not clearly documented and
there is limited investment in the systems that manage knowledge sharing. Whether the institutions properly utilize their knowledge is not fully supported by the findings. Furthermore, there is a lack of consultation with employees in matters affecting their work. Employees’ socialization outside the workplace is very limited as well as the time available to them to share knowledge.

Drawing upon the theory of social capital and the knowledge sharing processes in the literature, this research proposes a model that can help closing the knowledge sharing gaps identified in this research. The model interconnects the knowledge management processes described in section 2.3 and the elements of social capital discussed in section 2.2.5.

6.2 Proposal of OCSA-CESR (Observe, Capture, Share, Apply – Connect, Empower, Socialise, Reward) Model

This model is based on the outcomes of the data analysis and the literature review conducted as part of this research (see figure 6-1). The data analysis has shown that employees regard a number of social capital elements as a necessary constituent of knowledge sharing. These include the level of socialization outside the workplace, empowering employees to contribute their views and concerns to their managers and to have the ability to participate and make changes in their work practices. Another important element supported by employees is building a culture that fosters trust in their work environment. They also pointed out that their expectation of rewards may affect the way they share knowledge.

The KM process follows steps that include identifying, storing, sharing and applying the knowledge (see section 2.4). The knowledge is created (observed/identified) by employees through their work routines. The knowledge is then captured by recording and storing it in an accessible and retrievable format. It is then shared with the employees that need to apply this knowledge. The main steps of the model (observe, capture, share and apply) are based on the above KM steps. In addition to the sources cited in section 2.4, the literature sources listed in table 6-1 support the use of the model elements in the way they are explained in section 6.2.
Table 6-1- Literature Sources for OCSA-CESR

<table>
<thead>
<tr>
<th>KM Steps</th>
<th>Literature Source(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observe</td>
<td>(Al-Shanasi, Zamberi, &amp; Hossan, 2017; Kimble, 2020)</td>
</tr>
<tr>
<td>Identify</td>
<td>(Aulawi, Ramdhani, Slamet, Ainissyifa, &amp; Darmalaksana, 2017)</td>
</tr>
<tr>
<td>Relate</td>
<td>(Bell &amp; Cooper, 2015)</td>
</tr>
<tr>
<td>Confirm</td>
<td>(du Plessis, 2006)</td>
</tr>
<tr>
<td>Capture</td>
<td>(Agarwal &amp; Marouf, 2014; Al-Qadhi et al., 2015)</td>
</tr>
<tr>
<td>Record</td>
<td>(Mollahosseini &amp; Barkhordar, 2010)</td>
</tr>
<tr>
<td>Enrich</td>
<td>(B. Lee &amp; Ge, 2010)</td>
</tr>
<tr>
<td>Code</td>
<td>(Scarso, 2008)</td>
</tr>
<tr>
<td>Share</td>
<td>(W. J. Chen &amp; Cheng, 2012; Muhenda &amp; Lwanga, 2014)</td>
</tr>
<tr>
<td>Release</td>
<td>(Weda, 2018)</td>
</tr>
<tr>
<td>Rate</td>
<td>(Jeong et al., 2013)</td>
</tr>
<tr>
<td>Consolidate</td>
<td>(Kanjere, 2016; Souza da Conceição, Broberg, Paravizo, &amp; Jensen, 2019)</td>
</tr>
<tr>
<td>Apply</td>
<td>(Nooshinfard &amp; Nemati-Anaraki, 2014)</td>
</tr>
<tr>
<td>Utilize</td>
<td>(Agarwal &amp; Marouf, 2014)</td>
</tr>
<tr>
<td>Evaluate</td>
<td>(Mohammad &amp; Al Saiyd, 2012)</td>
</tr>
<tr>
<td>Improve</td>
<td>(S. S. Chen, Chuang, &amp; Chen, 2012)</td>
</tr>
</tbody>
</table>

The findings of this research, both from the quantitative and qualitative data analysis, further enhance the literature sources. For instance, the questionnaire analysis revealed a lack of utilization of knowledge in the work environment (see section 4.3.8).

![Figure 6-1 Sources of OCSA-CESR Model](image_url)
Therefore, an emphasis on utilization is added in the application phase of the model. Employees also stated that they would increase their participation in the knowledge sharing process if they were rewarded (see section 4.3.6). The interviews did not confirm the existence of such rewards system in the institutions. As a result, rewarding employees was added to the model. However, the rewards can only be meaningful when employees knowledge sharing activities are evaluated and rewards are given accordingly (Jeong et al., 2013). For this reason, the model includes rating employees’ knowledge sharing activities.

The findings also indicate that there is no institutional policy to connect employees and foster social capital (see sections 5.1.1 and 5.1.5.1). There is also low socialization (see sections 4.3.9 and 5.1.3) and empowerment of employees (see section 4.3.4). The following three elements: connect, empower and socialize where, therefore, included in the model to develop social capital among employees. Furthermore, many employees believe that others withhold their knowledge (see section 4.3.3) and there was disagreement among employees on whether they sometimes hoard knowledge (see section 4.2.9). This tendency to withhold knowledge, coupled with the lack of formal knowledge sharing policy in the organization (see section 4.4.1), demands an emphasis on the sharing phase of the KM process. The knowledge may be available, however, because of the possibility of withholding, it may not reach the users who need this piece of knowledge for their work.

As stated in sections 2.2.1, 4.1.1 and 4.4.2, the hierarchical culture in Saudi HEIs, in general, and in the two institutions studied in his research may limit the communication between employees of different levels. The cultural and administrative restrictions of physical segregation between male and female employees also inhibit communication and socialization. Therefore, the emphasis on connection and socialization may increase teamwork and collaboration which, in turn, leads to higher knowledge sharing (Alawi et al., 2007).

In addition to this, the model also draws on earlier research findings in the area. Researchers of knowledge sharing identified several elements that strongly influence knowledge sharing
in organizations. Table 6-2 below shows some of the outcomes of the research conducted in this area and the type of industries they focused on in their research. Although the researchers investigated employees of diverse industries, their findings show a number of similarities. The researchers found that organizational identification, reciprocity, social interaction and trust were highly influential in how people share knowledge in organizations (Akhavan & Mahdi Hosseini, 2016; H. H. Chang & Chuang, 2011; Chiu et al., 2006; W. B. Lin, 2008; Tan, 2016; W. L. Wu & Lee, 2016; Yen, Tseng, & Wang, 2015)

Table 6-2-Factors that influence knowledge sharing

<table>
<thead>
<tr>
<th>Researcher(s)</th>
<th>Elements that influence knowledge sharing</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Lin, 2008;)</td>
<td>Trust, commitment, creative and supportive culture</td>
</tr>
<tr>
<td>(Akhavan &amp; Mahdi Hosseini, 2016)</td>
<td>Interaction, trust, reciprocity, team identification</td>
</tr>
<tr>
<td>(Chiu et al., 2006)</td>
<td>Interactions, trust, reciprocity, identification, shared history, shared language</td>
</tr>
<tr>
<td>(W. L. Wu &amp; Lee, 2016)</td>
<td>Group trust, supportive culture</td>
</tr>
<tr>
<td>(Yen et al., 2015)</td>
<td>Trust, norms (rules), ‘Guanxi’ (social ties)</td>
</tr>
<tr>
<td>(Tan, 2016)</td>
<td>Trust, rewards, KM system quality, openness, face-to-face interactive communication</td>
</tr>
</tbody>
</table>

6.3 Knowledge Areas in Academia

This model targets all areas of knowledge relating to the functions of higher education institutions. Academic work can be broadly categorized into three main areas, namely; teaching, research and administration (Arimoto, 2010; Arokiasamy, Mansouri, Balaraman, & Kassin, 2017; Oshagbemi, 2000; Sellers-Rubio, Mas-Ruiz, & Casado-Díaz, 2010). These knowledge areas are interrelated and are not fully discrete. Figure 6-2 below expands the three categories and the types of knowledge under each of them. The subcategories under each area were collected from the discussions with staff members during the research. Members of academic staff, whether they work in groups or as individuals, are usually assigned to one or more areas of work and they are required to maintain the knowledge they generate during the time they work in these areas. In addition to this, they are also expected to utilize and develop the knowledge they receive from sources external to their teams. The
model assumes that all academic knowledge, regardless of its category, can be managed using the same knowledge management practices.

**Figure 6-2 Knowledge areas in higher education**

6.4 The components and processes of the OCSA-CESR model

This model assumes Knowledge Management (KM) processes as continuous cyclical steps each leading to the next step without any absolute starting point (see figure 6-3). This is because there cannot be a certain period in time where the organization has no knowledge. Even the very act of initiating a new process, department, team or even establishing the organization itself relies on previous knowledge which may have come with the people who started the organization. Designing procedural routines of knowledge sharing and training staff members to implement these procedures will probably be one of the initial Knowledge Management activities in the organization. With that said, not all organizations have active Knowledge Management policies and practices and that obliges them to have a point where they start to capture new knowledge or organize the knowledge they have already created and then take this knowledge to the next relevant step of the cycle. For example, an organization may discover that, unknown to their employees, they have a wealth of knowledge in their documents. The management may consider this knowledge as already ‘captured’ and decide to move to the next step, which is ‘sharing’ this knowledge.
An organization may also opt to gather knowledge from their future actions without looking back into the knowledge already in use in the organization. Whichever the case, the most likely starting point of the process will be to observe or identify what represents organizational knowledge. The complete knowledge sharing model includes the following steps and sub-steps:

1. **Observe**: in this step, the organization will identify a solution to a persistent problem. This may be discovered in a document, from the discussions in meetings, as a casual utterance from a colleague during informal gatherings, etc. Three sub-steps are necessary during this step; to identify the relevance of this knowledge and to relate it to a general procedure or policy or a recurring problem. In addition to this, the relevant team will also confirm whether this knowledge is new and needs capturing. (Here, the members and teams involved in the ‘Observe’ step will be rewarded for adding new knowledge to the knowledge pool)

2. **Capture**: the observed knowledge can only be useful if it is kept for the organization’s future use. This step includes three sub-steps: the knowledge has to be recorded in a way that is understandable and realistic to the users. It also needs to be
enriched by adding further explanations, ‘how to use’ guide, etc. and lastly, it needs to be coded to avoid duplication and allow retrieval. This may include assigning a signifying code to the knowledge to assist users to discover it quickly.

3. **Share**: After capturing the knowledge, it is disseminated to users. The first sub-step is to release or broadcast the knowledge so that it is visible to all concerned users. The users will rate the knowledge according to its usefulness. This will allow the organization to consolidate the highest rated knowledge and reward the employees based on the quality of what they create and share. (Here, the members and teams involved in the ‘Share’ step will be rewarded for their contribution to the sharing/seeking step)

4. **Apply**: This is probably the main purpose of all Knowledge Management exercise. This activity overlaps with the previous step because users will only be able to rate knowledge after they try to apply it. During the application process, users will utilize all the knowledge available to them during their routine work activities and, through the repeated use of a specific piece of knowledge, they will be able to evaluate that piece and suggest further improvements where necessary.

The completion of the whole process of knowledge sharing is reinforced with three activities that enhance the social capital among employees (connect, empower, socialize) as shown in the model. For instance, the organization will ensure that administrative groups (committees, departments, etc.) know each other and have a level of trust and confidence that allows them to interact with confidence.

1. **Connect**: There are two types of connections. Firstly, employees will be connected to each other so that those who are seeking knowledge will be able to communicate with other knowledgeable members. Employees’ profiles could be enhanced with more details about their skills, experience and the types of knowledge they can contribute. The skills and experience may be self-reported by employees in the beginning, but the quality of the knowledge they share and their sharing performance will be evaluated and rated by the users of the model. The management will then encourage employees to use the contact details of their knowledgeable colleagues.
when they have questions or face problems that they cannot solve. Instructions relating to this can be added to the job descriptions or can be raised during the appraisal and annual evaluations (see section 4.3.6). The connection of employees facilitates interaction and the formation of the structural dimension of social capital (T. T. Kim et al., 2013).

As discussed in section 4.4.5.1, it is not possible to force employees to contact each other. The people responsible to create this connection will, therefore, require a considerable level of interpersonal skills which enables them to cultivate trust among employees and to ensure that such connection becomes voluntary. This type of connection may require knowledge sharing technologies and social media utilization to support communication and retrieval of knowledge. The shared communication patterns, familiarity and interactions increase trust among employees (see section 2.3.5).

Secondly, employees need to be connected to the organization’s vision and mission, which is what drives all their routine activities. When employees actively keep in mind the purpose of the work they are doing and its relation to the overall goals of the organization, this may instil and reinforce the organizational identification/ownership among them (Han et al., 2010). The smooth flow of knowledge and the interactions among employees should be monitored to ensure that there is healthy communication and reciprocation of knowledge. This is because a number of researchers found that knowledge sharing is strengthened when employees seek and, at the same time, share their knowledge (Hooff & Ridder, 2004).

2. **Empower (active participation):** this is to ensure that employees are consulted when policies are formulated and that they feel their contributions are taken into consideration. Staff members will be allowed to actively take part in discussions and proactively voice their views (participation) in all matters that affect their work. This requires the creation of a management culture that sees mistakes as necessary and as
intermediary steps towards effective and productive work practices. Teams and individuals often make unintentional mistakes and, if they know that mistakes will not necessarily affect them negatively, they will not be afraid to try to improve their work. However, as the organization has its limits to accommodate mistakes, it may be necessary to create a clear procedure that regulates how mistakes are dealt with and how the organization and its employees can avoid repeating these mistakes.

3. **Socialize**: the organization will facilitate social interactions among employees. Although employees interact during working hours, they may not get enough time to engage in detailed discussions about their work. Informal discussions that take place during break times or outside working hours are found to be advantageous to knowledge sharing (Hu & Randel, 2014; Karnani, 2013). In this step, the institutions should focus on enabling employees to socialize both horizontally (with employees of the same unit, department or level of management) and vertically (different levels of the hierarchy) (Juan, José, & Ballesteros-Rodríguez, 2018; Khan, Shenkar, & Lew, 2015). As the SECI model described in section 2.4 holds, the primary purpose of socialization is to enable the transfer of tacit knowledge among employees. Socialization strategies include mentoring, training, transferring employees to work in other units for a period of time, meetings and other forms of communication (Hartmann & Javernick-Will, 2011).

6.5 **Recommendations for Implementation**

The purpose of this model is to help the two institutions studied in this research create a process to manage and share their knowledge. While the knowledge management process may be generic and can be used by any organization, this model is enhanced with the empirical findings of the data collected from these institutions. As such, the primary beneficiary of this research will be the two institutions (JIC and JUC). The limitations of the convenience sampling further limit the generalizability of the findings and, hence, the application of this model. With that said, the model may also be useful to similar institutions.
in Saudi Arabia that follow the same Ministry of Education guidelines to manage staff, teaching and conduct research. Nevertheless, following the same broad guidelines does not guarantee similarity in the attitudes of employees and the institutional cultures that underpin the findings of this research. Therefore, any other institution would need further research to enhance or adapt this model to their organizational settings before its implementation.

The data were collected from the administrative and academic staff and the types of knowledge that relate to their work processes and decision-making activities. It is therefore important to reiterate that the primary focus of this model is to manage the type knowledge that is in the context of decision-making, work processes and problem-solving for the academic and administrative employees of JIC and JUC.

It may not be easy to change the behaviour of employees to enable them to fulfil all the steps in the OCSA-CESR model. However, restructuring some of the organizational routines may be necessary to support executing this model. For instance, hiring and contracting documents should include well-defined strategies about the importance of organizational knowledge. The orientation programs and staff manuals should also contain clear guidelines on how knowledge is managed in the institution.

All higher education processes (teaching, assessment, committee activities, implementation of quality procedures, etc.) should be considered as knowledge-producing activities. Members who engage in these processes should have a mechanism to capture and share the knowledge they observe during their engagement in the process. (A plethora of information technology solutions to capture and share knowledge are available in the market.)

The reward structures and the annual evaluation procedures should consider how members follow knowledge management policies and the quality of the knowledge they captured and shared during that evaluation period.
6.6 Example of how OCSA-CESR model can be used by a committee member in an HE setting:

Abdulla is a committee member. He discovers a new work process that will speed up one of the main tasks of this committee. This is an individual discovery and it will remain so if no intervention is made by the organization to ensure the transfer of this discovery to the rest of the team and beyond. The college intervention using OCSA-CESR will be as follows:

1. Abdulla is (already) trained to record each discovery he makes and he knows that this will not only make his work more efficient, but it may also bring rewards (verbal/material) to him.
   a. He identifies the relevancy of this discovery.
   b. Relates it to one of the committee procedures.
   c. Confirms (with other remembers) that this is not a duplicate of a previous discovery.
   d. Abdulla gets rewarded for discovering new knowledge.

2. The committee, having agreed on the importance of this discovery, captures this piece of knowledge through a pre-designed knowledge capturing mechanism. They:
   a. Record the knowledge in a clear language.
   b. Enrich it with commentary, diagrams, etc.
   c. Give it a name (code) to enable search and retrieval.

3. The committee then shares the knowledge within and outside the committee. This will allow other committees, who may perform the same task, to utilize the discovery. In sharing this, the committee will:
   a. Release this discovery in their shared documents,
   b. Gradually rate the usefulness of this discovery. If found not useful, it can be eliminated, otherwise, they can:
   c. Consolidate this discovery and reward the team for sharing the knowledge.

4. The last step is to apply this discovery to improve the committee work process. This entails the following:
   a. Use this discovery during the routine activities,
b. Evaluate its usefulness (overlaps with the above)

c. Make any necessary improvements to the discovery and update its description.

The committee will be working under the general institutional environment where discoveries are encouraged and rewarded, where employees are fully empowered to improve their working environments and socialization among members, to share their thoughts, is actively facilitated.

6.7 Validating the model

This model was validated by seeking expert judgement (Beecham et al., 2005; Saardchom, 2012; Vermesan & Bench-Capon, 1995). It may not be easy to strictly define the ‘experts’ for any model especially when the model crosses discipline boundaries. Quite a number of academic fields can put a claim on models that are similar to the OCSA-CESR model including information systems, education, human resources management, and others. Three criteria were used in the selection of respondents to validate this model:

a) They are academics (with teaching/research responsibilities);
b) They have administrative/managerial responsibilities; and,
c) They work for the institutions where the original data were collected.

These criteria reflect how the model is designed to be applied in academic environments and the members of staff who hold all of the above responsibilities were thought to be best placed to give a more fitting judgment on the model. The following job titles were targeted in the validation process:

1. Managing Director (rector/principal)
2. Deputy (under the managing director for student affairs, academic affairs, planning and development, etc.)
3. Chairman (of department or committee)
4. Program Director.
5. Other (to allow any other role that is similar to the above)
These roles contain many repetitive processes that require knowledge that needs capturing and sharing. In addition to this, there are some decisions that are highly personal and can only be learned through well planned mentoring.

To elicit the views of respondents on the model, a short questionnaire was designed and distributed online. There were seven questions in the questionnaire including two demographic questions (job title and place of work), five questions relating to their views on the model and one question asking about the clarity of the questionnaire.

The target audience was 17 respondents of whom 12 responded. Their anonymity and the confidentiality of the information they provide were guaranteed on the first page of the questionnaire. Of the 12 respondents, 3 were deputies, 7 were department chairpersons and 1 was a program director while another was under the ‘other’ category and described him/herself as a member of a committee. The second question in the demographics asked their work location and only five respondents chose to answer this question including 3 from male JUC and 2 in the female branch of JUC. No respondent indicated that they worked in JIC.

6.7.1 Expert opinion on the OCSA-CESR model.

The model diagram and description were emailed to all respondents. In addition to this, the researcher visited or phoned the majority of the respondents to explain the model and the content of the questionnaire. The first question on model validation asked how far the OCSA-CESR model was applicable to respondent’s work environment. The question was a multiple-choice question and there were three possible answers; fully applicable, partially applicable and not applicable. 10 respondents answered this question and 8 of them said the model was fully applicable to their work environment while 2 said it was only partially applicable.

The second question asked in which of the following areas of academic knowledge the model was most applicable; teaching, research, administration or none of them. This was a multiple selection questions and there were 22 selections from 10 respondents. The teaching knowledge scored 9, administration 8 and research 5. No respondent said that the model was applicable to none of these areas of academic knowledge.
The third question asked the respondents to state the strengths they thought the model has based on their experience. Nine responses were received for this question and these can be summarized under the themes shown in table 6-3:

Table 0-3 - Strengths of the OCSA-CESR model as stated by respondents

<table>
<thead>
<tr>
<th>Theme</th>
<th>Quote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motivation</td>
<td>Appreciations/rewards to employees will encourage them to be more active in participating in improving the organization.</td>
</tr>
<tr>
<td>Inclusiveness</td>
<td>Its inclusiveness - encouraging all members of an organization to participate in the creation and sharing of knowledge.</td>
</tr>
<tr>
<td>Social capital</td>
<td>... including the social capital activities in this model is a key factor to its success and most research into sharing knowledge misses it.</td>
</tr>
<tr>
<td>Future-oriented</td>
<td>Because the model may also have the capability to gather knowledge from future actions without looking back into the knowledge already available.</td>
</tr>
<tr>
<td>Completeness</td>
<td>The model was able to capture the most relevant components in KM processes and social capital activities which gear up the processes.</td>
</tr>
</tbody>
</table>

The fourth question asked the respondents if there were any weaknesses that may undermine the implementation of this model in their work environment. Nine responses were also received for this question and the weaknesses stated are tabulated below in table 6-4.

Table 0-4 - Model Weaknesses

<table>
<thead>
<tr>
<th>Theme</th>
<th>Quote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shortage of interpersonal</td>
<td>The Connect part requires people with considerable interpersonal skills to communicate ideas, while not all people in the organization have such skills.</td>
</tr>
<tr>
<td>skills.</td>
<td>Connectivity needs motivation</td>
</tr>
<tr>
<td>Confidentiality may be</td>
<td>Inclination of many people to not share information due to claimed confidentiality</td>
</tr>
<tr>
<td>restrictive</td>
<td></td>
</tr>
<tr>
<td>Lack of creativity</td>
<td>I feel that there is no place for creativity or personal inputs in this model</td>
</tr>
</tbody>
</table>

Overlooks ‘politics’  

| The major weakness of this model lies in its assumptions that social activities are politics free. Power and politics distort the seamless communication, which is a basic enabler of the process. |

The fifth and last question to evaluate the model asked the respondents to give proposals on how to improve the model. 8 responses were received for this question and their suggestions can be summarized as follows:

- Apply knowledge before sharing to fine-tune it (filter it).
- A team should be assigned to extract knowledge from minutes of meetings.
- The organizational policy should emphasize the awareness of knowledge management.
- Types of incentives should be differentiated.
- Employees should be given a clear picture of the knowledge sharing process.
- Add an external layer depicting the organizational climate.

The closing question of the survey was aimed to see if the questions in the survey were easy to understand. This is because, unlike interviews, the researcher is not available to give clarifications to respondents if some of the questions in the questionnaire were not understood. The question asked respondents to show their views on a Likert scale showing the following values: very easy, somewhat easy, neutral, somewhat difficult and very difficult. 10 responses were received for this question and 7 of them said the questions were ‘very easy’, one chose ‘somewhat easy’, another said the questions were very difficult to understand and one respondent was neutral. Because it was difficult to trace the respondent who said the questions were very difficult, it was not possible to enquire further on the type of difficulty s/he faced.
6.8 Discussion

It is evident from the responses above that the majority of experts opine that the model is very much applicable to their work environment. Their views are also supported by the list of strengths listed by the respondents. For instance, motivation has been found to positively influence employees knowledge sharing behaviours (Andreeva & Sergeeva, 2016; Darmasetiawan et al., 2013; W. T. Wang & Hou, 2015b). The model allows HEI managers to provide extrinsic motivation at several stages of the cycle or to encourage and support intrinsic motivation. Rewards can take material or non-material form and can act as an external motivation to knowledge sharing while the social capital elements (connect, empower and socialize) may be used to support employees to enhance their intrinsic motivation. Respondents also stated that the model is inclusive and encourages all employees of the organization to participate in the knowledge sharing process. Inclusivity is also found to nurture innovation in organizations (King et al., 2008). The inclusion of social capital in the model is another strength mentioned by respondents. The social capital elements are meant to create seamless bonds among employees so that they participate in the knowledge sharing process with the minimal formal instructions from their management. When knowledge sharing becomes part of an employee’s personal culture, staff members will actively seek and share knowledge. Respondents also indicated that the model has a future-oriented outlook as it allows organizations to start managing their knowledge by starting from the ‘capture’ stage. This means that when organizations do not have formal knowledge sharing procedures in their past, it is difficult for them to collect knowledge retrospectively; however, they may still apply this model and manage their knowledge without looking back to the past.

Lastly, respondents indicate that the model captures the most important components of the knowledge management process blended with social capital activities which gear up the process. A majority of earlier KM frameworks do not include any social capital elements and have less detail on the activities performed during the various stages of the process (Karemente, Aduwo, Mugejje, & Lubega, 2009; Rubenstein-Montano et al., 2001; Shongwe, 2016).
On the other hand, respondents also stated some weaknesses that, they thought, may hinder the implementation of this model. In general, four main weaknesses were stated including:

1. Need for ‘considerable interpersonal skills’ to successfully connect members and teams to each other. Researchers like Bavik, Tang, Shao, & Lam (Bavik, Tang, Shao, & Lam, 2018), Haas & Cummings (2015), Nahapiet (2009), Rusly et al (2014) and Wang & Noe (2014) emphasize the importance of interpersonal skills to knowledge sharing in organizations. This is particularly important in the ‘human part’ of the KM cycle when communicating ideas or soliciting teamwork and conformity.

2. Need for motivation: It is true that employees need motivation, both intrinsic and extrinsic to implement the OCSA-CESR model. However, the built-in social capital elements are aimed to motivate employees.

3. The boundary between knowledge sharing and information confidentiality may need to be clearly demarcated. This is a possible hindrance but the model also includes filtering stages where knowledge is assessed and if not deemed relevant or appropriate, the team will not pass it for the final stage.

4. Some respondents claim that the model does not support creativity. This may not be the case as the whole purpose of this model is to nurture innovation and creativity. Employees will be encouraged to find new ways of doing business through induction, training and promise of rewards.

5. The respondents also indicated that power and politics in the institutions may distort the apparent seamlessness of the model flow and communication. This is a fact that needs to be taken into consideration. As found from the questionnaire data analysis (section 4.2.7), some employees may see their knowledge as a source of power and may not, therefore, share it freely as they believe that this will decrease their importance. Knowledge may be hoarded or fail to transfer because of conflict of interest or some team or network loyalties (Hartley & Benington, 2006). Some employees may accumulate more resources than others and position themselves to define the roles or determine the outcomes of work processes. As a response, those who feel disadvantaged may show their resistance and An example mentioned in
section 2.3.2 and 4.2.7 is that the lack of job security may influence how employees behave when sharing knowledge.

Although it may be difficult to enforce procedures that control how power and politics interact in the institution, research suggests that a combination of incentives and penalties may be employed to encourage knowledge sharing (Wah, Menkhoff, Loh, & Evers, 2007). The culture in Saudi HEIs focuses on commitment and institutions are respected as parent figures (see section 2.2.1). This culture can be used as a soft power that can attract employees to take part in the knowledge sharing process (Park & Bennett, 2014).

In addition to the strengths and weaknesses, respondents also made suggestions to improve the model. Some of the suggestions are already accommodated in the model, such as applying knowledge before sharing. This is because teams will assess the knowledge based on their experience during the earlier stages of the model and there are still chances to evaluate the model after its application. Differentiated incentives are also suggested although no further clarification is stated in the responses. Assigning a team to extract knowledge from the minutes of meetings would also be useful as it includes a wealth of tacit knowledge which needs to be captured and organized in a usable format (Barber, Perez-Aros, Munive-Hernandez, & Eldrige, 2007).

6.9 Chapter Summary

This chapter proposed a new model of knowledge sharing in academic environments. The model specifically targets the two institutions that were researched. The development of the models is based on the findings of this research coupled with literature sources on knowledge management and social capital. In addition to the phases of the traditional knowledge management process, the model also includes elements of social capital dimension placed between the KM phases to motivate employees to complete the stages of the model.

There are two characteristics that make this model unique. Firstly, it combines the components of knowledge management and social capital dimensions in sequential steps that complement each other to enhance organizational knowledge sharing. Secondly, the model
provides further details under each KM phase to describe some finer steps that need to be taken to complete that particular phase.

Although the model can be useful for all types of organizations, its suitability to the higher education institutions, that were sampled in this research, was confirmed via a validation process.

The following chapter concludes the research by discussing how the objectives of this research were achieved. It also highlights the major limitations, contributions to knowledge and recommendations for further research.
Chapter 7: Conclusion, and Further Research

The previous chapter presented some recommendations aimed to close some of the gaps and concerns raised by higher education employees of two institutions in Saudi Arabia. It proposed the introduction of a number of policy changes within institutions to strengthen their knowledge sharing initiatives. Further, it proposed a practical model that can be utilized to manage knowledge sharing activities in higher education.

This research set out to investigate the relationships between knowledge sharing, organizational culture and the theory of social capital in Saudi HEIs. The Saudi Ministry of Education has been transforming higher education policies towards marketisation (Mousa & Ghulam, 2019). The new ‘universities law’ passed by the council of ministers in late 2019 requires all government universities to come up with plans to diversify their income and reduce their reliance on government funding. International universities are also allowed to start their services in Saudi Arabia for the first time. In addition, Saudi universities are allowed to engage in any form of business within or outside the country (Ministry of Education, 2019b). The law also gives academic departments more powers to choose their leaders with limited interference from the university. These changes will undoubtedly shake the rigid traditional HEI culture that focused on compliance and central control (L. Smith & Abouammoh, 2013). However, there are some barriers facing the implementation of this law, including the lack of similar examples from within the Saudi HEIs. It is an uncharted territory that will need some trial and errors before HEIs can get accustomed to the changes.

During the times of transformation, HEIs need to ensure that knowledge flows across its units to give the employees a common understanding of how to manage the changes in their units. Without such transfer of knowledge, individual employees and certain units may achieve excellence by utilizing their knowledge but the institution as a whole will be limited in its capacity to manage the transformation (Dee & Leisyte, 2017).
7.1 Meeting the Aims and Objectives

This research aimed to investigate the effects of organizational culture on knowledge sharing in higher education institutions (HEIs). It also looked into how social capital theory can be utilized to support knowledge sharing activities in higher education institutions.

In the introductory chapter of this research, the purpose and the aims and objectives of this research were set out. The subsequent chapters took the research on its course by looking into previous literature and the findings of other research in the fields of knowledge sharing, organizational culture, higher education and social capital. The design of the research, its methodologies and tools utilized to collect data for this research were also discussed. The last chapters presented the findings of the questionnaire survey and interviews. Discussions about how these findings relate to previous literature were also detailed in these chapters. A proposed knowledge sharing model arising from the findings and of this research and previous literature was also presented, along with its validation.

The relationship between knowledge sharing and organizational culture has been established by a number of researchers (Caruso, 2017; Elrehail, Emeagwali, Alsaad, & Alzghoul, 2018; Intezari et al., 2017). This research has shown that employees of higher education could be encouraged to build cohesive social structures that nurture knowledge sharing. A good example of this is how trust can be used to bridge the gap between teams and individual staff members and increase their knowledge sharing initiatives.

Various definitions of ‘culture’ from scholars of different disciplines have been discussed in this research. Although it is difficult to take a single definition as a model, the combination of these definitions point towards the existence of ‘shared values’ in the organization that are difficult to control or enforce. It is not something prescribed or documented through organizational policy. It is created and reshaped by people and their practices within teams, departments and in the organization as a whole. Consequently, higher education employees have a role in shaping their organizational culture. This is obviously in addition to other organizational elements such as policies, procedures and management styles.
The research also looked into the social capital elements and their role in knowledge sharing. In addition to trust, socialization and participation were also found to influence knowledge sharing.

7.2 Importance of Knowledge sharing in Saudi HEIs

The importance of knowledge sharing in various types of organizations is well established (Bavik et al., 2018; Hormiga, de Saá-Pérez, Díaz-Díaz, Ballesteros-Rodríguez, & Aguiar-Díaz, 2017; Olaisen & Revang, 2017; Serrat, 2017). This research aimed to find out whether HEI employees in Saudi Arabia believe in the importance of knowledge sharing and how this belief shapes their attitudes towards knowledge sharing. With over 96% of the surveyed staff saying that they consider knowledge sharing as a critical success factor for their organization, this research reaffirms the findings of previous research (see Alawi et al., 2007; Aslam et al., 2013; Bharati, Zhang, & Chaudhury, 2015; Cabrera & Cabrera, 2005; Ipe, 2003; Olaisen & Revang, 2017). While the institutional environment is said to be healthy and welcoming, some employees showed reservations about sharing with unknown others or actively seeking knowledge (see sections 4.2.2 and 4.2.3).

The findings also show that if there are any knowledge sharing policies in the institutions, they are not well disseminated as many of the staff members said that the did not know of such a policy. Investment in knowledge sharing systems is also found to be weak in the studied institutions (see section 4.3.8). On the other hand, the importance of knowledge sharing is acknowledged both at the individual and institutional levels. One of the consequences of focusing on the importance of knowledge sharing is that HEI employees and management will be prepared to actively participate in the design and implementation of knowledge sharing policies and procedures (Kevill & Analoui, 2018; Ramírez & Quarry, 2018).

The surveyed employees also broadly stated that they are happy to share knowledge with all colleagues. This willingness, however, needs to be supported by removing any obstacles that may hinder the flow of knowledge in the organization. The seniority of employees is also found in this research to have no major effect on the seeking and sharing of knowledge in the
higher education institutions sampled in this research. This challenges some of the earlier research that found seniority, among other factors, as a barrier to share knowledge. For instance, Boer (2005) and du Plessis (2006) found that employees form groups and affiliations based on their seniority. These groups develop closer bonds and may share their knowledge within this group. While the existence of closed groups may not be currently visible in the two institutions, enhancing the bridging social capital that enables employees of different units or groups to communicate and share knowledge may be necessary. This is because any change in the current work setting may drive employees to compete and enhance their positions by forming or joining groups (Asrar-ul-Haq et al., 2019). The institutional policy that aims to bridge the gaps between employees should deemphasize the vertical hierarchies and horizontal structures that may segregate staff into closed groups or networks. The proposed model advocates for strategies that connect employees of different units and departments.

It is often the norm that organizations provide training to new staff members to ensure they understand their roles. Regularly updated manuals, both in print and electronic, are also made available to all staff. This research found that employees do not consider staff manuals as the sole source of organizational policies and best practices. The explicit knowledge can be shared through documents, emails or any other codified from but the tacit knowledge requires transfer approaches that ensure contact between the knowledge sharer and seeker. Therefore, the institutions should implement programs that support socialization and mentoring among work colleagues so that they can pass knowledge nuggets to each other.

Currently, the respondents indicated that there is no formal training given to new staff members. Training and mentoring newcomers gives them confidence and allows them to understand the institutional procedures that are needed for their roles. Du Plessis (2006) and Nonaka and von Krogh (2009) argue that employees of different levels in the organizational hierarchy can share knowledge through mentoring. Not only this, but employees can also create new knowledge through the mentoring process as the staff member internalizes and reinterprets the tacit knowledge shared by the mentor.
Some of the barriers to knowledge sharing reported in previous research include staff members’ beliefs that their importance in the organization lies with the knowledge they possess and as a consequence, think that withholding their knowledge increases their importance (Davenport & Prusak, 1998; Raudeliūnienė, Meidutė-Kavaliauskienė, & Vileikis, 2016; S. Wang & Noe, 2010). This research, also found that some of the employees believe that sharing their knowledge decreases their position in the organization. Furthermore, about a third of the employees said that they sometimes might withhold knowledge. This further emphasizes that employees’ willingness alone is not enough to guarantee proper knowledge flow without enhancing it with institutional policies that build trust among employees and between employees and their institution (Darmasetiawan et al., 2013; Porumbescu et al., 2012).

The lack of a clear policy framework and rewards system was found to be a barrier in HEI knowledge sharing (Veer Ramjeawon & Rowley, 2017). The findings of this research show that employees think rewards will increase their participation in the knowledge sharing activities. However, there is no clear knowledge sharing policy or rewarding mechanism. Besides, knowledge sharing responsibilities are not stated in their job descriptions or linked to their annual evaluations. It is, therefore, necessary for the institutions to set clear knowledge sharing policies and procedures and ensure that employees are rewarded for their contributions. The proposed model recommends that individual employees as well as teams to be rewarded for their contributions.

7.3 Relationship Between Organizational Culture and Knowledge Sharing.

The literature established that the organizational environment and culture influence knowledge sharing (see section 2.1.2 and 2.4). This research intended to ascertain the link between a number of cultural elements and knowledge sharing in higher education environments. These elements included communication, empowerment, friendliness of environment, clarity of policies, and socialization.

The questionnaire results showed that employees felt that their colleagues were friendly and their work environment was welcoming. This probably explains further information provided
by interviewees that as soon as new staff member joins the institution, they quickly master their routine tasks without any formal induction. Previous literature also reported that friendliness of organizational culture to have a positive effect on knowledge sharing (Rahab & Wahyuni, 2013; Razmerita, Kirchner, & Nielsen, 2016).

This research also found that a significant number of employees do not have enough time to share knowledge at the workplace and do not often socialize outside working hours. Nevertheless, they still ensure that they seek and share all the knowledge they need for their roles and responsibilities. Lack of time has been found to inhibit knowledge sharing in organizations (Razmerita et al., 2016). In designing their knowledge sharing policies, the institutions should therefore take into account the workload of their employees and how they can increase the time available to knowledge sharing. The overwhelming majority of employees also indicated that they can communicate easily with their colleagues (see section 4.3.7). Knowledge is better shared in organizational cultures where employees can communicate with each other comfortably (Alawi et al., 2007; Hooff & Ridder, 2004). This ease of communication can also be utilized by the institutions to foster knowledge sharing.

One of the interesting findings in this research is that a significant number of employees reported that disagreeing views were not accommodated in their organizations (see section 4.3.4), while in the same time reporting that they highly trusted their colleagues and they have no major failures in their work processes due to lack of knowledge sharing. Previous research indicated that when opposing views are not accommodated, this leads to poor decision-making in teams and organizations (Kamau & Harorimana, 2008).

Moreover, opposing views are accommodated and used as a constructive tool for knowledge creation and sharing in collectivist cultures ad when there is trust among employees (Belias & Koustelios, 2014; Panteli & Sockalingam, 2005). This may indicate that the loyalty to the team/organisation is valued more than the seemingly negative behaviours displayed by some members. Members will still participate in the knowledge sharing process even if their views and suggestions were not taken by their peers and management. These two characteristics;
loyalty and participation, point to the existence of a clan culture type in the organization (Hartnell et al., 2011; J.-C. Lee et al., 2016).

Employees also spoke about an environment where newcomers are quickly assimilated into their teams without formal induction. Knowledge sharing takes place within teams without expectation of rewards and formally disseminated knowledge sharing policies and procedures. The clan culture emphasizes teamwork and close relationships among employees (J.-C. Lee et al., 2016). Furthermore, the interview data shows that there is a hierarchy in the institutions and this is also common in other Saudi HEIs as discussed in section 2.1.3. Previous literature found that clan culture has a positive influence on knowledge sharing while the hierarchy culture has a negative influence on knowledge sharing (J.-C. Lee et al., 2016; Suppiah & Singh Sandhu, 2011). However, this research also found that there is a relatively strong knowledge sharing culture in the two institutions. This strong knowledge sharing culture in the institutions may indicate that the dominant organizational culture in the organization is clan culture. As found by Suppiah & Singh Sandhu (2011), an organization of mixed organizational culture supports knowledge sharing if the dominant culture is the clan culture.

As discussed in section 2.2.1, the clan culture is also the dominant culture in Saudi HEIs and it may be rooted in the social life of Saudi Arabia (Dedoussis, 2004). The teamwork and the close relationships created by the employees within their teams and departments is probably the reason why knowledge sharing thrives in these institutions despite the existence of strict hierarchy in the flow of information and managerial reporting. It is, however, arguable that in hierarchical structures, knowledge flows horizontally across teams and departments while the vertical flow of knowledge is limited by the strict hierarchy (Sveiby, 2007). A solution to this problem is to increase the socialization for both employees of different units and those from different levels of management (Lichtenstein & Brain, 2006). Socialization enables employees to share tacit knowledge and one of the main objectives of knowledge management is to convert tacit knowledge to explicit, as this makes it available to more employees who can then use it for their work (Chugh, 2015; du Plessis, 2006; Skok & Tahir, 2010).
Baptista, Kanwal, & Arif (2017) argue that HEIs may face difficulty in integrating their tacit and explicit knowledge in a way that makes the types of knowledge usable in a productive manner. In a situation similar to the two institutions studied in this research, this problem may even be worse because there is no formal knowledge management system that can work to link between the tacit and explicit knowledge. This again reiterates the importance of creating an effective knowledge sharing system.

7.4 The relationship between the attitudes of the academic staff and their knowledge sharing behaviour.

This research has shown that employees report an environment where all their knowledge needs are met by their close colleagues without formal instructions from the management. Employees report that they value knowledge sharing and are open to share and seek knowledge. Not only do they report this as a personal preference and a belief they hold, but their majority also report that they practice such belief by not withholding their knowledge or refraining from seeking knowledge from their colleagues. In addition, the majority of employees believe that seeking knowledge from their work colleagues is more preferable than documents and manuals. This belief can be used as a foundation for institutional socialization strategies. Employees already appreciate the importance of face-to-face contact to knowledge sharing and the institutions can facilitate and connect their employees.

Previous literature suggests that the attitudes of HEI employees and their immediate supervisors are key to knowledge sharing (Sohail & Daud, 2009). This is because employees and their supervisors are at the forefront of institutional operations and their attitudes will have a direct effect on the knowledge sharing behaviour. Senior and middle managers, in hierarchical organizations, may have relatively less contact with employees and all the communications between employees and top managers are carried by the immediate supervisors (Sveiby, 2007). Attitudes of employees towards their organization, colleagues and knowledge sharing are shaped by the culture in the institution (MacIntosh & Doherty, 2010). HEIs can, therefore, take part in shaping the attitudes of their employees by investing in social capital values like trust and active participation (Matić et al., 2017). A healthy team climate and empowering leadership are also necessary to help shape the attitudes of
individual HEI employees (Xue et al., 2011). Also, initiating Human Resources (HR) policies and practices that focus on fairness and motivate employees by offering economic, performance-related, rewards is found to positively contribute in shaping employee attitudes to knowledge sharing (Rohim & Budhiasa, 2019; H. Smith & Schurink, 2005).

**7.5 Identify the role of social capital in knowledge sharing.**

It was not easy to reduce the theory of social capital into measurable constructs and then link these to knowledge sharing in higher education. However, this research distilled the social capital components proposed by earlier researchers into three main categories: trust, participation and socialization. Questions relating to these three categories were then put to the employees in a questionnaire and interviews. While there is still a need to enhance all social capital elements, this research found the existence of a voluntary social capital created and enhanced by the employees without active institutional intervention.

The presence of trust is indicated by a number of findings in this research. For instance, the majority of employees showed a willingness to share knowledge regardless of the barriers like lack of familiarity and demographic differences. Sharing knowledge in this situation shows that employees trust their colleagues (Goh & Sandhu, 2013). Trust reduces friction and increases the goodwill among employees (Idrees et al., 2018). This allows employees to collaborate and seek and share knowledge easily. Another important element of social capital identified in this research is the active participation of employees in the decision-making process. Employees indicated that their participation in the knowledge sharing process would increase if they were included in the decision-making process (see section 4.2.8). Allowing HEI employees’ to take part in the decision-making process is previously found to positively influenced their knowledge sharing behaviours (Han et al., 2010; Sukirno & Siengthai, 2011).

Socialization and interaction of employees are necessary for knowledge sharing (Khan et al., 2015; Scarso, 2008). There are no formal mentoring or induction schemes in the institutions and the informal interactions of employees outside the workplace are very limited. The informal socialization allows employees to share tacit knowledge which is the type of knowledge that is difficult to store in documents (Lawson et al., 2009). The model proposed
in this research recommends the formalization of socialization in the knowledge sharing process. This research has shown that social capital helps HEIs to strengthen their knowledge sharing activities. What was special in the findings is that knowledge sharing was found to flourish at the team level without a formal knowledge sharing policy and procedures. This reaffirms a finding by Rusly et al. (2014), that informal knowledge sharing mechanisms are effective when there is weak communication between higher management and operational level employees as is common in hierarchical culture.

7.6 Propose a knowledge sharing model suitable for HEIs.

A completely novel knowledge sharing model was proposed by this research. The model is practical and it helps HEIs, in Saudi Arabia and those in similar organizational settings, to easily shift from their earlier knowledge sharing models to this model or start managing their knowledge from afresh through this model. The model is flexible and it accommodates managing both tacit and explicit knowledge.

The model assumes that HEIs can start using the OCSA-CESR model at different stages of their knowledge management initiatives. It adds details to the existing knowledge management process to enable employees to ensure phase of the process is fully saturated before they move to the following phase. At the initial ‘observe’ step, for instance, employees will ‘identify, the relevance of this piece of knowledge to the institution in general, or to a certain unit. Furthermore, they ill also ‘relate’ the knowledge to a procedure or to a recurring decision-making activity. Lastly, the employees will confirm whether this is really new to the institution and not a duplicate of an already recorded piece of knowledge. All other stages of the model have a similarly detailed sub-steps that provide richness to its implementation.

The traditional steps of knowledge management (creating, storing, sharing and applying) may seem mechanical and not cater to the group dynamics of employees (Grover & Davenport, 2001; Koskinen, 2004). Therefore, the OCSA-CESR model recommends empowering employees and allowing them to take part in the decision-making activities. This allows them to actively engage in institutional activities including the knowledge sharing initiatives (S. Wang & Noe, 2010).
7.7 Limitations

**Sampling and data collection:** This research collected data from two institutions under the same organizational umbrella. In the survey questionnaire, over a third of the respondents chose the middle item (neutral) in the organizational culture category. The neutral category was therefore ignored during the data analysis as explained in section 3.10.2. This omission undoubtedly reduced the amount of data available for analysis and this may have also affected the quality of the remaining data (Earl & Bordt, 2004). However, As the original sample size was 168, the remaining cases, after the removal of the neutral responses, were more than 100 responses for each statement. This number was, therefore, significant enough to be used in statistical analysis (L Cohen et al., 2018).

The same reluctance was also evident in the interviews as the majority of respondents were not fully forthcoming when giving answers. There were occasions when respondents were choosing the shortest possible answer to questions. This research would have gained more information to analyse if respondents were fully cooperative in giving answers.

The researcher also chose convenience sampling, being an employee of the same organization. Getting data from a wider sample would have led to more generalisable results.

In addition, the proposed model was only validated by a limited number of respondents (12 employees) in the same organization. Attempts to send the questionnaire to other institutions ended in failure. As the validation questions related to the work environment, the employees only validated the model based on their work environment.

**Methodological:** The mixed methods research design incorporates the strengthens and weaknesses of quantitative and qualitative research designs (Albright, Gechter, & Kempe, 2013). The results of this research are only true to the environment in which the data was collected. Although the majority of higher education institutions follow similar structures in management and have similar academic practices, there are differences based on the styles of management, country culture, government policy and group dynamics which may have some unique elements that cannot be compared to other institutions, and as such, the transferability of the detailed research findings may be restricted.
7.8 Contribution to Knowledge

**Theoretical contribution:** This research proposes a model to measure social capital dimensions. It summarizes earlier literature that attempted to propose varying models of social capital and combines these dimensions in three major categories. This model can be used, adapted or extended to research and measure social capital. Sections 5.1 to 5.7 discuss the proposed model.

**Core Contribution:** This research proposes a new model for knowledge sharing in higher education institutions. The model includes the main phases of knowledge management in previous literature, however, it adds extra sub-steps to provide detail of how the phases should be implemented and evaluated. The model stems from the research findings and a combination of previous models in knowledge management.

**Practical Contributions:**

a) **HEIs:** The research shows that fostering strong social capital among HE staff members allows the institutions to manage their knowledge more effectively. This research has shown that social capital can motivate HE staff members to share their knowledge voluntarily, even without formal mechanisms or enforcement. Therefore, investing in social capital can save costly training and awareness programs and resources for the institution. This is more important when the institution is experiencing a high staff turnover where the more experienced employees could leave with their knowledge and are replaced by less experienced juniors who may be prone to making mistakes. Where HEIs have operational KM practices, the OCSA-CESR model also shows how they can blend the existing formal knowledge management processes with social capital to facilitate the flow of knowledge and information. The adoption of this model may help the two institutions (JIC and JUC) to set clear policies and procedures to manage their knowledge.

The model provides the managers in the two institutions with practical steps to follow to ensure that knowledge is shared in their institution. The steps also allow them to
monitor and reward the activities that generate, share and apply knowledge. In addition, the model enables the two institutions, and any other institutions with similar settings, to make connections between the more knowledgeable employees and those seeking answers to work related questions. The implementation of the model may also increase the flow of knowledge within the institution. This is because as found in section 4.3.3, many employees believe that knowledge is not fully shared in the institutions. Moreover, when employees’ knowledge is received and shared by the institution, this may also make them feel respected. Many employees currently feel that they do not participate in the decision-making process.

b) HEI academics: The success of the academic work (teaching, management, research) relies on the academic’s utilization of the available knowledge. That could be knowledge from their discipline, experience gained in a different HE environment, formal procedures of teams, departments, or certain work processes, or even some personal skills that, if shared, would benefit the rest of the team. The OCSA-CESR model can help individuals and teams to formalize their knowledge sharing practice while also nurturing their social capital within the team.

c) The Royal Commission for Jubail and Yanbu (RCJY): As the research was done within the educational sector of the RCJY, it would benefit the RCJY to study the findings of this research and to respond to any identified shortcomings and strengths to review its knowledge sharing policy. The working environment may have changed within the sector since the data was collected, but still, this study can be used as a Launchpad for further studies.

d) HEIs in Saudi Arabia: The two institutions targeted in this research follow the same Ministry of Education regulations followed by all Saudi HEIs. Many of the staff members are Saudi nationals who share culture with the rest of the academics in other institutions. It is, therefore, reasonable to believe that HEIs in Saudi Arabia can benefit from this study by adapting its outcomes or duplicating the research to see
how it is possible to implement a more effective knowledge sharing policies and procedures.

7.9 Recommendations for further research

It is clear that this research provides future researchers with a strong springboard for studying the organizational culture and knowledge sharing in higher education institutions. However, given the limitations stated above, the following actions will help researchers add more value and strength to this research:

1. Attitudes of HEI employees will not stay the same. As new employees join the institution and new roles are created, researchers will need to re-examine the attitudes to confirm if the findings of this research are still valid.
2. Increased sampling would enable a wider picture of how knowledge sharing is related to organizational culture in higher education institutions. Collecting data from several institutions in different countries and increasing the sample size will help researchers to reach better conclusions.
3. Comparing governmental and non-governmental institutions may also increase the quality of this research. This is because, in Saudi Arabia and in the Gulf region as a whole, government institutions have a firm hierarchy where the non-governmental institutions have relatively more relaxed communication structures.
4. Finding a more comprehensive model to measure the theory of social capital may also help use this theory in IS research in general, and in KM in particular.
5. Future research can also look into how power and politics influence the implementation of knowledge sharing policies in Saudi HEIs. Although the proposed model includes some steps that cater for the personal needs and group dynamics, testing the effectiveness of these steps empirically will enhance the reliability of the model.
6. The interpersonal skills of both employees and their managers is important in making the proposed model fruitful. Future research can, therefore, investigate how HEI employees can be motivated to implement the OCSA-CESR or any similar knowledge sharing models.
7. Protecting the confidentiality of institutional intellectual capital is important during knowledge sharing. Looking into two and how to best complete knowledge sharing processes without risking the confidential information is another possible line of research.

This research highlighted the importance of knowledge sharing in higher education institutions in Saudi Arabia. It extended previous research in the areas of knowledge sharing, organizational culture and higher education, and knowledge sharing in higher education in Saudi Arabia. The importance of social capital in knowledge sharing activities and how it can be attached to knowledge management phases are clearly explained in the proposed model. Teamwork and how employees can create their own knowledge sharing culture in the absence of formal knowledge management policy is also underlined in this research. The idea that organizational culture is key to nurturing knowledge sharing in higher education institutions and how support from higher management is important are also discussed.

This concluding chapter has shown how the research question and all key objectives were treated and the outcomes produced by the lines of enquiry designed to achieve each of the objectives.

The success of the HEIs lies in the evaluations of their stakeholders. The stakeholders have varying and often conflicting interests and their standards for measurement are ever-changing. Each HEI may focus on a niche competitive edge where they often succeed and allocate their best resources. However, with proper knowledge management and the practice of social capital, it may be possible to replicate that success to many other units within the HEI and, as such, increase the satisfaction of the maximum number of stakeholders.
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Appendices

Appendix 1 – Consent Form

The document in this appendix shows the letter given to interviewees to sign. The second shows the application form for data collection submitted (and approved) to the organization in which the research data was collected.

INFORMED CONSENT FORM:
[Impact of Organizational Culture on the Implementation of Knowledge Sharing Policies in Higher Education Institutions]

The School of Information Systems, Computing and Mathematics requires all persons who participate in research studies to give their written consent to do so. Please read the following and sign if you agree with what it says.

I freely and voluntarily consent to be a participant in the research project on the impact of organizational culture on the implementation of knowledge sharing policies in higher education institutions to be conducted by Abdulatif Diriev as principal investigator, who is a postgraduate student in the School of Information Systems, Computing and Mathematics at Brunel University. The broad goal of this research study is to explore the relationship between how employees implement knowledge sharing policies and the culture of their organization. Specifically, I have been asked to answer 12 questions which should take no longer than 5 minutes to complete.

I have been told that my responses will be kept strictly confidential. I also understand that if at any time during the interview I feel unable or unwilling to continue, I can stop the interview. This is my participation in this study is completely voluntary, and I may withdraw from it at any time without negative consequences. In addition, should I not wish to answer any particular question or questions, I am free to decline. My name will not be linked with the research materials, and I will not be identifiable in any report subsequently produced by the researcher.

I have been given the opportunity to ask questions regarding the interview procedure, and my questions have been answered to my satisfaction. I have been informed that if I have any general questions about this project, I should feel free to contact Dr. Laurence Brooks at +44 (0)1895 264410, laurence.brooks@brunel.ac.uk or the ethics committee at Brunel or the Chair of the Ethics committee Prof. Zhiqiang Wang at +44 1895 264621.

I have read and understood the above and consent to participate in this study. My signature is not a waiver of any legal rights. Furthermore, I understand that I will be able to keep a copy of the informed consent form for my records.

[Signature]
Date: Jan. 15, 2014

[Signature]
Date:

I have explained and defined in detail the research procedure in which the respondent has consented to participate. Furthermore, I will retain one copy of the informed consent form for my records.

Principal Investigator Signature
Date:

Abdul Diriev  Informed Consent
Appendix 2 – Data Collection Approval
This appendix contains the approval given to the researcher to collect data from the employees of the Royal Commission for Jubail and Yanbu.

![Data Collection Approval Form]

1. **Researcher**
   - **ID Number:** 4330185
   - **Name:** Ms. Abdulrazaq Diriyah
   - **Department:** Business Administration

2. **The Study**
   - **Research Title:** Model Validation–OCMA model for knowledge sharing
   - **Aim/Purpose/Objective of the Study:** To validate whether the OCSA model (attached) is applicable to academic work environments.
   - **Collaborating Institution:** De Montfort University

3. **Use of Data**
   - The researcher is committed to preserve the anonymity of participating people, organizations, and departments.
   - Yes ☑ No ☐
   - If No, please give details:

4. **Publications**
   - The researcher agrees in mention his affiliation to JUC or RC in any publications resulting from this research.
   - Yes ☑ No ☐ (Why?)

5. **Attached documents (HSA)**
   - Research ethics code (collaborating institution)
   - Research overview/rationale/abstract
   - Questionnaire/interview questionnaire
   - Other (please specify)

   **Applicant’s Signature:** [Signature]
   **Date:** 06/02/2015

**MD’s Decision**
- [ ] Approved
- [ ] Not Approved
- [ ] Forwarded

**Comment:**

**Signatures:**

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**Note:** The researcher must fill out this form and forward it to the department chairperson for further action.
Appendix 3 – Interview Responses (sample A)
This appendix contains a sample of responses to interview questions.

1. Do you encourage or facilitate staff meetings outside working hours? Please explain further.
No. We work 8 hours a day five days a week and it is extremely difficult to organize meetings outside work. Again, we have members from different backgrounds, cultures, interests and it is not easy to make benefit of meetings that are not related to their work and I think that we can achieve almost anything during working hours.

2. Do you have any policy or procedures to encourage staff to share the knowledge they create with other members of staff?
Yes. There are policies and procedures to encourage staff to share their knowledge but they are not always followed or, to be more precise the majority of staff have no knowledge of the existence of these procedures and we are not reminded or trained to apply these policies. I used to try to often remind my team to store their knowledge so that it becomes available to others.

3. To what degree you think staff members are willing to share their knowledge?
Very much, I think. I don’t remember any incident where any faculty member openly denied to share their knowledge. In fact, I always see the opposite, each one of us talks to the member in the nearest office closet when he faces any obstacle. This is particularly seen during the last weeks of the semester when we complete a lot of quality assurance forms and we need someone to explain to use how to complete these forms.

4. Do you have any programs that enhance intra/interdepartmental bonds?
Yes. Both formal and informal gatherings, sports activities, and others.

5. How far do you consult the staff members you manage when developing policies or involve them in the policy making process?
We have the quality committee that sets all policies and procedures for academic matters and we have other committees for administrative policies. Department chairpersons often discuss draft polices in regular meetings before they are passed or approved. In general, anything that touches their employment status, working hours, or the benefits they receive will definitely require careful consideration but these are usually taken by the management and we are more often oblivious to that. If we assign someone more than their normal teaching hours we definitely inform them before we can take that decision.

6. Are there any mechanisms to encourage employees to voice their views in improving their work system?
Yes, employees are encouraged to voice their opinion about improving the work system, but I am not sure if there are written procedures and/or mechanisms about it.

7. How far do individual performances contribute to staff rewards?
To some extent, performances contribute to staff rewards but the rewards are not substantial.

8. To what degree do you value social interaction among employees and its importance in organizational effectiveness?
I regard interaction among employees a very important factor in a healthy working environment. If we don’t have strong social life in our department or within the college, it would be difficult to work as teams on the same platform.

9. How do you connect your staff to other more knowledgeable people to solve problems?

This happens without our intervention. The college does not have any policy or programs that formally facilitate or encourage these connections but still staff members have their own ways of communicating and finding others who more about particular areas of work.

10. How do you ensure that you do not lose your knowledge anytime a member of your staff leaves your organization?

We usually have a coordinator and a deputy/assistant coordinator for committees. So, if one leaves the other takes his/her position. In addition, we try to recruit people who are able to replace when someone who decides to leave.

11. How do you encourage your staff to refer to the available information when making decisions?

This is mentioned in almost every meeting. All policies and procedures are in shared folders and staff members are encouraged to refer to them in all their daily activities and we have audit cycles every other year and this will discover any activity that is against college procedures.

**Interview Responses (sample B)**

1. Do you encourage or facilitate staff meetings outside working hours? Please explain further

We don’t always encourage them but sometimes we have events like end of semester gatherings and some these take place outside in a hotel or a restaurant.

2. Do you have any policy or procedures to encourage staff to share the knowledge they create with other members of staff?

Yes. In our department sharing is encouraged on regular basis through workshops, seminars and during meetings. There are, however, some people who are not prepared to accept anything new and want to continue the way things have been done in the past, and want to criticize new innovations and ideas. I can also say that all of us feel the importance of sharing all the information we have with other including new staff members. In fact, I can’t remember any formal induction given to new staff members for the last three years but they are doing fine. They teach, take assessments and follow procedures as anyone else.’’

3. To what degree you think staff members are willing to share their knowledge?

I think all of them are willing to share their knowledge. I don’t see any member trying to withhold what they know from others.

4. Do you have any programs that enhance intra/interdepartmental bonds?

"Interdepartmental: get-together on regular basis - (where we EAT). Intra-departmental: once a term as organized by the institution"

5. How far do you consult the staff members you manage when developing policies or involve them in the policy making process?

Not involved in policy decisions. This is given by organizations. We will have meetings about it and make suggestions but the final drafting lies with management.

“Decisions regarding my classes I do not consider employees. Regarding subject teaching,
6. Are there any mechanisms to encourage employees to voice their views in improving their work system?
   During meetings people are allowed to air their opinions, yet, as said before, some do not want to listen and follow new ways. Opinions are often seen as criticism and therefore staff members are reluctant to say anything. Some staff members are also afraid of airing their views and just follow instructions - irrespective whether they agree or not. No other method of feedback or raising concerns and issues.

7. How far do individual performances contribute to staff rewards?
   It is supposedly taken into account annually for appraisal.

8. To what degree do you value the results/outcomes rather than the processes and techniques used to achieve those results?
   Results are important, but sometimes the process and/or techniques can be such a lengthy process with lots of red tape, that the eventual result is an anti-climax.

9. How do you connect your staff to other more knowledgeable people to solve problems?
   Regular invitations and workshops organized with visitors from outside. They do not necessarily address problems at hand all the time, but contribute to improved performance on other levels.

10. How do you ensure that you do not lose your knowledge anytime a member of your staff leaves your organization?
    Information shared in personal files, course reports and feedback. Not formal, but still we manage to keep important information ready for later use.

11. How do you encourage your staff to refer to the available information when making decisions?
    Supplying information to read or discuss in meetings. All policies are stored in files both hard copies and electronic.
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Appendix 4 – Survey Questions
This appendix contains a screenshot showing how the questionnaire was displayed to respondents and the list of survey questionnaire.

Statements/Questions

2.12 My attitudes towards knowledge management are shaped by the policies of my organization.

2.13 My organizational culture has no effect on my attitudes towards knowledge sharing.

"5.1. There are clear knowledge sharing policies in my organization."

"5.6. My organization's prevailing culture is that every employee has best of knowledge."

5.9 My organization is clear about what knowledge it needs to capture.

5.10 My organization recognizes knowledge as an important asset.

5.12 My organization invests in information systems to facilitate knowledge sharing.
5.13 My organization effectively utilizes the knowledge of its staff.

"2.10. I can only benefit from knowledge sharing policies if I contribute in the making of these policies."

"3.2. I feel welcomed in my work environment."

"3.4. Disagreeing views are usually accommodated in my work environment."

"3.5. My organization encourages me to openly share my knowledge."

"3.7. I find it very easy to communicate with my colleagues."

"5.4. Employees are consulted when formulating policies affecting their work."

"5.5. My organization recognizes and respects individual achievements."

"3.8. Knowledge sharing responsibilities are clearly stated in my job description"

"3.9. Knowledge sharing is tied with performance and appraisals."

"5.7. My organization offers employees an incentive to adopt Knowledge Management."

"5.8. I believe I would increase my participation in a KM system if I know that I will be rewarded."

2.4. I hardly ask others to share their knowledge with me.

2.5. I believe that I can learn a lot from others in the organization.

"2.8. Reading staff handbooks and manuals is not enough to familiarize employees with college policies and best practices."

"3.6. I believe that there is enough time for me and for my colleagues to seek and share knowledge in the workplace."

3.10 Members of staff regularly meet outside working hours to socialize.

"4.1. I prefer talking to my colleagues face to face about my work knowledge over using emails and workgroups."

"4.2. I like when organizational knowledge is shared electronically."

"4.3. I like to search knowledge from the internet instead of asking my colleagues."

4.4 I prefer reading books and manuals for information

2.1. I am happy to share my knowledge with others.

2.2. I do not like to share knowledge with someone I don’t know.
"2.6. I think I can only learn from my seniors."

"2.7. I only share my knowledge with the new colleagues."

"2.9. I believe that sharing my knowledge with others may decrease my importance in the organization."

"2.11. I prefer to withhold some of my knowledge."

"3.1. The people I work with are very friendly."

"3.3. I feel that my colleagues sometimes withhold answers to my questions."
## Appendix 5 – Survey Results
(Sample table showing spreadsheet automatically generated by the survey tool)

<table>
<thead>
<tr>
<th>1.1 Gender</th>
<th>Male</th>
<th>20 - 30</th>
<th>31 - 40</th>
<th>41 - 50</th>
<th>More than 50</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2 Age Group</td>
<td>Male</td>
<td>20 - 30</td>
<td>31 - 40</td>
<td>41 - 50</td>
<td>More than 50</td>
</tr>
<tr>
<td>1.3 Educational Level</td>
<td>Male</td>
<td>Less than 5 years</td>
<td>5 to 10 years</td>
<td>More than 5 years</td>
<td>5 to 10 years</td>
</tr>
<tr>
<td>1.4 Number of years in this job</td>
<td>Male</td>
<td>Less than 5 years</td>
<td>5 to 10 years</td>
<td>More than 5 years</td>
<td>5 to 10 years</td>
</tr>
<tr>
<td>2.1 I am happy to share my knowledge with others.</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2.2 I do not like to share knowledge with someone I don’t know.</td>
<td>4</td>
<td>1</td>
<td>5</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>2.3 I regard knowledge sharing a very critical factor in organizational success.</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2.4 I hardly ask others to share their knowledge with me.</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2.5 I believe that I can learn a lot from others in the organization.</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>2.6 I think I can only learn from my seniors.</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>2.7 I only share my knowledge with the new colleagues.</td>
<td>3</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>2.8 Reading staff handbooks and manuals is not enough to familiarize employees with company policies and best practices.</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2.9 I believe that sharing my knowledge with others may decrease my importance in the organization.</td>
<td>4</td>
<td>2</td>
<td>5</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>2.11 I prefer to withhold some of my knowledge.</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3.1 The people I work with are very friendly.</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>3.2 I feel welcomed in my work environment.</td>
<td>1</td>
<td>2</td>
<td>5</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>3.3 I feel that my colleagues sometimes withhold answers to my questions.</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>3.4 Disagreeing views are usually accommodated in my work environment.</td>
<td>4</td>
<td>3</td>
<td>5</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>3.5 My organization encourages me to openly share my knowledge.</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>3.6 I believe that there is enough time for me and for my colleagues to seek and share knowledge in the workplace.</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>3.7 I find it very easy to communicate with my colleagues.</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>1.5 Job Type</td>
<td>4.1 I prefer talking to my colleagues face to face about my work knowledge over using emails and workgroups.</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>4.2 I like when organizational knowledge is shared electronically.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>4.3 I like to search knowledge from the internet instead of asking my colleagues.</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>
5.1. There are clear knowledge sharing policies in my organization.

5.2. I can only benefit from knowledge sharing policies if I contribute in the making of these policies.

5.3. My organization's policies are influenced by external factors.

5.4. Employees are consulted when formulating policies affecting their work.

5.5. My organization recognizes and respects individual achievements.

5.6. My organization's prevailing culture is that every employee has best of knowledge.

5.7. My organization offers employees an incentive to adopt Knowledge Management.

5.8. Knowledge sharing is tied with performance and appraisals.

5.9. I believe I would increase my participation in a KM system if I know that I will be rewarded.

5.10. My organization recognizes knowledge as an important asset.

5.11. Does your organization have a system that is designed to support sharing knowledge between employees?

<table>
<thead>
<tr>
<th></th>
<th>No</th>
<th>Don't Know</th>
<th>I Don't Know</th>
<th>I Don't Know</th>
<th>I Don't Know</th>
<th>I Don't Know</th>
<th>I Don't Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.11a) If yes, what is it called?</td>
<td>No</td>
<td>Don't Know</td>
<td>I Don't Know</td>
<td>I Don't Know</td>
<td>I Don't Know</td>
<td>I Don't Know</td>
<td>I Don't Know</td>
</tr>
<tr>
<td>4.4 I prefer reading books and manuals for information</td>
<td>4</td>
<td>5</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

5.12. My attitudes towards knowledge management are shaped by the policies of my organization.

5.13. My organizational culture has no effect on my attitudes towards knowledge sharing.

5.10. Members of staff regularly meet outside working hours to socialize.

5.12. My organization invests in information systems to facilitate knowledge sharing.

5.13. My organization effectively utilizes the knowledge of its staff.

5.10. I can only benefit from knowledge sharing policies if I contribute in the making of these policies.

<table>
<thead>
<tr>
<th></th>
<th>No</th>
<th>Don't Know</th>
<th>I Don't Know</th>
<th>I Don't Know</th>
<th>I Don't Know</th>
<th>I Don't Know</th>
<th>I Don't Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.12. I can only benefit from knowledge sharing policies if I contribute in the making of these policies.</td>
<td>3</td>
<td>3</td>
<td>5</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>
Appendix 6 – Model Validation Survey.
Two screenshots showing the model validation survey.

Model Validation: OCSA (Observe, Capture, Share, Apply) Model.

Dear Respondent,

This short questionnaire is designed to elicit your views on the applicability of the OCSA model to your work environment. Your feedback is essential to the completion of this research after reading the model proposal. Your responses are anonymous and cannot be traced back to you.
This is a part of my PhD research and any complaint regarding the ethical conduct of this research can be addressed to my supervisor Professor Lawrence Brooks at: lawrence.brooks@uvm.edu or Phone: 44 (0) 114 255 8579.

Thank you in advance for your feedback.

Next Page 1 of 2

Never submit passwords through Google Forms.
Appendix 7 – Sample Coding.
This appendix shows a sample coding procedure. Some of the codes in this sample were later merged with others or reworded.

<table>
<thead>
<tr>
<th>Question</th>
<th>Response</th>
<th>Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you encourage or facilitate staff meetings outside working hours? Please explain further</td>
<td>I cannot claim that we actively encourage this, but we do facilitate if required. The work here is very tough and we all need to relax in the evenings but there are times in the semester that some members feel that we should meet outside in a restaurant or at the beach. As chairperson I try to facilitate that by sending emails to all members, perhaps calling them in the afternoons and so on. We usually contribute the costs if there is not petty cash from the department purse.</td>
<td>Encouragement to socialize</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lack of time</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Unplanned get-together events</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Facilitation to socialize</td>
</tr>
<tr>
<td>Do you have any policy or procedures to encourage staff to share the knowledge they create with other members of staff?</td>
<td>I don’t think we have one. I think it is just natural even if we don’t have anything formal, you know, it does not mean that we do not share. I mean, I don’t remember anyone rejecting to share their knowledge with other members in faculty, so it is something we all do without any formal procedures.</td>
<td>Knowledge sharing policy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Formality of KS</td>
</tr>
<tr>
<td>To what degree you think staff members are willing to share their knowledge?</td>
<td>Well, how do I know? I can only comment on what I see and I know that every one of us shares information freely with the rest of the group. If this is what shows their willingness, then there is strong willingness among us to share our knowledge.</td>
<td>Voluntary sharing</td>
</tr>
<tr>
<td>Do you have any programs that enhance intra/interdepartmental bonds?</td>
<td>I don’t think there is anything official. Interdepartmental, yes, we have gatherings like departmental meetings and, as I said before, we have never faced any problems to think of this. But intra departmental meetings or bonds are very rare.</td>
<td>Inter-departmental bonds (unofficial)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Intra-departmental bonds (rare)</td>
</tr>
<tr>
<td>How far do you consult the staff members you manage when developing policies or involve them in the policy making process?</td>
<td>The decisions are normally discussed through department council and then it is sent to the college council for further discussion and approval. So, no single person takes decisions. Only in very rare and limited situations we may see decisions taken individually. So, decisions are taken by committees although they sometimes pass decisions without consulting those involved.</td>
<td>Inclusive policy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Collective decision-making</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lack of consultation</td>
</tr>
<tr>
<td>Are there any mechanisms to encourage employees to voice their views in improving their work system?</td>
<td>Yes, I think when you are called for a meeting you are invited to contribute your views. We have regular meetings in the department, committees have their meetings and that is a way of encouraging staff to have a say.</td>
<td>Consultation during meetings</td>
</tr>
<tr>
<td>Question</td>
<td>Response</td>
<td>Category</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>How far do individual performances contribute to staff rewards?</td>
<td>This really depends on your manager because there is no strict procedure on this. It is possible that all your manager may not notice your performance and evaluate you subjectively. The only awards that are announced openly are those given publicly at the end of the semester and they are based on clear achievements like the number of publications or the number of years in service.</td>
<td>Unclear procedures</td>
</tr>
<tr>
<td>To what degree do you value social interaction among employees and its importance in organizational effectiveness?</td>
<td>I personally think this is very important. But, as I said, we mainly meet with our colleagues in the department because our offices are close to each other and we use the same classrooms and labs. Do we link our interactions to our work and its effectiveness? I don’t think no. This has to be made official, and we don’t have such thing.</td>
<td>Socialization at work</td>
</tr>
<tr>
<td>How do you connect your staff to other more knowledgeable people to solve problems?</td>
<td>Those who work in the same unit or department know each other and they share their contact details. We also have the directory which lists all college staff and their contact details. I am not saying we actively use these or even monitor if people are contacting each other, but it is available to everyone.</td>
<td>Inter-departmental connections</td>
</tr>
<tr>
<td>How do you ensure that you do not lose your knowledge anytime a member of your staff leaves your organization?</td>
<td>Well, academic knowledge is easy because they have their qualifications and experience. Administrative roles and responsibilities? We think that people are working together and are learning from each other naturally. It is possible that someone with important knowledge leaves with their knowledge, but it is hard to do anything about that.</td>
<td>Informal learning</td>
</tr>
<tr>
<td>How do you encourage your staff to refer to the available information when making decisions?</td>
<td>We have a shared folder which contains all the official procedures we need for teaching, exams, course design and so on. The folder is used by all departments and it is updated centrally. Any questions can also be answered during meetings. If someone is new, for example, they can ask questions during department meetings.</td>
<td>Shared folders</td>
</tr>
</tbody>
</table>

**Note:** The highlighted terms in blue indicate links or references within the text that are not explicitly stated on the page but are referenced elsewhere in the document.