

# THE INTERNATIONAL JOURNAL OF BUSINESS & MANAGEMENT

## An Investigation of Knowledge Sharing Phenomenon among IT Engineers: An Interpretative Phenomenological Perspective

**Sabah Abdullah Al-Somali**

Assistant Professor, Department of MIS, College of Economics and Administration,  
King Abdulaziz University, Saudi Arabia

### **Abstract:**

*In order to strengthen the IT industry in developing Arabic economies, knowledge sharing among developers and engineers is key. This study explores the factors that drive such individuals to share knowledge amongst themselves. Phenomenology, as a philosophy of knowledge and a qualitative research approach, was employed to construct a new understanding of the knowledge sharing phenomenon in organisations in Saudi Arabia. The study synthesised data from ten semi-structured interviews with IT engineers and developers into a consistent description of the key determinants that facilitate knowledge sharing intentions. The emerging themes were clustered into three conceptual categories: (1) individual domain (2) organisational domain, and (3) Information Technology domain.*

*The primary conclusion, derived from the point of view and experiences of the participating IT managers is that reputation, openness to experience, organisational culture, management support and technology capability are the main reasons for knowledge sharing. The end result of this study is to offer guidance to managers and policymakers for the development and rollout of sound knowledge management systems within the Kingdom.*

**Keywords:** Knowledge management, phenomenology, Saudi Arabia, developing Arab nations

### **1. Introduction**

Knowledge management (KM) has emerged as a significant topic for researchers and management practitioners alike in recent years. Knowledge is a critical organisational resource, and the effective and efficient management of knowledge is seen as an important strategy for gaining a sustainable competitive advantage in a competitive and dynamic economy. The success of KM initiatives depends on knowledge sharing. Knowledge sharing is defined as the sharing of task-relevant expertise, ideas, and suggestions with one another (Gupta, 2008). Organisations must understand how to collate, utilise and leverage their collective knowledge in order to remain competitive.

The aim of this study is to develop an integrative understanding of the factors that affect Information Technology (IT) engineers' intentions towards knowledge sharing. Generally speaking, in comparison with other countries, relatively little work on this topic has been done in the context of developing economies in the Arab world. Therefore, the research significance of this paper stems from its focus on IT engineers in the context of a high-income developing nation. In fact, IT engineers and professionals are a largely under-researched segment of the workforce, and little is known about their knowledge-sharing behaviour (Tsai et al., 2013; Borges, 2012; Teh & Sun, 2012). Basically, in the IT world, knowledge management, groupware and collaborative intelligence are believed to lead to organisational restructuring and reengineering (Alsafadi & Abunafesa, 2012). As organisations put so much emphasis on knowledge sharing, managers and policymakers may find the study results useful for the creation of policies and practices that can bring about a culture of knowledge sharing.

Alongside increasing recognition of the role of knowledge sharing research in organisations (Chow & Chan, 2008; Hsu et al., 2007; Bock et al., 2005; Kolekofski & Heminger, 2003), there has also been increasing recognition of the utility of qualitative methods for understanding the participant's point of view and central concerns, and for capitalising upon their insights by adopting a critical stance on accepted practices and approaching research topics with different objectives (Symon and Cassell, 2004). Moreover, organisation and information systems (IS) scholars have pinpointed the need for using qualitative research techniques to supplement widely used quantitative approaches (Lacity and Janson, 1994; Boland, 1985; Fitzgerald et al., 1985; Sanders, 1982). In fact, there are a number of alternative philosophical perspectives that may be particularly useful in understanding the nature of the phenomena investigated by information systems researchers (Orlikowski & Baroudi, 1991). For example, Sanders (1982) discusses the value of the phenomenological perspective for organisational research and he stresses that researchers need to consider the phenomenological approach as a potential research method. Further, Orlikowski & Baroudi (1991) argue that there are other philosophical assumptions that can inform the study of the relationships between information technology, people, and organisations.

Moran (2000) defines phenomenology as the study of the apprehensions felt by an individual as they enter that person's consciousness and, according to King (2004a) phenomenology, as a philosophical tradition, has hugely impacted social science research, particularly in developing qualitative research methodologies. Since consciousness, in the context

of organisational research, is an awareness of what excellent management looks like, as well as a grasp of the culture of organisation, including its myths and symbols, and since phenomenology is all about making the structure and meaning of human experience from an individual's perspective explicit (Sanders, 1982), then the potential of phenomenology as a research methodology becomes clear. As Taylor & Bogdan (1984) point out, the only reality that really matters is the one(s) perceived by the individuals involved.

Phenomenology, as a research approach, aims to describe the situation being studied, with a view to producing valid knowledge that is truly objective, free from hypotheses or preconceptions (Husserl, 1970). In fact, phenomenological investigation is particularly appropriate to the aims of this study "because of the nature of information systems (IS), the organisation in which they operate and our ability to gain objective, reliable knowledge of them" (Bolond, 1985, p.193). Yet phenomenological studies are relatively rare in organisational research (Sanders, 1982), and much of the published research on information systems tends to be based on surveys or laboratory work, and is focused on a small subset of information systems phenomena (Orlikowski & Baroudi, 1991).

In the light of the foregoing exposition, this research addresses the following question:

- What drives and IT engineer's intention to share knowledge in IT projects?

To summarise, this study employs an interpretive phenomenological approach as a guiding framework to understand IT engineer's experiences and insights about knowledge sharing in IT projects, with the aim of understanding their view of the key challenges and concerns. It is hoped that this research may contribute to future KM implementation research of all kinds.

## 2. Saudi ICT Workforce

Saudi Arabia has a population of over 31 million and an area of around 2 million square kilometres. Saudi Arabia is classified as high-income economies. Furthermore, Saudi Arabia is one of the fastest growing countries in the Middle East and is progressing towards a digitally-enabled knowledge-based economy.

Since the government launched digital transformation initiatives aligned with the National Transformation Program 2020 and Saudi Vision 2030, the total spending on IT products and services has increased in the Kingdom, reaching \$35.9 billion in 2016 and it is predicted to reach more than \$600 billion by 2020. In fact, this growth is expected to create a large number of new IT jobs (Citc, 2015). However, IT engineers and professionals are currently in short supply, which is impacting the efficiencies of IT operations and, more importantly, is hindering Saudi innovation and growth (Alsafadi & Abunafesa, 2012). Indeed, the availability of a reliable national pool of skilled ICT professionals is critical to the building of sustainable ICT industries. Alsafadi and Abunafesa (2012) conducted a study to understand the state of IT skills in Saudi Arabia by analysing the supply and demand picture. The results showed a demand for system analysis skills, workflow and work process tools, advanced skills in knowledge management and system integration skills. In June 2011, the Saudi administration introduced the "Nitaqat program" to increase employment opportunities for Saudi nationals in the labour market and reduce dependency on expatriate workers in many industries, including ICT. Nitaqat is an Arabic term meaning "ranges" or "limits" and requires Saudi private sector firms to meet specific employment quotas for Saudi nationals (Peck, 2017).

## 3. Knowledge Sharing

According to Koriat & Gelbard, 2014, and Davenport & Prusak, 2000, knowledge is a combination of insights, experiences, values and contextual information and, in the context of an organisation, it is held not only in the brains of the staff and management, but also in corporate documents, databases, manuals, procedures and organisational norms. Polyani (1966) identifies two types of knowledge;

- Explicit knowledge, in the form of words, numbers and formulas, is free of context, easy to store, easy to encode, and is routinely shared around an organization in the form of manuals, videos, drawings and so on. Koriat & Gelbard (2014) point out that the curation of explicit knowledge mostly relies on documentation, regular reports, and careful database management.
- Tacit knowledge, by contrast, is personal, subjective, and based almost solely on the experiences of an individual. As a result, tacit information is hard to express, and the sharing of such tacit knowledge presents a much greater challenge than does the sharing of explicit knowledge (Koriat & Gelbard, 2014).

Knowledge is typically accumulated by individuals in an organisation, and knowledge management (KM) is the structured process by which it is identified, extracted and put to work in the wider organisational context, in order to grow in a competitive environment (Von Krogh, 1998).

A key enabler of KM is knowledge sharing. In fact, knowledge sharing is seen as an important strategy for improving productivity, efficiency and competitiveness in both the public and private sectors in today's global economy (Alavi and Leidner, 2001; Nonaka and Takeuchi, 1995). Knowledge can be shared through person-to-person interactions which can be face-to face with a shared context, or mediated by technology such as email, text messaging or video conferencing (Aktharsha et al., 2012). It is worth noting that the role of technology here is to facilitate the communication of knowledge, and the use of technology alone cannot guarantee that knowledge will be shared (Aktharsha et al., 2012; McDermott, 1999; Ruggles, 1998).

### 3.1. The Knowledge Management Process

Knowledge management is essentially the process by which knowledge is first extracted from individuals and then shared across the organisation for the benefit of the greater good (Bose, 2003). Figure 1 lays out the four KM steps, namely Creating, Structuring, Sharing and Applying. The Structuring step, where all that has been Created is mapped,

contextualised and prioritised, often leads to the classification of knowledge into taxonomies. Sharing can be achieved in any number of different ways including training sessions, the creation of cross-functional teams, through the corporate intranet and extranet, the use of groupware, the setting up of communities of best practice, and by benchmarking.

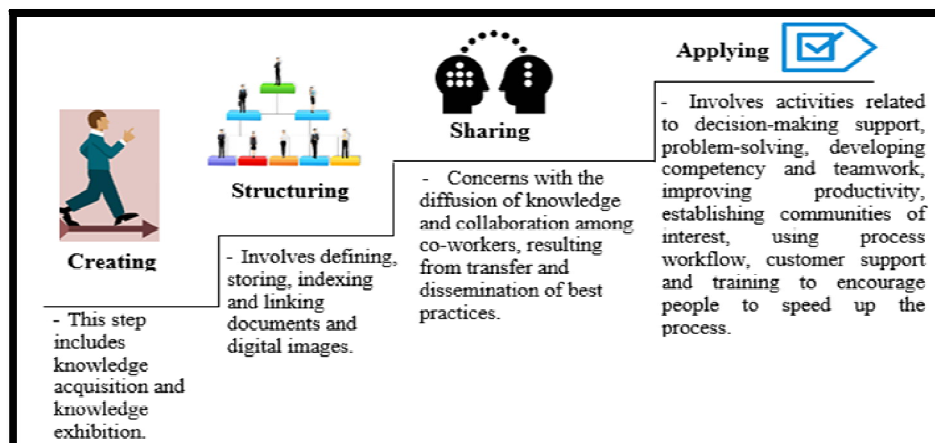


Figure 1: KM Process

Source: Current Study

#### 4. Methodological Approach

As discussed in the Introduction, the research approach adopted here is qualitative and draws upon phenomenology as a guiding philosophical approach. This section presents the research approach, key informants, data collection methodology and analysis procedure.

##### 4.1. Phenomenology: Philosophy of Knowledge

Phenomenology is about understanding social phenomena from the actor's own perspective. It attempts to explore different people's perspectives and is suited to gaining a deeper understanding of the phenomena of interest in its natural setting as experienced by several individuals (Creswell, 2007; Orlikowski & Baroudi, 1991; Taylor & Bogdan, 1984). Basically, phenomenology as a research orientation is "concerned with the wholeness, with examining entities from many sides, angles, and perspectives until the unified vision of the essences of a phenomena or experience is achieved" (Moustakas, 1994, P. 58). Pure phenomenological research seeks to describe a situation starting from a perspective that is free from hypotheses or preconceptions (Husserl, 1970).

Any exploration of human consciousness is challenging due to the fact that the researcher will approach the tasks already laden with their own philosophical baggage, and they must first endeavour to uncover and understand their own underlying assumptions that necessarily shape perspective (Creswell, 2007). Such perspectives are beyond the scope of this paper, but the approach adopted here are in line with those laid out by Moustakas (1994), Bolond (1985) and Sanders (1982). Sanders states that phenomenology can be learned in a disciplined way through a combination of observation, reading, discussion and reflection. Phenomenological studies themselves tend to be limited to ten or fewer detailed case studies, each of which is analysed in some depth prior to any attempt to integrate cases into a coherent whole (King, 2004b).

##### 4.2. Key Informants

This study took place in the culturally rich and cosmopolitan city of Jeddah, the largest commercial centre and sea port in Saudi Arabia, and the second largest city after Riyadh. Jeddah is within the western region of Hizaj, where the holy cities of Makkah (Mecca) and Madena (Medina) are located. According to the Technology Integration Division (2007), Jeddah is the most liberal city in the Kingdom.

In order for a study of this kind to succeed in creating a common understanding, the key informants (or participants) must have the status, the knowledge and the experience of the target phenomena (Creswell, 2007; Gilchrist, 1999). In line with this guidance, the participants in this study were ten technical support engineers, software developers, information security officers, and programmers. As shown in Table 1 below, the participants work in different industries and represent a broad spectrum of age, experience, and educational background.

Name	Business Industry	Position of Interviewee	Years of Experience	Gender	Education Background
Engineer 1	Construction	Technical support	7	Female	Diploma
Engineer 2	Education	Web developer	4	Female	Master
Engineer 3	Manufacturing	System Analyst	2	Female	Bachelor
Engineer 4	Construction	Technical support	6	Male	Master
Engineer 5	Finance	Software Developer	1	Male	Bachelor
Engineer 6	Education	Application support	5	Male	Bachelor
Engineer 7	Finance	Programmer	4	Male	Master
Engineer 8	Manufacturing	System Analyst	2	Male	Bachelor
Engineer 9	Education	Technical support	8	Female	Bachelor
Engineer 10	Telecommunications	Network Administrator	5	Male	Bachelor

Table 1: Participants' Profile

#### 4.3. Data Collection

Participants were asked to engage in a level of reflexivity about their own perception of knowledge sharing and make their experience open for questioning. In addition, they were informed that participation was voluntary, and they were given a confidentiality document explaining that their identities, and the identities of their companies, would remain anonymous.

The main technique employed to capture the experiences of the participants was one of semi-structured interviews, and it was striking that they all welcomed the opportunity to delve into their work experiences more deeply than before. Not only do interviews enable a researcher to enhance their understanding of the phenomena, but they also encourage dialogue in which themes of interest can be pursued as they arise (Kvale, 1996; Rubin & Rubin, 2004). Interviews give access to the meanings and interpretations through which the interviewee perceives and interacts with the external world; it is no surprise, then, that interviews are the single most widely used method of data collection in the social sciences. This is not to say that interviews are infallible or, indeed, sufficient in every situation; it has been suggested that other techniques should be employed, such as observing participants in their place of work and, if possible, when they are socialising (Morse, 2016; Taylor & Bogdan, 1984).

Each interview lasted approximately forty-five minutes, and was tape recorded with each participant's consent. Moreover, interviews were transcribed and translated into English. During the field visits, and in addition to the interviews, overt observation of participants and their social interactions were conducted between interviews. In fact, the aim behind using these supporting methods was to understand the norms and meanings that IT team members shared around their work, and also to obtain as clear an understanding as possible about IT engineer's experience of what it means to adopt e-business technologies in Saudi Arabia.

#### 4.4. Data Analysis

The data analysis was based on the standard analytic procedure for interpretive phenomenological analysis described in Moustakas (1994) and Hycner (1985). As a first step in the analysis, each interview transcript was read several times in order to gain a general overview of each one, and of the set as a whole. The second step is Horizontalisation, where significant statements or anecdotes relating to the topic are isolated and listed in a single document with equal value. The third step is to test each of the statements against two different criteria;

- Does it include a unique experiential moment related to the phenomena being studied, and;
- Can it be labelled as a theme or meaningful unit?

Finally, the analysed statements are gathered into groups, where each group has a theme, and each theme is an example of a specific meaning or experience.

### 5. Findings and Discussion

Several key themes have emerged from the data and the identified themes were clustered into three main conceptual categories, each with its own sub-themes (see Figure 2). The three main themes are: (i) individual domain, (ii) organisational domain (iii) knowledge characteristic domain

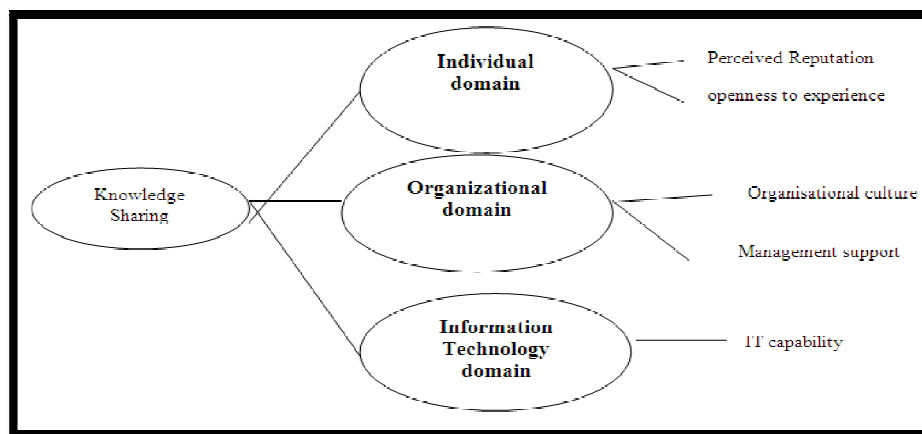


Figure 2: Main and Sub Themes Arising from the Analysis of IT Engineers' Transcripts of Their View of Knowledge Sharing

## 5.1. Individual Domain

### 5.1.1. Perceived Reputation

Reputation refers to an individual's perception of earning respect or enhancing status through participation in the organisation. Reputation represents the need for self-respect and the respect of other members. In fact, an individuals' personal image is promoted through showing valuable expertise to be recognised as an expert.

When people share knowledge, they are also sharing the underlying behaviour, and they tend to look for advantages for themselves that may stem from their sharing. These advantages may be a social boost, or a way to strengthen their self-esteem or promote their self-actualisation efforts, or a combination. Individuals also tend to recognise that sharing their knowledge is of benefit to others; this can enhance their status within the firm, which can in turn lead to their deeper involvement and engagement in it.

An engineer stated:

"Sharing knowledge can enhance my status in the organization and outside the organization"

Indeed, Chang & Chuang (2011) specifically reported that reputation and personal image are important drivers of knowledge sharing behaviour. When designing interventions to stimulate greater knowledge sharing within an organisation, these are powerful levers, if correctly utilised.

### 5.1.2. Openness to Experience

Openness to experience is the degree to which an individual is open-minded and willing to explore new ideas and experiences. Openness to experience is related to imagination, curiosity, artistic sensitivity, and originality. It is believed that people scoring high on openness are often open-minded, wise, resourceful, imaginative and more curious about internal as well as external environments, and thus try to develop more positive attitudes towards new learning experiences (Anwar, 2016).

From the interviews, the ten IT engineers had a favourable feeling towards engaging in knowledge sharing because they think that they have adequate expertise and their expertise can improve work efficiency and increase productivity in their workplace.

Indeed, it's often the curiosity of an open person that drives them to share knowledge, while at the same time seeking out the insights and wisdom of others. As Cabrera et al. (2006) found, openness is a powerful predictor of a positive attitude towards knowledge sharing.

## 5.2. Organizational Domain

### 5.2.1. Organisational Culture

One of the most important factors contributing to the successful implementation of a KM initiative is organisational culture. In fact, a big challenge for most KM efforts actually lies in developing such a culture (Yew Wong, 2005). Fundamentally, organisational culture is the shared awareness of individuals with shared assumptions, values, core beliefs, norms and social customs that govern the way individuals act and behave in an organisation (Abdelrahman and Papamichail, 2016; Yew Wong, 2005; Schein, 1985).

Some organisations attempt to lay the foundations for a KM system by creating a common goal of continuous learning, encouraging people at all levels to share experiences and knowledge, encouraging team-based learning and systematic thinking (Qilichli, B., 2009).

From the interviews, the IT professionals and engineers confirmed that their respective organisations all have a supportive culture based on trust, interaction, collaboration, encouragement and equitableness among organisational members. One engineer stated:

"Our organisation builds trust among members to collaborate and share knowledge. In addition, our organisation is open to change, and people here are actively encouraged to learn and come up with creative ideas and are rewarded for knowledge sharing".

Another engineer said:

"We are encouraged to query existing practice and take actions through empowerment. We have more freedom and opportunities to explore new methods to solve problems".

Genuinely empowered individuals feel able to explore new ideas and take risks, though such a culture must but equal emphasis on an openness where mistakes can be openly shared and learned from, without the fear of reprisals (Goh, 2002; Yew Wong, 2005). Indeed, according to Chow and Chan (2008) and He and Wei (2009), knowledge sharing within an organisation is encouraged in an environment of trust, innovation and equality.

### 5.2.2. Management Support

Top management influences employees' perceptions and willingness to participate in tasks. In fact, explicit support from top management enhances the level and quality of knowledge sharing and encourages employees to exchange knowledge. Such support can be vital in times of organisational change process improvement. Indeed, without the support of top management, organisations will struggle with industry-specific challenges. One informant said:

"Our organisation is implementing different techniques to support and encourage knowledge sharing such as having training and allocating budget for groupware technologies to support knowledge transfer. In fact, we feel we are a significant investment for our company".

This is in line with a study by Shao et al. (2012) that showed just how vital support from top management is in the implementation of new processes and technologies. Indeed, when coupled with appropriate employee encouragement, this support will enable greater knowledge sharing, thereby contributing to greater economic success for the firm.

## 5.3. Information Technology Domain

### 5.3.1. Technology Capability

Organisations are heavily investing in IT to gain competitive advantage in a globalised world, and KM must be an integral part of this investment. However, it is believed that using IT while ignoring knowledge leads to a rapid loss of competitive advantage. Generally, IT allows employees to access the required experiences and connect with other employees. In fact, e-mail, internet, intranet and other web-based tools are believed to provide communication competencies (Abdelrahman & Papamichail, 2016). The study found that the use of IT can facilitate the KM process and is useful in the whole knowledge life-cycle, i.e. creation; structuring, sharing and application (see Figure 2). One engineer noted:

"We use Mashups that allow us to access content from different sources. In addition, we use Wiki to create or change web content and to place agendas and minutes and share them with others."

This is consistent with previous research noted that using high technology can facilitate knowledge sharing and enhance employees' satisfaction (Abdelrahman & Papamichail, 2016). Figure 3 shows IT infrastructure adopted in most organisations to facilitate knowledge sharing.

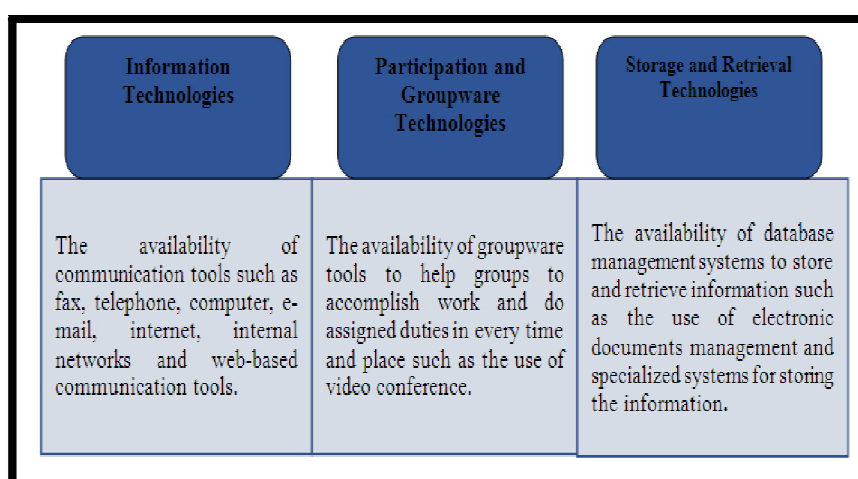


Figure 3: IT'S Infrastructure for Knowledge Sharing

## 6. Conclusion

The study of information systems as pure phenomena involves the study of experience, attitudes and responses, as well as the more technical aspects (Fitzgerald et al., 1985). Bolond (1985) suggested that phenomenology is particularly appropriate for research in information sciences to gain objective, reliable knowledge of the nature of information systems (IS) and the organisations in which they operate (Boland, 1985).

Acknowledging that a paradigm for guiding the study of organisations in developing Arab nations has yet to be developed, the aim of this study was to investigate the challenges and dilemmas inhibiting IT engineers from share their

knowledge in IT projects. An interpretative approach, phenomenology, was adopted, and our study indicates that phenomenology has considerable potential as a method for investigating and understanding IT engineer's experiences and insights about the intention to share knowledge.

This study has found that perceived reputation, openness to new experiences, the culture of an organisation, senior management support and IT capability are key factors that need to be present in order to encourage knowledge sharing among IT professionals and engineers. It must be borne in mind, however, that this study was limited to individuals working in Jeddah, a very liberal and cosmopolitan city. It may be that significant cultural differences will be uncovered by further studies based in other cities in the Kingdom. Further afield, in rural areas in developing countries that are less attractive to skilled personnel and with less access to education, results could be very different (R. Montealegre, 1998). It will be useful and enlightening to replicate this study in such rural areas, in other Saudi Arabian cities, and in other nations within the GCC. Any future research based on this work will include quantitative hypothesis testing.

Finally, this study makes a contribution by presenting an understanding of knowledge sharing intention in developing Arab high-income economies, and it is hoped that this research will contribute to future knowledge management implementation research efforts.

## 7. References

- i. Abdelrahman, M., and Papamichail, K. N. (2016). The Role of Organisational Culture on Knowledge Sharing by Using Knowledge Management Systems. In Proceedings of the International Multi Conference of Engineers and Computer Scientists (IMECS), 16-18 March, 2016, Hong Kong
- ii. Aktharsha, U. S., Anisa, H., & Ali, S. D. (2012). The usage behavior of knowledge management system in hospitals. *IUP Journal of Knowledge Management*, 10(2), 22.
- iii. Alsafadi, L., & Abunafesa, R. (2012). ICT skills gap analysis of the Saudi Market. In Proceedings of the World Congress on Engineering and Computer Science, 1, 284-289.
- iv. Alavi, M., & Leidner, D. E. (2001). Knowledge management and knowledge management systems: Conceptual foundations and research issues. *MIS quarterly*, March (1), 107-136.
- v. Anwar, K. (2016) Impact of Openness to Experience on Knowledge sharing under the mediating effect of Intention to share knowledge and moderating role of Interpersonal trust. *Jinnah Business Review*, 4(2),30-37
- vi. Bock, G. -W., Zmud, R. W., Kim, Y. -G., & Lee, J. -N. (2005). Behavioral intention formation in knowledge sharing: Examining the roles of extrinsic motivators, social-psychological forces, and organizational climate. *MIS Quarterly*, 29(1), 87-111.
- vii. Boland, R. (1985). Phenomenology: a preferred approach to research in information systems., in Mumford, E., Hirschheim, R.A., Fitzgerald, G., Wood Harper, T. (Eds), *Research Methods in Information Systems*, NorthHolland, Amsterdam, 193-201.
- viii. Borges, R. (2012). Tacit knowledge sharing between IT workers: The role of organizational culture, personality, and social environment. *Management Research Review*, 36(1), 89-108.
- ix. Bryman, A. & Burgess, R.G. (1999). Qualitative research methodology- A review. In Bryman, A. & Burgess, R.G. (Eds.), *Qualitative research*. Vol. 1, pp. IX- XLVI. London: Sage.
- x. Cabrera, A., Collins, W. C., & Salgado, J. F. (2006). Determinants of individual engagement in knowledge sharing. *The International Journal of Human Resource Management*, 17(2), 245-264.
- xi. Chow, W. S., & Chan, L. S. (2008). Social network, social trust and shared goals in organizational knowledge sharing. *Information & management*, 45(7), 458-465.
- xii. Chowdhury, S. (2005). The role of affect- and cognition-based trust in complex knowledge sharing. *Journal of Managerial Issues*, 17(3), 310-326.
- xiii. CITC. (2015). "The internet in Saudi Arabia [Online]. The Communications and Information technology Commission. Available from: [http://web1.internet.sa/ar/category/statistics\\_study/](http://web1.internet.sa/ar/category/statistics_study/) [Accessed2017-01-20]
- xiv. Constant, D., Sproull, L., & Kiesler, S. (1996). The kindness of strangers: The usefulness of electronic weak ties for technical advice. *Organization Science*, 7(2), 119-135.
- xv. Chang, H., and Chuang, H. (2011). Social Capital and Individual Motivations on Knowledge Sharing: Participant Involvement as a Moderator. *Information & Management*, 48 (2011), 9-18.
- xvi. Creswell, J. (2007). *Qualitative inquiry and research design: Choosing among five approaches*. Sage Publications: London.
- xvii. Davenport, T. H., & Prusak, L. (1998). *Working knowledge: How organizations manage what they know*. Harvard Business Press.
- xviii. Fitzgerald, G.; Hirschheim, R.; Mumford, E.; and Wood-Harper, A. (1985). Research methodology: an introduction to the debate. In Mumford, E., Hirschheim, R., Fitzgerald, G. And Wood-Harper, A. T (eds.). *Research Methods in Information Systems*. Amsterdam: North-Holland, 3-9
- xix. Gilchrist, V. J. (1999). Key informants interviews. In Bryman, A. & Burgess, R.G. (Eds.), *Qualitative research*. Vol. 1, 354-371. London: Sage.
- xx. Gupta, B. (2008). Role of Personality in Knowledge Sharing and Knowledge Acquisition Behaviour *Journal of the Indian Academy of Applied Psychology*, 34(1), 143-149.
- xxi. He, W., Fang, Y., & Wei, K. K. (2009). The role of trust in promoting organizational knowledge seeking using knowledge management systems: An empirical investigation. *Journal of the American Society for Information Science and Technology*, 60(3), 526-537.

- xxii. Husserl, E. (1970). *The Crisis of European Sciences and Transcendental Phenomenology*. Translated by David Carr. Evanston, Illinois: Northwestern University Press.
- xxiii. Hsu, M-H., Ju, T.L., Yen, C-H., & Chang, C-M., (2007). Knowledge sharing behaviour in virtual communities: the relationship between trust, self-efficacy and outcome expectations. *International Journal of Human-Computer Studies*, 65, 153-169.
- xxiv. Hycner, R. H. (1999). Some guidelines for the phenomenological analysis of interview data. In Bryman, A. & Burgess, R.G. (Eds.), *Qualitative research*. Vol. 3, 143-164. London: Sage.
- xxv. King, N. (2004a). Using interviews in qualitative research. In Cassell, C. and Symon, G. (Eds.) *Essential Guide to Qualitative Methods in Organizational Research*. London: Sage, 11-22. King, N. (2004b) Using templates in the thematic analysis of text. In Cassell, C. and Symon, G. (Eds.) *Essential Guide to Qualitative Methods in Organizational Research*. London: Sage, 256-270.
- xxvi. Kolekofski, J. K. E., & Heminger, A. R. (2003). Beliefs and attitudes affecting intentions to share information in an organizational setting. *Information & Management*, 40(6), 521-532.
- xxvii. Koriat, N., & Gelbard, R. (2014). Knowledge sharing motivation among IT personnel: Integrated model and implications of employment contracts. *International Journal of Information Management*, 34(5), 577-591.
- xxviii. Kosso, P. (1998). Observation. In Craig, E. (Ed.), *Routledge encyclopaedia of philosophy*. London: Routledge. Available from: <http://www.rep.routledge.com/article/Q076SECT1> [Accessed on 10/05/2010].
- xxix. Kvale, S. (1996). *Interviews: An introduction to qualitative research interviewing*. London: Sage Publications Ltd
- xxx. Lacity, M., and Janson, M.(1994). Understanding Qualitative Data: A Framework of Text Analysis Methods. *Journal of Management Information Systems*. Vol. (11(2), 137-155.
- xxxi. Lofland, J., Snow, D., Anderson, L., & Lofland, L. H. (2006). *Analyzing social settings a guide to qualitative observation and analysis* (4th Edition). London: Thomson Wadsworth.
- xxxii. McDermott, R. (1999). Why information technology inspired but cannot deliver knowledge management. *California management review*, 41(4),103-117.
- xxxiii. Moran, D. (2000). *Introduction to Phenomenology*. London: Routledge
- xxxiv. Morse, J. M. (2016). *Mixed method design: Principles and procedures*. Routledge
- xxxv. Moustakas, C (1994). *Phenomenological research methods*. Sage Publications: London
- xxxvi. Nonaka, I., Takeuchi, H.(1995). *The Knowledge-Creating Company*. Oxford University Press, New York
- xxxvii. Orlikowski, Wanda J.(1989). Division among the Ranks: The Social Implications of CASE Tools for Systems Developers. Preceding the Tenth International Conference on Information Systems, Boston MA, December 1989, 199-210.
- xxxviii. Orlikowski, W. J., & Baroudi, J. J. (1991). Studying information technology in organizations: Research approaches and assumptions. *Information Systems Research*. Vol.2(1), 1-28.
- xxxix. Peck, J. R. (2017). Can hiring quotas work? The effect of the Nitaqat program on the Saudi private sector. *American Economic Journal: Economic Policy*, 9(2), 316-47.
- xl. Polanyi, M. (1966). The logic of tacit inference. *Philosophy*, 41(155), -18.
- xli. Rubin, H. J., & Rubin, I. S. (2004). *Qualitative interviewing: The art of hearing data* (2<sup>nd</sup> Edition). London: Sage Publications Ltd.
- xl.ii. Ruggles, R. (1998). The state of the notion: knowledge management in practice. *California management review*, 40(3),80-89.
- xl.iii. Sanders, P (1982). Phenomenology: A New Way of Viewing Organizational Research. *Academy of management review*. Vol.7(3),353-360
- xl.iiii. Shao, Z., Feng, Y., & Liu, L. (2012). The mediating effect of organizational culture and knowledge sharing on transformational leadership and Enterprise Resource Planning systems success: An empirical study in China. *Computers in Human Behavior*, 28(6), 2400-2413.
- xl.v. Smith, S. (1988). How Much Change at the Store? The Impact of New Technologies and Labour Processes on Managers and Staffs in Retail Distribution, in D. Knights and H. Willmott (Eds.), *New Technology and the Labour Process*. MacMillan Press: London, 143-162
- xl.vi. Symon, G. and Cassell, C. (2004). Promoting new research practices in organizational research", in Cassell, C., Symon, G. (Eds), *Essential Guide to Qualitative Methods in Organizational Research*, Sage: London
- xl.vii. Taylor, S. J. & Bogdan, R. (1984). *Introduction to qualitative research methods: the search for meanings*. New York: John Wiley & Sons.
- xl.viii. Teh, P. L., & Sun, H. (2012). Knowledge sharing, job attitudes and organisational citizenship behaviour. *Industrial Management & Data Systems*, 112(1), 64-82.
- xl.ix. Tsai, M. T., Chang, H. C., Cheng, N. C., & Lien, C. C. (2013). Understanding IT professionals' knowledge sharing intention through KMS: a social exchange perspective. *Quality & Quantity*, 1-15.
- l. Von Krogh, G. (1998). Care in knowledge creation. *California management review*, 40(3), 133-153.
- li. Walsham, G. (2006). Doing interpretive research. *European Journal of Information Systems*, 15(3), 320-330.
- lii. Yew Wong, K. (2005). Critical success factors for implementing knowledge management in small and medium enterprises. *Industrial management & Data systems*, 105(3), 261-279.