



**AN INVESTIGATION OF KNOWLEDGE TRANSFER IN  
INFORMATION SYSTEMS (IS) OUTSOURCING**

A thesis submitted for the degree of Doctor of Philosophy

By:

**Zahran Salim Al-Salti**

Information Systems Evaluation and Integration Group  
(ISEing)

Brunel Business School  
Brunel University – London

September 2011

---

## ABSTRACT

Inter-organisational knowledge transfer is of central interest both as an academic topic and in business practice. However, despite the attention given to the importance of this subject from different perspectives in various contexts, little is known about how *knowledge* is transferred from vendors to clients in information systems (IS) outsourcing. This research attempts to address this apparent theoretical and empirical deficiency by providing a deeper understanding and more holistic analysis of the key factors which facilitate or inhibit knowledge transfer success in IS outsourcing.

This study employed a qualitative, multiple case study approach in the interpretive paradigm. Data was collected mainly from the IS departments of three public sector organisations in Oman. Oman was chosen as the context for the study due to its rapid growth in recent years and the opportunity to consider the many major IS outsourcing projects which have been undertaken by its public sector. Through semi-structured interviews, this study explored the perspectives of the internal IS staff on their experience of knowledge transfer and learning from vendors through various IS outsourcing projects. Written and electronic documentations as well as non-participant observations also served as important triangulation and complementary sources in understanding the phenomenon being studied and as means of gaining additional perspectives and further insights on key issues.

The empirical evidence demonstrated that there are *five* sets of factors which facilitate or inhibit knowledge transfer success in IS outsourcing. These are: knowledge (knowledge tacitness and knowledge complexity), client (learning intent, absorptive capacity and motivation), vendor (vendor capability, vendor credibility and vendor openness), relationship (relationship quality, relationship duration, relationship governance and organisational distance) and knowledge transfer mechanisms (formal and informal).

The findings of this study contributed and extended the growing body of research on IS outsourcing by developing a novel, holistic conceptual framework which examined five sets of factors that impact knowledge transfer success. Additionally, it provided prescriptive value for practitioners seeking to realise efficient and effective knowledge transfer in IS outsourcing.

---

## ACKNOWLEDGMENT

First and foremost, praise to Allah Almighty for his blessings and guidance in giving me the strength, courage, patience and perseverance to endure this long and challenging study journey.

I am so grateful for the wise council of my ‘super’ supervisor, Professor Raymond Hackney. I have been fortunate, privileged and honoured to know and work under the supervision of such an academic who is responsible for two major and important positions within the Brunel Business School namely, the director of the doctoral programme and the head of the information systems evaluation and integration group (ISEing). Simply, I could not wish for a better supervisor. Many thanks Ray for your invaluable guidance, inspirational support and encouragement, as well as your patience in respect of my shortcomings. I am also thankful to my second supervisor, Dr. Vishanth Weerakkody for his useful suggestions, insightful comments and constructive feedback.

Without the unconditional love and endless support of my beloved wife, Khalsa Al-Maawali, I would not have been in a position to begin this PhD research. Words are not enough to express my gratitude and thanks to you, Khalsa. You, more than anyone, have been there for me during the twists and turns and through the ups and downs. Thank you for your loving support, sacrifices and endless encouragement. I am fortunate also to have my lovely and beautiful two sons, Alsalt and Sultan, by my side here in London. They are extraordinary children and I am very proud of them. Indeed, they were constant sources of inspiration and, unknowingly, motivated me to complete this thesis. There have been occasions, when I wanted to spend more time with them, and I promise to do so in the future.

I owe a substantial debt of gratitude and thanks to my father, Salim Hamdan Al-Salti who has given me exceptional love, constant care, emotional support and encouragement throughout my life, and continues to do so. I am deeply grateful to you, dad, and can never repay a fraction of what you have done for me. My special thanks must go to my two amazing and wonderful brothers Abdullah and Saeed, and my dearest sister Muna, for their invaluable support, care and prayers. Three of you have offered untiring support and I truly cannot thank you enough.

---

Special thanks and sincere gratitude are due also to my in-laws who have been very supportive during this challenging journey. In particular, I appreciate very much the unique support and constant encouragement and prayers which I received from my mother-in-law during anxious times.

Finally, I am very grateful to the three organisations and all the individuals who agreed to participate in this research, despite being in departments that impose enormous time pressures. Without their valuable input, this study would not have been possible. Thank you for spending the time and sharing your views, perceptions and experiences with me in such detail. Gaining such important insights into the life of an organisation is often challenging and I am very grateful for your support throughout this process. In particular, I am indebted to Mr. Khalid Dawood Al-Zadjali for his time, support and invaluable contacts with key IS professionals within the public sector of Oman.

---

## **DEDICATION**

This PhD thesis is dedicated to the loving memory of my great and lovely mother (Shaikhah Mohsen Al-Salami) who raised me to love, hope, believe and achieve, but did not live to see this great accomplishment.

---

## LIST OF PUBLICATIONS

The following journal and conference papers are outputs based on the research conducted during my PhD study:

- **Al-Salti, Z.** and Hackney, R. (2011) Factors impacting knowledge transfer success in information systems outsourcing. *Journal of Enterprise Information Management*, 24 (5), pp. 455 - 468.
- **Al-Salti, Z.** and Hackney, R. (2011) Knowledge Transfer Success in Information Systems (IS) Outsourcing. *Journal of Information Technology*, (under review).
- **Al-Salti, Z.**, Hackney, R. and Özkan, S. (2010) Factors impacting knowledge transfer success in information systems outsourcing: a review of the literature. *Proceedings of the European, Mediterranean & Middle Eastern Conference on Information Systems (EMCIS)*. 12-13 April, Abu Dhabi, United Arab Emirates (UAE).
- Al-Azri, A., **Al-Salti, Z.** and Al-Karaghoul, W. (2010) Successful implementation of e-government transformation: a case study in Oman. *Proceedings of the European, Mediterranean & Middle Eastern Conference on Information Systems (EMCIS)*. 12-13 April, Abu Dhabi, United Arab Emirates (UAE).
- Al-Gharbi, K., Al-Kindi, A. and **Al-Salti, Z.** (2009) IT /IS outsourcing from Omani organisations' perspective: motivations and reservations. *International Journal of Management Innovation System*, 1 (1), pp. 1-10.
- **Al-Salti, Z.** (2009) Knowledge transfer and acquisition in IS outsourcing: towards a conceptual framework. *Proceedings of the 14<sup>th</sup> UKAIS Annual Conference*. 31<sup>st</sup> March-1<sup>st</sup> April, St Anne's College, University of Oxford, UK.
- Al-Fawaz, K., **Al-Salti, Z.** and Eldabi, T. (2008) Critical success factors in ERP implementation: a review. *Proceedings of the European and Mediterranean Conference on Information Systems (EMCIS)*, May 25-26, Dubai, United Arab Emirates (UAE).

---

# TABLE OF CONTENTS

ABSTRACT.....	i
ACKNOWLEDGMENT.....	ii
DEDICATION.....	iv
LIST OF PUBLICATIONS.....	v
LIST OF TABLES.....	xi
LIST OF FIGURES.....	xii
<b>CHAPTER ONE: INTRODUCTION.....</b>	<b>1</b>
<b>1.1 Introduction.....</b>	<b>1</b>
<b>1.2 Research Background.....</b>	<b>1</b>
<b>1.3 Research Problem.....</b>	<b>2</b>
<b>1.4 Research Aim and Objectives.....</b>	<b>3</b>
<b>1.5 Research Design.....</b>	<b>5</b>
<b>1.6 Research Relevance and Significance.....</b>	<b>6</b>
<b>1.7 Thesis Structure.....</b>	<b>8</b>
<b>1.8 Chapter Summary.....</b>	<b>10</b>
<b>CHAPTER TWO: LITERATURE REVIEW.....</b>	<b>11</b>
<b>2.1 Introduction.....</b>	<b>11</b>
<b>2.2 IS Outsourcing Background.....</b>	<b>12</b>
<b>2.3 IS Outsourcing Definition.....</b>	<b>14</b>
<b>2.4 IS Outsourcing Delivery Models.....</b>	<b>16</b>
2.4.1 Domestic Outsourcing / Onshoring.....	16
2.4.2 Offshore Outsourcing / Offshoring.....	16
2.4.3 Near-shore Outsourcing / Nearshoring.....	18
<b>2.5 IS Outsourcing Motivations.....</b>	<b>19</b>
2.5.1 Economic Factors.....	20
2.5.2 Technological Factors.....	20
2.5.3 Strategic Factors.....	21
<b>2.6 IS Outsourcing Relationship.....</b>	<b>23</b>

---

<b>2.7</b>	<b>Knowledge</b> .....	24
2.7.1	Knowledge Definition.....	25
2.7.2	Knowledge Dimensions.....	26
2.7.3	Importance of Knowledge.....	29
<b>2.8</b>	<b>Knowledge Transfer</b> .....	30
2.8.1	Knowledge Transfer Definition.....	30
2.8.2	Intra-organisational Knowledge Transfer.....	31
2.8.3	Inter-organisational Knowledge Transfer.....	33
2.8.4	Knowledge Transfer in IS Outsourcing.....	36
<b>2.9</b>	<b>The Gaps in the Literature</b> .....	37
<b>2.10</b>	<b>Chapter Summary</b> .....	39
<b>CHAPTER THREE: CONCEPTUAL FRAMEWORK FOR KNOWLEDGE TRANSFER IN IS OUTSOURCING</b> .....		40
<b>3.1</b>	<b>Introduction</b> .....	40
<b>3.2</b>	<b>Theoretical Foundation</b> .....	41
3.2.1	Organisational Learning Theory.....	41
3.2.2	Social Capital Theory.....	42
<b>3.3</b>	<b>Development of the Conceptual Framework</b> .....	44
3.3.1	Knowledge Factors.....	45
3.3.2	Vendor Factors.....	46
3.3.3	Client Factors.....	49
3.3.4	Relationship Factors.....	54
3.3.5	Knowledge Transfer Mechanisms.....	59
<b>3.4</b>	<b>Knowledge Transfer Success</b> .....	61
<b>3.5</b>	<b>Chapter Summary</b> .....	62
<b>CHAPTER FOUR: RESEARCH METHODOLOGY</b> .....		64
<b>4.1</b>	<b>Introduction</b> .....	64
<b>4.2</b>	<b>Research Paradigm</b> .....	64



---

4.2.1	Positivist Paradigm .....	66
4.2.2	Interpretive Paradigm.....	66
4.2.3	Critical Paradigm .....	68
4.2.4	Justifications for the Adoption of the Interpretive Paradigm.....	68
<b>4.3</b>	<b>Research Approach .....</b>	<b>70</b>
4.3.1	Quantitative .....	70
4.3.2	Qualitative .....	70
4.3.3	Justifications for the Adoption of the Qualitative Research Method...	72
<b>4.4</b>	<b>Research Strategy .....</b>	<b>73</b>
4.4.1	Case Study Definition .....	73
4.4.2	Case Study Strengths .....	74
4.4.3	Case Study Limitations .....	75
4.4.4	Single Versus Multiple Case Design .....	76
4.4.5	Number of Cases .....	77
4.4.6	Access to the Case Organisations .....	78
4.4.7	Justifications for the Adoption of Case Study Research Strategy.....	79
<b>4.5</b>	<b>Research Design.....</b>	<b>80</b>
4.5.1	Unit of Analysis .....	80
4.5.2	Case Study Protocol .....	80
4.5.3	Data Collection.....	81
4.5.4	Data Analysis .....	88
4.5.5	Qualitative Content Analysis .....	89
4.5.6	Use of NVivo Software Package.....	91
<b>4.6</b>	<b>Ethical Considerations and Anonymity .....</b>	<b>92</b>
<b>4.7</b>	<b>Methodological Rigour.....</b>	<b>93</b>
4.7.1	Reliability .....	95
4.7.2	Validity.....	95

---

4.7.3	Credibility .....	97
4.7.4	Generalisability .....	97
<b>4.8</b>	<b>Chapter Summary .....</b>	<b>98</b>
<b>CHAPTER FIVE: MULTIPLE CASE STUDIES: ANALYSIS AND FINDINGS</b>		<b>100</b>
<b>5.1</b>	<b>Introduction .....</b>	<b>100</b>
<b>5.2</b>	<b>Overview of Oman.....</b>	<b>100</b>
5.2.1	Social and Economic Development .....	102
5.2.2	Technological Development .....	103
5.2.3	IS Outsourcing in Oman .....	106
5.2.4	Justifications for Choosing Oman as the Context of the Study .....	106
<b>5.3</b>	<b>Case Studies Analysis.....</b>	<b>107</b>
5.3.1	ALPHA .....	108
5.3.2	BETA .....	124
5.3.3	GAMMA.....	140
<b>5.4</b>	<b>Chapter Summary .....</b>	<b>155</b>
<b>CHAPTER SIX: CROSS-CASE SYNTHESIS AND DISCUSSION.....</b>		<b>156</b>
<b>6.1</b>	<b>Introduction .....</b>	<b>156</b>
<b>6.2</b>	<b>Knowledge Transfer in IS Outsourcing .....</b>	<b>157</b>
<b>6.3</b>	<b>Factors Impacting Knowledge Transfer Success.....</b>	<b>158</b>
6.3.1	Knowledge Factors.....	161
6.3.2	Client Factors .....	162
6.3.3	Vendor Factors .....	165
6.3.4	Relationship Factors.....	166
6.3.5	Knowledge Transfer Mechanisms.....	171
<b>6.4</b>	<b>A Revised Conceptual Framework .....</b>	<b>173</b>
<b>6.5</b>	<b>Chapter Summary .....</b>	<b>175</b>
<b>CHAPTER SEVEN: CONCLUSION.....</b>		<b>176</b>

---

<b>7.1</b>	<b>Introduction</b> .....	176
<b>7.2</b>	<b>Research Overview and Key Findings</b> .....	176
<b>7.3</b>	<b>Research Contributions and Implications</b> .....	179
7.3.1	Contributions to Theory .....	179
7.3.2	Contributions to Methodology .....	181
7.3.3	Contributions to Practice.....	183
<b>7.4</b>	<b>Limitations and Directions for Future Research</b> .....	185
<b>7.5</b>	<b>Chapter Summary</b> .....	187
	<b>REFERENCES</b> .....	188
	<b>APPENDICES</b> .....	230
	<b>Appendix I: Statement of Ethics Approval</b> .....	230
	<b>Appendix II: Informed Consent Form</b> .....	231
	<b>Appendix III: Interview Guide</b> .....	232

---

## LIST OF TABLES

Table 1.1: Thesis Structure .....	8
Table 2.1: Motivations for IS outsourcing .....	19
Table 2. 2: Data, information, knowledge in two different contexts .....	25
Table 2. 3: The characteristics of tacit and explicit knowledge .....	26
Table 2. 4: Selected studies on inter-organisational knowledge transfer.....	35
Table 4. 1: Research Paradigms in information systems (IS) Research .....	65
Table 4. 2: Comparison between quantitative and qualitative methods.....	71
Table 4. 3: Characteristics of Case Study Research.....	74
Table 4. 4: Data collection methods: strengths and limitations .....	82
Table 5.1: Case analysis format .....	108
Table 5.2: Interviewees of ALPHA .....	109
Table 5.3: Interviewees of BETA .....	126
Table 5.4: Interviewees of GAMMA .....	141
Table 6.1: Knowledge transfer as a key advantage of IS outsourcing .....	157
Table 6. 2: Factors impacting knowledge Transfer Success .....	160

---

## LIST OF FIGURES

Figure 1. 1: Research Roadmap.....	5
Figure 2. 1: Data, information and knowledge .....	24
Figure 2. 2: The SECI model: demonstrating four modes of knowledge creation .....	28
Figure 2. 3: Schematic representation of knowledge transfer .....	31
Figure 3. 1: Conceptual Framework .....	44
Figure 4. 1: An interactive model of qualitative data analysis .....	89
Figure 4. 2: A framework for assessing the quality of qualitative research .....	94
Figure 5. 1: Oman geographical location .....	101
Figure 5.2: ALPHA – knowledge-related factors impacting knowledge transfer success .....	112
Figure 5.3: ALPHA – client- related factors impacting knowledge transfer success....	113
Figure 5.4: ALPHA – vendor-related factors impacting knowledge transfer success...	116
Figure 5.5: ALPHA – relationship-related factors impacting knowledge transfer success .....	118
Figure 5.6: ALPHA – transfer mechanisms impacting knowledge transfer success.....	122
Figure 5.7: BETA – knowledge-related factors impacting knowledge transfer success	128
Figure 5.8: BETA – client-related factors impacting knowledge transfer success.....	130
Figure 5.9: BETA – vendor-related factors impacting knowledge transfer success .....	132
Figure 5.10: BETA – relationship-related factors impacting knowledge transfer success .....	134
Figure 5.11: BETA – transfer mechanisms impacting knowledge transfer success.....	138
Figure 5.12: GAMMA – knowledge-related factors impacting knowledge transfer success .....	144
Figure 5.13: GAMMA – client-related factors impacting knowledge transfer success	145
Figure 5.14: GAMMA – vendor-related factors impacting knowledge transfer success .....	147
Figure 5.15: GAMMA – relationship-related factors impacting knowledge transfer success .....	149
Figure 5.16: GAMMA – transfer mechanisms impacting knowledge transfer success	153
Figure 6.1: Revised conceptual framework for knowledge transfer success in IS outsourcing .....	173

## CHAPTER ONE: INTRODUCTION

### 1.1 Introduction

The purpose of this introductory chapter is to provide the reader with an overview of the research that is presented through the body of this thesis. The chapter has been divided into eight sections, including this introduction. Section 1.2 aims to provide an overall background of the research undertaken. Section 1.3 presents the research problem and highlights the research gap. Section 1.4 states the aim and objectives of the research. The research design is described in section 1.5. Section 1.6 explains the relevance of the research. Section 1.7 provides an overview of the thesis structure. The final section (Section 1.8) sums up this chapter.

### 1.2 Research Background

In today's dynamic and often turbulent business environment, organisations, particularly in the public sector, have been under great pressure to seek out approaches to manage, control and deliver information systems (IS) products and services more effectively and at a lower cost (Lin *et al.*, 2011; Kuivanen and Nahar, 2009; Goles and Chen, 2005; Chen and Soliman, 2002). One increasingly popular response from decision makers is outsourcing (Lee and Choi, 2011; Goo and Huang, 2008; Peled, 2001). Today, IS outsourcing is an accepted and a growing practice as a means of meeting an organisation's IS needs (Simeon, 2010; Wang *et al.*, 2008). In the public sector, more and more organisations are outsourcing a large percentage of their IS projects (Swar *et al.*, 2010; Lin *et al.*, 2007; Currie *et al.*, 1996).

While the key driver for IS outsourcing was cost cutting (Khan *et al.*, 2003; Apte *et al.*, 1997), in recent years increasing attention has been paid by clients to building successful partnerships with vendors (Lam and Chua, 2009; Al-Qirim, 2003; Lee, 2001). In moving away from adversarial relations towards greater cooperation and strategic IS outsourcing relationships, client organisations have begun to forge a shared understanding through which the transfer of knowledge becomes possible (Rai and Tang, 2010; Alborz *et al.*, 2004). Such intimate relationships provide a

fertile platform for knowledge transfer and learning, creating opportunities for client organisations to access new knowledge, skills and competencies of the vendors (Valorinta, 2010). For example, Ko *et al.* (2005, p. 60) note with regard to transferring knowledge from an Enterprise Resource Planning (ERP) vendor, “organisations typically have goals that go beyond the successful implementation of a new system; they also have the less tangible goal of acquiring new implementation, operational, maintenance and training knowledge”. Similarly, Tiwana and Bush (2007, p. 270) maintain that the IS outsourcing decisions “should be motivated by the need to access and exploit specialised technical knowledge that is not readily available in the client firm”. The success of knowledge transfer from vendors to clients is critical for meeting the needs of the client organisations (Xu and Ma, 2008).

### **1.3 Research Problem**

Despite the recognised benefits of knowledge transfer in IS outsourcing, extent studies establish that knowledge transfer from one organisation to another is challenging and complex in nature (Perez-Nordtvedt *et al.*, 2008; Muthusamy and White, 2005; Schlegelmilch and Chini, 2003; Goh, 2002). For example, Kim and Chung (2003) establish that despite the fact that IS outsourcing offers client organisations access to crucial knowledge and superior competencies of the vendors, the task of transferring knowledge successfully is far from straightforward. They further argue that despite many of the initially proclaimed knowledge transfer benefits, IS outsourcing does not always achieving the desired results. Likewise, Perez-Nordtvedt *et al.*, (2008) suggest that knowledge transfer across organisational borders is often challenging and time-consuming, and argue that it is important to examine the impediments to knowledge transfer, in order to make the process more effective and efficient and the outcomes more favourable.

The success of knowledge transfer not only depends on the capability of the vendor to provide the necessary knowledge, but also on the ability of the client to absorb and utilise the transferred knowledge (Steensma and Lyles, 2000). Moreover, differences in cultures, structures and goals between the client and the vendor may impede collaboration and consequently hinder knowledge transfer (Salmi and Torkkeli, 2009; Levina and Vaast, 2008; Minbaeva, 2007). In practice, without a

comprehensible understanding of the key factors that contributes to effective knowledge transfer, managers are ‘left in the dark’ as to what they can do to foster knowledge transfer when outsourcing IS.

Although there are a large number of contributions discussing difficulty and lack of understanding surrounding the inter-organisational knowledge transfer process, such as joint ventures (e.g. Pak and Park, 2004), strategic alliances (e.g. Muthusamy and White, 2005) and R&D (e.g. Faems *et al.*, 2007), these studies have produced mixed results with regard to the factors that impact inter-organisational knowledge transfer success. Furthermore, there are limited empirical studies which address the issue of knowledge transfer in IS outsourcing with very few notable exceptions such as Ko *et al.* (2005) and Xu and Ma (2008). These two studies, however, have focused on knowledge transfer during the outsourcing of the implementation of a single application (ERP) using a questionnaire-based approach. Perez-Nordtvedt *et al.* (2008, p. 737) suggest that there is a dearth of interpretive qualitative research that can “fully capture the richness and social complexity of the knowledge transfer process”. Previous studies fail to provide a comprehensive understanding of the factors that impact knowledge transfer success as most are focused on the type of knowledge transferred, the source, the recipient, or the relationship between the source and the recipient.

Therefore, it is clear from the above discussion of related literature that a gap exists in the literature, because very little is known about the holistic conceptualization of the key factors that impact inter-organisational knowledge transfer success, and even less is known about these factors in the context of IS outsourcing. Thus, the research aim and objectives are developed and will be discussed in the following section.

#### **1.4 Research Aim and Objectives**

Prior studies have emphasised the importance of knowledge transfer for IS outsourcing success, yet lack clarity about how knowledge transfer could be managed effectively and leveraged for business advantage. Moreover, little systematic empirical research has been directed toward a thorough examination and analysis of key factors that impact knowledge transfer success. The primary aim of this research is, therefore, *to develop an integrative framework that provides a*



*holistic understanding of the key factors that impact knowledge transfer success from vendors to clients in IS outsourcing.*

Accordingly, the overall research question is:

***How is knowledge transferred successfully from vendors to clients in IS outsourcing?***

The research question leads to two sub-questions:

1. What are the key factors that facilitate or inhibit knowledge transfer success in IS outsourcing?
2. What is the impact of social capital on knowledge transfer success in IS outsourcing?

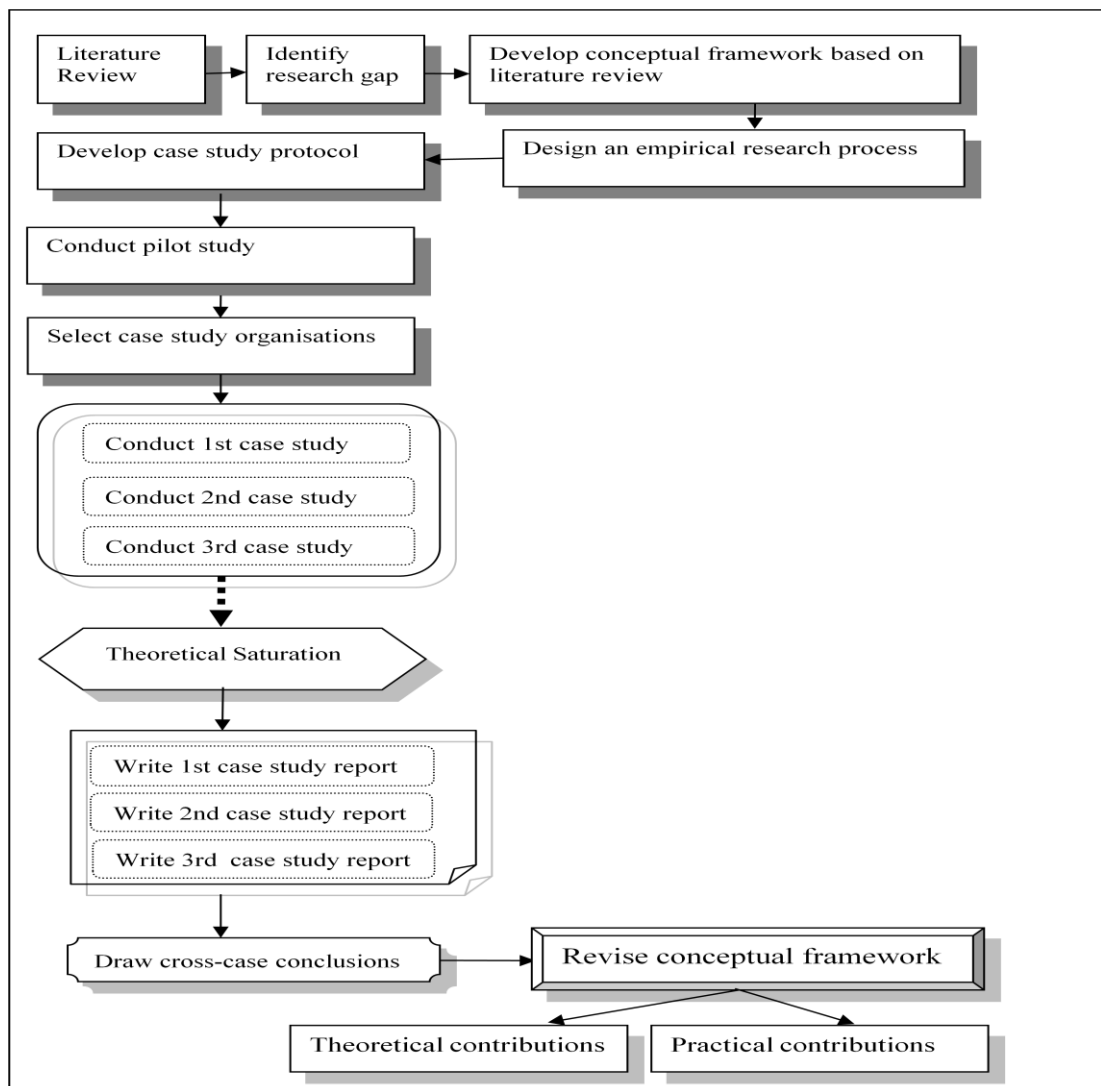
In order to address the research aim and attempt to answer the research questions, the following research objectives will be met:

- To conduct a critical literature review in the area of inter-organisational knowledge transfer in general, with particular emphasis to IS outsourcing in order to examine how knowledge is transferred between organisations and identify the factors that facilitate or impede knowledge transfer success.
- To propose a conceptual framework, based on the extensive review of the related literature, which can provide a better understanding of the key factors that impact knowledge transfer success in IS outsourcing.
- To empirically validate the proposed conceptual framework in the context of IS outsourcing in the public sector of Oman and reflect on findings.
- To revise the conceptual framework based on the empirical findings, which can then be used as a strategic framework for knowledge transfer in IS outsourcing.

Having discussed the aim and the objectives of this research, the next section briefly highlights the research design adopted for this study.

## 1.5 Research Design

This thesis employed a qualitative multiple case study approach. The general research design, data collection and data analysis followed the recommendation of Yin (2009) and are illustrated in the ‘roadmap’ presented in Figure 1.1.



**Figure 1. 1:** Research Roadmap

Source: Adopted with *modification* from Yin (2009)

Figure 1.1 illustrates the initial step in designing the study, which involved an extensive review of related literature in order to identify a gap and provide a

theoretical foundation. Then, a conceptual research framework is developed. Next, a case study protocol is crafted. A pilot study is conducted to refine the data collection plans and select the cases that are relevant to the research. After conducting the required number of cases (i.e. reached theoretical saturation), individual reports for each case will be written. A cross-case analysis is the following step, in which cross-case conclusions will be drawn. A refined conceptual framework is derived from the theoretical and empirical reflections. Finally, based on the key findings, theoretical and practical contributions are drawn. Having briefly addressed the design that guides the whole process of the research, the next section will explain the relevance and significance of this study.

## **1.6 Research Relevance and Significance**

Knowledge management (KM) - and its transfer - is a significant topic which has captured the attention and interest of both researchers and practitioners (Hung *et al.*, 2011; Kumar and Ganesh, 2011; Edgar, 2005). It is among the top critical issues in the agendas of today's IS/KM executives (Luftman and Zadeh, 2011; Ringberg and Reihlen, 2008), who are increasingly seeking to improve the efficiency and the effectiveness of their organisations. More than ever, organisations are establishing close links and building connections with outside organisations and business partners in order to transfer new knowledge and skills and learn from the experience of others (Hackney *et al.*, 2008; Argote and Ingram, 2000; Darr and Kurtzberg, 2000). However, inter-organisational knowledge transfer is a challenging process, and many organisations have not realised the expected significant benefits (Oerlemans and Knoblen, 2010; Song *et al.*, 2003). As Easterby-Smith (2008a, p. 677) describes, inter-organisational knowledge transfer is "a complex phenomenon and in practice, successful transfer is often not easy to achieve". The current understanding of what contributes to successful inter-organisational knowledge transfer is still quite limited (Perez-Nordtvedt *et al.*, 2008).

Prior studies have examined various sets of factors that impact knowledge transfer success, yet inconsistent research results were revealed. Ko *et al.* (2005, p. 61) note that "unfortunately, empirical results regarding antecedents of knowledge transfer in non-IS context have not been consistently strong and robust, prompting a call for additional studies".

While several empirical studies (e.g. Suzlanski, 2003; Simonin, 1999; Suzlanski, 1996) have revealed that the nature and the characteristic of knowledge transferred is the key factor that impact knowledge transfer success, other studies (e.g. Lichtenthaler, 2009; Todorova and Durisin, 2007; Zahra and George, 2002; Tsai, 2001, Cohen and Levinthal, 1990) have placed more emphasis on the characteristics of the recipient, especially absorptive capacity, and argued that by possessing sufficient prior related knowledge, recipient organizations are able to have an adequate ability to absorb new external knowledge. Moreover, a large number of inter-organisational knowledge transfer studies (e.g. Liu *et al.*, 2010; De Cannière *et al.*, 2009; Inkpen and Tsang, 2005) have exclusively focused on the characteristic of the relationship between the source and the recipient, without paying enough attention to the characteristics of the source and the recipient.

This study cautions that such narrowed approaches raise confusion and doubt, leaving researchers unclear about the theoretical perspectives relevant to inter-organisational knowledge transfer success. As Hau and Evangelista (2007, p. 1153) state, “the acquisition of both tacit and explicit knowledge across partners is still relatively unexplored and not fully understood”. Likewise, Rashman *et al.* (2009, p. 474) stress that inter-organisational knowledge transfer and learning still “requires further conceptual development and empirical research to create a richer appreciation of how alliance learning happens”.

To better explain how knowledge is transferred successfully, a more holistic approach is required in order to identify and examine these factors simultaneously. Therefore, this study is considered to be relevant and timely to IS professionals.

This study contributes to a deeper understanding of how knowledge is transferred successfully from vendors to clients in IS outsourcing. The value of this research is also realised in the practical contribution to be achieved, for example, by providing management advice to client organisations which require guidance in order to enhance the knowledge transfer process. As Appleyard (1996, p. 137) puts it, “by understanding the mechanisms and determinants of knowledge flows, company managers....can influence knowledge diffusion more effectively”. Acknowledging the complete sets of factors that impact knowledge transfer success will not only

improve the understanding of the knowledge transfer process, but also ensure effective outsourcing planning and management by enabling practitioners to focus their attention on particular dimensions that are critical to the relationship. The comprehensive understanding of these key factors is of paramount importance to the success of the knowledge transfer.

## 1.7 Thesis Structure

The thesis is made up of seven chapters as shown in Table 1.1, and organised according to the recommendation of Phillips and Pugh (2005)'s seminal book "How to get a PhD".

<b>Background Theory</b>	<b>Chapter 1</b>	Introduction
	<b>Chapter 2</b>	Literature Review
<b>Focal Theory</b>	<b>Chapter 3</b>	Conceptual Framework for Knowledge Transfer in IS Outsourcing
<b>Data Theory</b>	<b>Chapter 4</b>	Research Methodology
	<b>Chapter 5</b>	Multiple Case Studies Analysis and Findings
<b>Novel Contribution</b>	<b>Chapter 6</b>	Cross-Case Synthesis and Discussion [A novel holistic framework for knowledge transfer in IS outsourcing]
	<b>Chapter 7</b>	Conclusion

**Table 1.1:** Thesis Structure

Chapter one (this chapter) is an introduction to the research, providing background and outlining the broad field of study. Its aim is to orient the reader by setting the scene for the rest of the thesis: it lays the foundations for the thesis. The chapter includes a brief description of the research background and research problem, the aim and objective of the research and a brief explanation of the research design. It also justifies the significance of the research, its value and originality. The chapter finishes with an outline of the thesis.

Chapter two aims to build a theoretical foundation for the research through a review of the existing relevant state-of-the-art literature. It consolidates and collates the existing studies on knowledge management, IS outsourcing, inter-organisational relationships and organisational learning. The examination of these fields establishes the boundaries and identifies gaps in existing research. The chapter first reviews the development of the IS outsourcing phenomenon and its motivations and risks, and examines the client-vendor relationships. It then addresses knowledge and knowledge transfer and highlights their critical importance to organisations.

Chapter three presents the proposed conceptual research framework for knowledge transfer success in IS outsourcing. Based on the extensive review of relevant inter-organisational knowledge transfer literature, the framework highlights and explains the key factors that enable or inhibit knowledge transfer success from a theoretical/conceptual perspective.

Chapter four defines and discusses the research paradigm followed in this study and outlines the methodology used in the research. It presents the research approach and methods used to conduct the empirical investigation, with a detailed explanation of the rationale behind the choice of particular research methods. The chapter also explains the data analysis techniques used in this study and addresses the criteria for judging its methodological rigour.

Chapter five reports the key finding of the empirical investigation of each case study. This chapter first offers an overview of the context in which data collection took place. Then, it presents the within-case study analysis.

Chapter six presents the cross-case analysis, and offers an in-depth interpretation and discussion of the main findings of the research. Based on the interpretation, a revised holistic framework for knowledge transfer success in IS outsourcing is offered.

Chapter seven is the final chapter of the thesis. This chapter presents an overall summary of the thesis. Moreover, it highlights the key theoretical, methodological and practical contributions of the research. The chapter ends by acknowledging the research limitations and identifying areas for further study.

## **1.8 Chapter Summary**

This chapter has laid the groundwork for the thesis. It has introduced and justified the research problem and research issues. Additionally, the study's aim and objectives have been specified. The research design was briefly described, the research relevance was addressed and the contents of the thesis were outlined. On these foundations, the thesis can proceed to the next chapter to review and synthesise the related literature.

## CHAPTER TWO: LITERATURE REVIEW

### 2.1 Introduction

The previous chapter introduced the research background and the overall structure of this study. The purpose of this chapter is to review the related literature in information systems (IS) outsourcing and knowledge transfer. The literature review presented in this chapter is divided into two primary parts. First, the chapter provides a general background about the IS outsourcing phenomenon and discusses its key motivations. Then, the chapter offers a critical review of research relating to knowledge and knowledge transfer. In doing so, this chapter presents the 'background theory' that provides a profound and comprehensive understanding which is used in crafting the conceptual research framework presented in the next chapter.

To identify articles to be used in the literature review, highly ranked journals in the IS and Management fields were investigated. Eisenhardt and Graebner (2007, p. 26) highlight that, "sound empirical research begins with strong grounding in related literature". The 'Basket of Eight' - journals highly recommended by the Association for Information Systems (AIS) -, namely: Management Information Systems Quarterly (MISQ), Information Systems Research (ISR), European Journal of Information, Systems (EJIS), Information Systems Journal (ISJ), Journal of the Association for Information Systems (JAIS), Journal of Management Information Systems (JMIS), Journal of Information Technology (JIT) and The Journal of Strategic Information Systems (JSIS) were first scanned. Other leading management and knowledge management journals such as the Academy of Management Journal, the Strategic Management Journal, British Journal of Management, Organisation Science and Journal of Knowledge Management were also reviewed. Using the reference lists from articles obtained from these sources, articles from other journals were also selectively obtained, in a snowballing process.

The following sections of this chapter are organised as follows. Section 2.2 aims to provide an overall background about IS outsourcing and its market. Section 2.3 reviews various definitions of IS outsourcing and offers a definition that fits the



research context. Section 2.4 discusses various IS outsourcing delivery models and highlights their advantages and pitfalls. Section 2.5 presents some of the key motivating factors and the potential benefits for IS outsourcing. Section 2.6 describes the development of IS outsourcing relationships. Section 2.7 provides an overview of knowledge, its dimensions and importance. Section 2.8 discusses knowledge transfer within and across organisational borders and explains the importance of knowledge transfer in the context of IS outsourcing. Section 2.9 highlights the key gaps in the literature. The final section (Section 2.10) sums up this chapter.

## **2.2 IS Outsourcing Background**

Public sector organisations are increasingly investing in innovative information systems (IS) (Lio *et al.*, 2011; Tseng *et al.*, 2008; Irani *et al.*, 2007) in order to enhance their internal efficiency (Cordella and Iannacci, 2010; Doherty and Terry, 2009; Gupta *et al.*, 2008), to deliver better services to citizens and businesses (Gupta *et al.*, 2008; Tseng *et al.*, 2008; Ebrahim and Irani, 2005) and to improve transparency and trustworthiness (Armstrong, 2011; Smith, 2010; Be' langer and Carter, 2008; Gupta and Jana, 2003). In developing countries, IS have become even a vital component for development; improving current government services, reducing corruption and increasing accountability (Lio *et al.*, 2011; Atsu *et al.*, 2010). Smith *et al.* (2010, p. 2) state that IS are “thought to bring increased efficiency, effectiveness, transparency, and accountability to the public sector; reducing corruption, improving service provisions, and democratising the bureaucracy”. Similarly, Torkzadeh *et al.* (2011, p. 70) assert that “organisations often attribute their high performance to effective application of information systems”.

However, not many organisations have the sufficient in-house knowledge, capabilities and expertise to develop, implement and maintain such sophisticated systems (Ko *et al.*, 2005; Marcolin and Ross, 2005; Hu *et al.*, 1997). As Slaughter and Kirsch (2006, p. 301) put it, “in recent years, firms have invested heavily in software, as information technology (IT) plays a critical role in many aspects of the value chain. However, firms often fail in their attempts to build and deploy software”. Xu and Ma (2008) state, with respect to Enterprise Resource Planning (ERP) implementations, that “without external help, hardly any organisation can

implement ERP successfully”. Therefore, organisations are increasingly outsourcing IS to external specialised vendors that have established experience and knowledge bases (Marcolin and Ross, 2005; Al-Qirim, 2003). Today, IS outsourcing is among the top items on the agendas of IS executives (Atesci *et al.*, 2010; Fisher *et al.*, 2008), and is regarded as one of the “most discussed topics in both the academic and practitioner media” (Rustagi *et al.*, 2008, p. 126). Fish and Seydel (2006, p. 96) state that IS outsourcing is now “a strategic option that is on just about every CIO's plate”.

The Eastman Kodak outsourcing deal worth \$250 million in 1989, with IBM, Business Land and DEC is considered to be the ‘landmark’ or the ‘kick-start’ for IS outsourcing, and it generated the spotlight for both practitioners and researchers (Dibbern *et al.*, 2004; Grover *et al.*, 1994). Ever since the Kodak deal, IS outsourcing has been growing at a rapid rate in volume and scope (Wang *et al.*, 2008; Gonzalez *et al.*, 2005; Levina and Ross, 2003; Lacity and Willcocks, 1998). The number and value of IS outsourcing deals have increased, with client organisation willing to outsource a wide range of IS services, enlarging the scope and value of the IS outsourcing market (Qu *et al.*, 2011; Yang and Huang, 2000). The global IS outsourcing market was \$76 billion in 1995 (Gordon and Walsh, 1997), increased to \$176 billion in 2003 (Wang *et al.*, 2008), reached \$340 billion in 2007, and is expected to grow to \$509 billion by 2012 (Lee and Choi, 2011).

IS outsourcing is also spreading geographically (Gonzalez *et al.*, 2005), and various destinations have become attractive for outsourcing activities. Most IS outsourcing clients tend to be located in developed countries such as the USA, Western Europe, Australia and Japan (Simeon, 2010; Kuivanen and Nahar, 2009; Gefen and Carmel, 2008). Vendors are mainly located in less developed countries (Oshri *et al.*, 2008). India has been recognised as the ‘offshore leader’ in IS outsourcing (Mao *et al.*, 2008; Vlaar *et al.*, 2008). It produces around 70,000 IS graduates annually (Palvia, 2004), and the country's main IS vendors such as Tata Consulting Services (TCS), Infosys and Wipro are fast becoming global leaders (Dedrick *et al.*, 2011; Palvia, 2003). China has also become a favourable outsourcing location, characterised by low-cost labour and high-technology manufacturing (Lau and Zhang, 2006; Forrest, 2005; Matteo, 2003). For example, China is the most attractive IS outsourcing destination for Japanese firms, characterised by a large number of IS professionals who speak the language and understand the culture of Japan (Simeon, 2010). Other

destinations include Ireland, Mexico, Vietnam and the Philippines (Kuivanen and Nahar, 2009; Vlaar *et al.*, 2008; Palvia, 2004). The Middle East and North Africa (MENA) region is a new emerging market for IS outsourcing (Willcocks *et al.*, 2009). The United Arab Emirates (UAE), Egypt and Morocco, have been on the radar screen of many American and European client firms seeking IS services (Fam, 2007). Moreover, the 2011 A.T. Kearny study that lists the top 50 attractive IS outsourcing destinations based on cost, people skills and availability and business environment, placed Egypt 4<sup>th</sup> and the UAE 15<sup>th</sup> (A.T. Kearny, 2011).

This growth in IS outsourcing prompted strong academic interest in the phenomenon (Wang *et al.*, 2008). Suhaimi *et al.* (2007, p. 645) state that “academic research on IS outsourcing has evolved rapidly”, resulting in an increase in the volume of literature devoted to it. Dibbern *et al.* (2004) offer a comprehensive synthesise of the academic literature between 1992 and 2000 on IS outsourcing and highlight the key outsourcing issues. These include: ‘why to outsource’, ‘what to outsource’, ‘which decision process to take’, ‘how to implement the sourcing decision’ and ‘what is the outcome of the sourcing decision’. The study of Lacity *et al.* (2010) also examines 164 empirical IS outsourcing articles published between 1992 and 2010 in 50 journals and provides future academic research directions. The authors highlighted the value of outsourcing and developed two models of IS outsourcing venture. The first model addressed IS outsourcing decisions. This includes ‘motives to outsource’, ‘transaction attributes’, ‘client firm characteristics’ and ‘influence sources’. The second model highlighted the IS outsourcing outcomes. This includes ‘client and supplier capabilities’, ‘relationship characteristics’, ‘contractual governance’, ‘decision characteristics’, and ‘transaction attributes’. Additionally, the study advocated that IS outsourcing field is evolving rapidly with rich areas of inquiry, and therefore future researchers should shed further light on issues such as strategic IS outsourcing outcomes, dynamic interactions between outsourcing and client capabilities and legal and business environment uncertainties.

### **2.3 IS Outsourcing Definition**

Multiple definitions of IS outsourcing have been found in the literature (Hancox and Hackney, 2000). Hu *et al.* (1997) define IS outsourcing as a business practice whereby a client organisation contracts out its IS operations to one or more outside

vendors to achieve certain goals. Alternatively, IS outsourcing is described by Saunders *et al.* (1997) as the purchase of IS products or services that were previously provided in-house. Another definition for IS outsourcing is offered by Paisittanand and Olson (2006) as a contract relationship involving the purchase of IS-related resources from external specialised vendors.

However, defining outsourcing simply in terms of procurement of IS activities does not capture the true strategic nature of the issue. Outsourcing is not simply a purchasing decision (Gilley and Rasheed, 2000). On the contrary, this study suggests that outsourcing is a highly strategic decision. IS outsourcing involves a partnering arrangement between the client and vendor, through which the client organisation has the potential to gain access to and transfer crucial knowledge, skills and competencies of the vendor. Therefore, this study defines IS outsourcing as *a strategic relationship between a client and a vendor arising from a mutual agreement in which the vendor provides certain IS products and services to the client for an agreed fee, over a certain time period*. This definition makes it clear that IS outsourcing is a form of inter-organisational relationship, in that it involves two separate and distinct entities - the client (i.e. the service receiver), and the vendor (i.e. the service provider) - in a contractual arrangement characterised by a series of interrelated and ongoing exchanges (Lee *et al.*, 2004).

There are a wide variety of IS functions that are outsourced and they range from simple back office systems to fully integrated enterprise systems (Murthy, 2004). The most commonly outsourced IS functions are application development, application maintenance, systems operations, hardware maintenance, network, end-user support and data centres (Valorinta, 2010; Kim and Chung, 2003; Kishore *et al.*, 2003). A study by Fish and Seydel (2006) indicates that applications development is the most commonly outsourced function, followed by applications maintenance, telecommunications, PC maintenance, systems development, data centre operations, systems maintenance, PC acquisition and project management. Nevertheless, King (2007) cautions that certain IS functions should not be outsourced and instead kept in the hands of an organisation's internal IS department. He argues that, for example, strategic IS planning which links business strategy and the mission requires careful in-depth understanding of the organisation, and should never be outsourced.

## 2.4 IS Outsourcing Delivery Models

Once an organisation decides to engage in IS outsourcing, the question of whether to engage in a relationship with a *domestic*, *near-shore* or *offshore* vendor becomes a major consideration. The selection of an appropriate arrangement is critical for fully realising the potential benefits of IS outsourcing. The next sections elaborate in detail on these three options and discuss their advantages and disadvantages.

### 2.4.1 Domestic Outsourcing / Onshoring

Domestic or onshore IS outsourcing is reliant on an external vendor to provide IS services in a country where the client is located (Schwarz *et al.*, 2009; Chakrabarty *et al.*, 2007). According to Fish and Seydel (2006), in an onshore outsourcing operation, the outsourced IS work takes place in the same country as that of the client organisation. This type of IS outsourcing has served as a significant option for many client organisations in the last two decades (King and Torkzadeh, 2008). Today, many public and private organisations are taking advantage of the opportunities available through domestic outsourcing (Kishore *et al.*, 2003). By outsourcing IS products and services to local vendors, client organisations enjoy the close proximity and avoid the cultural and language barriers that are often exhibited in offshore relationships (Palvia, 2004). Gonzalez *et al.* (2006, p. 1240) write with regard to domestic outsourcing, “this proximity helps to mitigate certain problems such as time differences and even the cultural differences and communication problems typically associated with offshore”.

### 2.4.2 Offshore Outsourcing / Offshoring

IS offshoring is defined by Avison and Banks (2008, p. 249) as the “performing of IS-related work by a third party organisation from a location that is geographically and culturally distant from the host organisations prime’s locations”. Hoen (2005, 58) describes IS offshoring as choosing a vendor to perform IS services and support “from a country outside your primary region”. There are other terms that have been used in the literature to describe IS offshoring such as ‘*IS offshore outsourcing*’ (e.g. Lacity, and Rottman, 2009), ‘*IS global outsourcing*’ (e.g. Palvia, 2003; Murthy, 2004); ‘*inter-country IS outsourcing*’ (e.g. King and Torkzadeh, 2008) and ‘*international IS outsourcing*’ (Chadee and Raman, 2009).

IS offshoring has been rapidly evolving and its scale, extent and complexity have been expanding apace (Dedrick *et al.*, 2011; Lacity and Rottman, 2009, Avison and Banks, 2008). The worldwide IS offshoring market exceeded \$55 billion in 2008, and is expected to grow at a rapid rate of 20% over the next few years (Wilcocks *et al.*, 2009). Client organisations entering into IS offshoring arrangements aim primarily to gain access to knowledge and skills not available domestically (Vivek *et al.*, 2009). Moreover, the availability of well-qualified but less expensive resources and sound communication infrastructures in other countries make IS offshoring attractive (Cha *et al.*, 2008). Gupta (2010, p. 378) states that “US companies like IBM and Microsoft are hiring more IT professionals in countries that offer good talent at attractive prices”. India, for example, is characterised by having a vast pool of software professionals who are trained in various technologies and are paid far less than their counterparts in developed countries (Joshi and Mudigonda, 2008). Carmel (2003) notes that the annual wages of software professionals in developing countries can be as low as 10% - 50% of that of US counterpart. However, cost is not the only motivating factor for IS offshoring (King, 2005a). The IS services offered offshore have been reported to be of high quality. A study by Pfannenstein and Tsai (2004) found that Indian software vendors not only provide low cost services but also offer high quality IS products and services through disciplined work and mature development processes.

IS offshoring, however, is not without its challenges (Dhar and Balakrishnan, 2006; Tafti, 2005). The reported success rate of IS offshoring has been comparatively lower than expected for various reasons (Herath and Kishore, 2009). The geographical separation and cultural differences have posed challenges and resulted in miscommunications and misperceptions for client organisations that have established IS outsourcing relationships with offshore vendors (Avison and Banks, 2008; Kotlarsky and Oshri, 2008; Krishna *et al.*, 2004). Nicholson and Sahay (2004) argue that when client and vendor are operating from different countries, the management of the outsourcing relationship becomes very complex, causing serious misunderstandings. Schwarz *et al.* (2009, p. 752) note that “offshoring introduces additional communication risks, exacerbated by distance and, often, language and culture differences”. A survey by Gartner, a leading IS consultancy firm, of 219 clients revealed that more than half failed to realise the expected value from offshore

outsourcing (BusinessWeek, 2004). Herbsleb and Moitra (2001, p. 20) also studied offshore software development and found that distance between clients and vendors and a diverse workforce created an adverse effect. They concluded: “as we increasingly work in virtual, distributed team environments, we will more and more face formidable problems of miscommunications, lack of coordination, infrastructure incompatibility, cultural misunderstanding and conflicting expectation”.

### 2.4.3 Near-shore Outsourcing / Nearshoring

IS near-shoring is a decision taken by a client organisation to outsource its IS services to a vendor that is located in a nearby country (Hoen, 2005). In near-shoring, the distance between clients and vendors is not great (Fish and Seydel, 2006). Gonzalez *et al.*, (2006, p. 1240) describes IS near-shoring as “the outsourcing to a country that, though alien to the customer firm, is located near it”. In recent years, IS near-shoring has become an attractive option for client firms as it has been seen to alleviate issues related to distance in undertaking offshore work, such as temporal and cultural disparities (Carmel and Agarwal, 2001). Ang and Inkpen (2008, p. 338) state that, “given that India is also several time zones away from major customers in North America and Europe, companies are seeking alternative locations that are more near-shore”. By near-shoring, client organisations enjoy the benefits of cost reduction, while mitigating difficulties imposed by distance from the vendors (Carmel and Abbott, 2007). As The Economist (2005, p. 65) puts it, increasing client organisations prefer to outsource to “countries that are quite cheap and very close rather than very cheap and far away”. Likewise, Hoen (2005) argues that the main objective of IS near-shoring is to capture the relatively lower prices while still maintaining close geographical relationships. Furthermore, IS near-shoring “leverages better understanding of the business and legal environments and greater language and cultural compatibility” (Ang and Inkpen, 2008, p. 338). Today, many British firms are engaging in outsourcing arrangements with vendors located in Ireland seeking lower cost IS services at a close proximity (Gonzalez *et al.*, 2006; Sood, 2005). Similarly, German companies are near-shoring IS services to vendors in Belarus and Bulgaria (Carmel and Abbott, 2007). Gefen and Carmel (2008) investigated outsourcing at an online programming marketplace and found that American and British clients tend to engage in near-shore relationships, in which cultural and linguistic proximity are critical for the success of the venture. It is

worth-noting that many offshore vendors have started to move closer to their clients by opening near-shore support centres. For example, TCS - the India outsourcing vendor - has recently started to offer its British clients services from Budapest, Hungary in order to “combine proximity to customer sites with low costs and 24 × 7 service delivery” (Vlaar *et al.*, 2008, p. 246).

Having discussed three various, but related delivery models of IS outsourcing, it can be argued that each model has its advantages and pitfalls. While domestic and near-shore markets provide client organisations with opportunities to gain access to technical and business knowledge from vendors with close proximity and similar national culture, the growth of the offshore market offers a high quality knowledge that is not available domestically. The next section discusses the key motivations for IS outsourcing.

## 2.5 IS Outsourcing Motivations

The motivating factors contributing to the attractiveness and growth of IS outsourcing are classified into three major categories: economic, technological and strategic as summarised in Table 2.1 and discussed in the sections below.

Category	Factors	Key References
Economic	Cost Reduction	Sood, 2005; Beaumont and Costa, 2002; Barthelemy and Geyer, 2001; Mcfarlan and Nolan, 1995
	Risk sharing	Sood, 2005; Quelin and Duhamel, 2003; Beaumont and Costa, 2002
Technological	Avoidance of Obsolescence	Tafti, 2005; Beulen, 2004; Beaumont and Costa, 2002; Chen and Soliman; Barthelemy, 2001
	Access to Leading-Edge Technologies	Li <i>et al.</i> , 2010; Claver <i>et al.</i> , 2002; Harris <i>et al.</i> , 1998
Strategic	Focus on Core Business	Suhaimi <i>et al.</i> , 2007; Paisittanand and Olson, 2006; Beaumont and Sohal, 2004; Gilley and Rasheed, 2000
	Knowledge transfer and learning	Lacity <i>et al.</i> , 2010; Wang <i>et al.</i> , 2008; Ko <i>et al.</i> , 2005; Khalfan and Alshawaf 2003; Altinkemer <i>et al.</i> , 1994; Gordon and Walsh, 1997

**Table 2.1:** Motivations for IS outsourcing



### 2.5.1 Economic Factors

- ***Cost Reduction***

The challenge for IS management today, especially in the public sector, is to accomplish more with less resources (Barthelemy and Geyer, 2001). Outsourcing has been regarded as a potentially viable option for cost reduction (Beaumont and Costa, 2002; Baldwin *et al.*, 2001; Mcfarlan and Nolan, 1995). In a study which considered differences between organisations in Finland, Japan and the United States with regard to IS outsourcing practices, Apte *et al.* (1997) found that organisations in all of the three countries considered the potential for cost reduction as a major advantage of outsourcing. Another study by Lacity and Willcocks (1998) argues that 80% of outsourcing decisions expect cost saving. An outsourcing vendor might be in a position to leverage economies of scale, since it pools projects from many clients (Paisittanand and Olson, 2006; Beaumont and Sohal, 2004). For example, a vendor can apply, run and update particular software needed for a common application, and distribute costs among multiple clients. Similarly, the vendor is able to exploit economies of scope, since a single vendor carries out a variety of IS tasks, a capability which may not be possible for any one client (Gordon and Walsh, 1997).

- ***Risk Sharing***

Client organisations often do not have the capability and resources to handle complex IS projects, and therefore engage in outsourcing relationships with specialised and capable vendors in order to share risks (Quelin and Duhamel, 2003; Beaumont and Costa, 2002). By outsourcing IS services to a specialised vendor at a fixed cost per transaction, a client can avoid financial uncertainty. In IS outsourcing, vendors tend to take on responsibility to undertake and guarantee a set of deliverables by certain date at a fixed cost (Sood, 2005).

### 2.5.2 Technological Factors

- ***Avoidance of Obsolescence***

Due to the accelerated changes in the nature of the IS/IT infrastructure, the risk of obsolescence is often high and few organisations are able to remain technologically

current (Hormozi *et al.*, 2003; Beaumont and Costa, 2002). According to Barthélemy (2001, p. 60), the IS departments of most client organisations often “lags behind today’s technology”. Similarly, Chen and Soliman (2002, p. 185) argue that “the pace of changes in both the business and technological environment far exceed the IT department’s ability to acquire expertise in new technologies”. As a result, organisations increasingly view IS outsourcing as a means of coping with a fast changing technology (Chen and Soliman, 2002). Outsourcing allows the client organisation to move the obsolescence risk to the vendors (Claver *et al.*, 2002). The outsourcing vendor often has the capability to keep up with up-to-date technological innovations, invest in state-of-the-art hardware and software, and constantly recruit and retain technically proficient IS employees (Tafti, 2005, Beulen, 2004).

- ***Access to Leading-Edge Technologies***

Outsourcing allows the client organisation to gain immediate access to otherwise unavailable leading-edge technologies (Harris *et al.*, 1998). Li *et al.* (2010, p. 1458) suggest that “cross-border outsourcing collaboration should be viewed as a springboard to seek sophisticated technology”. This increases the client’s competitiveness in delivering IS services. For example, Claver *et al.* (2002) examined the key factors that often lead to IS outsourcing in Spanish public universities and found that these organisations enjoy high quality IS services by gaining access and harnessing world-class resources available from vendors.

### **2.5.3 Strategic Factors**

- ***Focus on Core Business***

An increased focus on an organisation’s core competencies is another important benefit associated with IS outsourcing (Paisittanand and Olson, 2006; Beaumont and Sohal, 2004). Outsourcing non-core activities allows the organisation to increase managerial attention and resource allocation to the core business (Suhaimi *et al.* (2007; Gilley and Rasheed, 2000). Lacity *et al.* (2010, p. 417) note that client organisations consider outsourcing IS “to focus on core capabilities other than the IT activity chosen for outsourcing”. For example, by pursuing an outsourcing arrangement, an organisation is able to spend less time on the management and

support of routine IS services and operational functions and devote attention to the IS core and strategic activities.

▪ ***Knowledge Transfer and Learning***

IS outsourcing enables a client organisation to gain access and transfer knowledge and expertise in areas of technology and business that the client may need to run its operations effectively and efficiently (Wang *et al.*, 2008). Altinkemer *et al.* (1994) argue that one of the key advantages of IS outsourcing is that it increases the knowledge and expertise of the internal IS staff. Vendors have gained their knowledge and expertise by supplying services to a broad range of organisations operating in a variety of markets and using a wide range of technologies (Herath and Kishore, 2009). By outsourcing a portion of its IS operations, the client organisation gains access to a broader base of knowledge, skills and experience that it may not possess or it is hard to develop internally (Wang *et al.*, 2008; Gordon and Walsh, 1997). Through the course of the outsourcing engagement, members of the client organisation's IS staff and the vendor's IS staff often have the opportunity to work together to achieve the IS project, and this enables the transfer of technical and business knowledge and skills (Ko *et al.*, 2005; Akmanligil and Palvia, 2004). A research study by Khalfan and Alshawaf (2003) examining the IS outsourcing practices in the public health sector of Kuwait concluded that organisations outsource primarily to gain access to knowledge and resources that are not available in-house. This finding has been echoed by other studies such as Lacity *et al.* (2010, p. 417) which shows that a prime driver for IS outsourcing is "to inject client firms with supplier resources such as skills, expertise, and superior technology to improve client IT performance".

After discussing the key motivating factors for IS outsourcing, it can be concluded that while the key driver for outsourcing was mainly economical, particularly cost reduction, many client organisations have established close partnerships with various vendors which they found to be fertile environments for knowledge transfer and learning. The next section elaborates further on how greater cooperation and strategic IS relationships allow client organisations to gain access to vital technical and business knowledge that are hard to find or develop internally.

## 2.6 IS Outsourcing Relationship

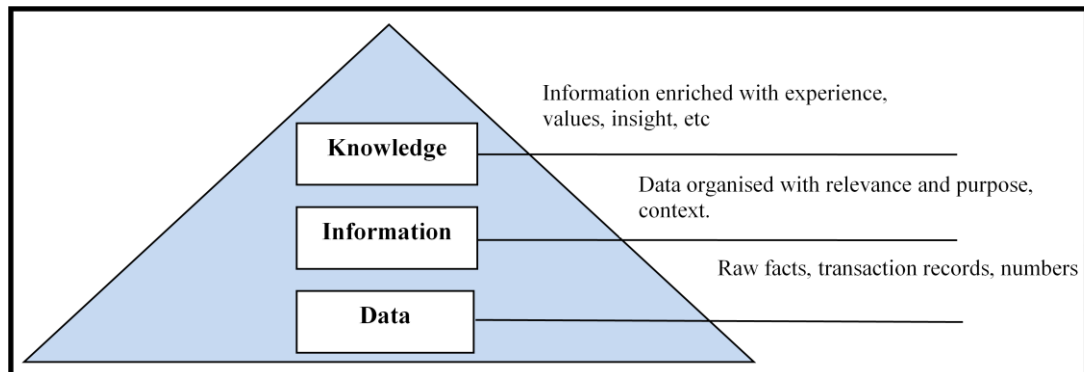
The nature of IS outsourcing relationships have been changing in the last decade, expanding from a focus on cost and efficiency to encompassing outsourcing as a means of improving the organisation's overall business performance and furthering its strategic goals (Goles and Chen, 2005; Lee, 2001). Compared to the 1990s when the major driver for outsourcing was mainly cost cutting, current outsourcing arrangements seek flexible relationships, usually in the form of strategic partnerships (Suhaimi *et al.* 2007; Fjermestad and Saitta, 2005; Lee, 2001). Yakhlef (2009, p. 38) states that "the initial focus on cost reduction advantages has rapidly shifted towards an emphasis on strategic purposes such as access to suppliers' technology and technical skills, which are valuable to client organisations".

This shift in the nature of the client-vendor relationship has led to a growing realisation that IS outsourcing provides client organisations a means to identify and transfer valuable knowledge, skills and expertise that are not available or are hard to develop within their confines. As Linder (2004, p. 52) puts it, "outsourcing can be more than a tool for cutting costs and improving organisational focus. Increasingly, it is a means of acquiring new capabilities and bringing about fundamental strategic and structural change". IS outsourcing has become a vital strategy for many organisations and is increasingly considered as part of the way that organisations acquire crucial technical and business knowledge from vendors and seek new innovative ways of delivering services (Shi *et al.*, 2005). Furthermore, outsourcing has encouraged the generation of new knowledge and capabilities for better organisational performance, through positive interactions between clients and vendors (Lee, 2001; Quinn, 1999).

After presenting an extensive and systematic review of IS outsourcing, it can be noted that outsourcing of IS functions has been on the rise over the last few decades and the world IS outsourcing market has grown rapidly. There has been a dramatic increase in the number of client organisations considering a variety of strategic outsourcing arrangements with different onshore, near-shore and offshore vendors. The next part of this chapter provides a review of prior, relevant literature on knowledge and knowledge transfer and attempts to further address how IS outsourcing relationships have become means for client organisations to transfer crucial technical and business knowledge from vendors.

## 2.7 Knowledge

Before attempting to discuss the concept of *knowledge* it is appropriate to understand the meanings of *data* and *information* and how they are different from knowledge. Data, information and knowledge are often used interchangeably and this is sometimes misleading (Kock Jr *et al.*, 1997). Figure 2.1 shows that knowledge is the top layer of a hierarchy based on information and data. Table 2.2 provides an illustration of the differences between data, information and knowledge.



**Figure 2. 1:** Data, information and knowledge

Source: Adopted with modification from Jashapara (2004)

*Data* consists of discrete, objective facts about events (Beveren, 2002). It is a series of observations, measurements or facts in the form of numbers, words, sounds and/or images (Roberts, 2000). As shown in Table 2.2, sales data are those which are typically reported in highly aggregated form, often in dollar terms for a particular time period.

*Information* is defined by King and Ko (2001, p. 5) as “a set of data that is organised and structured within a context, and provides meaning”. It is an analysed and processed data that forms a body of objective facts in a context that defines the relationship between two or more pieces of data (Beveren, 2002). In Table 2.2, information is sales data that has been processed to produce higher value. This may be through cross-classification by product, geographic region and time period.

*Knowledge* is the application and productive use of information (Jashapara, 2004; Kock Jr *et al.*, 1997). Alavia and Leidner (2001) identify two main types of knowledge that allow an individual to make better decisions: know-what and know-how. Know-what specifies what action to take when presented with a set of stimuli.

As in Table 2.2, a salesperson who has been trained to know which product is best suited for various situations has a ‘know-what’ level of knowledge. Know-how is knowing how to decide on an appropriate response based on a diagnostic process. Such knowledge is required when the simple programmable relationships between stimuli and responses, which are the essence of ‘know-what’ knowledge, are inadequate.

Context	Data	Information	Knowledge	
			know-what	Know-how
<b>Business Context</b>	Sales data	Sales data cross-classified by region, product, etc.	Ability to respond to a Stimulus with a pre-determined action	Ability to diagnose complex patterns of Stimuli
<b>Medical Context</b>	Treatment reports	Treatments cross-classified by age, symptoms and gender of patient	Ability to assess Symptoms and prescribe simple treatment	Ability to diagnose complex diseases

**Table 2. 2:** Data, information, knowledge in two different contexts

*Source:* Adopted from King (2005a)

### 2.7.1 Knowledge Definition

Despite the fact that *knowledge* is a multi-faceted concept which is hard to define (Liyana *et al.*, 2009; Pak and Park, 2004), researchers attempt to offer multiple, but related definitions. Davenport and Prusak (1998, p. 5) speak of knowledge as “a fluid mix of framed experience, values, contextual information, and expert insight that provide a framework for evaluating and incorporating new experiences and information”. Slaughter and Kirsch (2006, p. 303) describe knowledge as “information possessed by an individual that, when combined with other personal dimensions such as experience and reflection, becomes a basis for action”. Kogut and Zander (1992, p. 386) look at knowledge in a way which suggests that it consists of skills and competencies, and defines it as “accumulated practical skill or expertise that allows one to do something smoothly and efficiently”. In the context of business, therefore, knowledge can be seen as relevant information that is based on experience and often increases an individual’s capacity to take effective action (Alavi and Leidner, 2001; Leonard and Sensiper, 1998).

### 2.7.2 Knowledge Dimensions

In developing an understanding of the knowledge transfer, it is important to begin with a brief discussion of the dimensions of knowledge. There are two main dimensions of knowledge: explicit and tacit (Nonaka and Takeuchi, 1995). Table 2.3 illustrates the distinction between these two topologies.

Tacit Knowledge	Explicit Knowledge
Inexpressible in a codifiable form	Codifiable
Subjective	Objective
Personal	Impersonal
Context-specific	Context-independent
Difficult to share	Easy to share

**Table 2. 3:** The characteristics of tacit and explicit knowledge

*Source:* Adopted from Hislop (2009)

Explicit knowledge is articulable, codifiable and transmittable knowledge that exists in symbolic or written form and stored in readily accessible media such as manuals, documentations, procedures and programme codes (Kumar and Ganesh, 2009; Vandaie, 2008; King, 2007; Pardo *et al.*, 2006). An example of explicit knowledge is an installation manual accompanying a new software package. Welch and Welch (2008) explain that explicit knowledge can be articulated in formal language including grammatical statements, mathematical expressions, specifications, technical drawings and manuals. Similarly, Inkpen (2000) suggests that explicit knowledge can be expressed in schemata, diagrams, and charts, and therefore it is relatively easy to transfer and acquire.

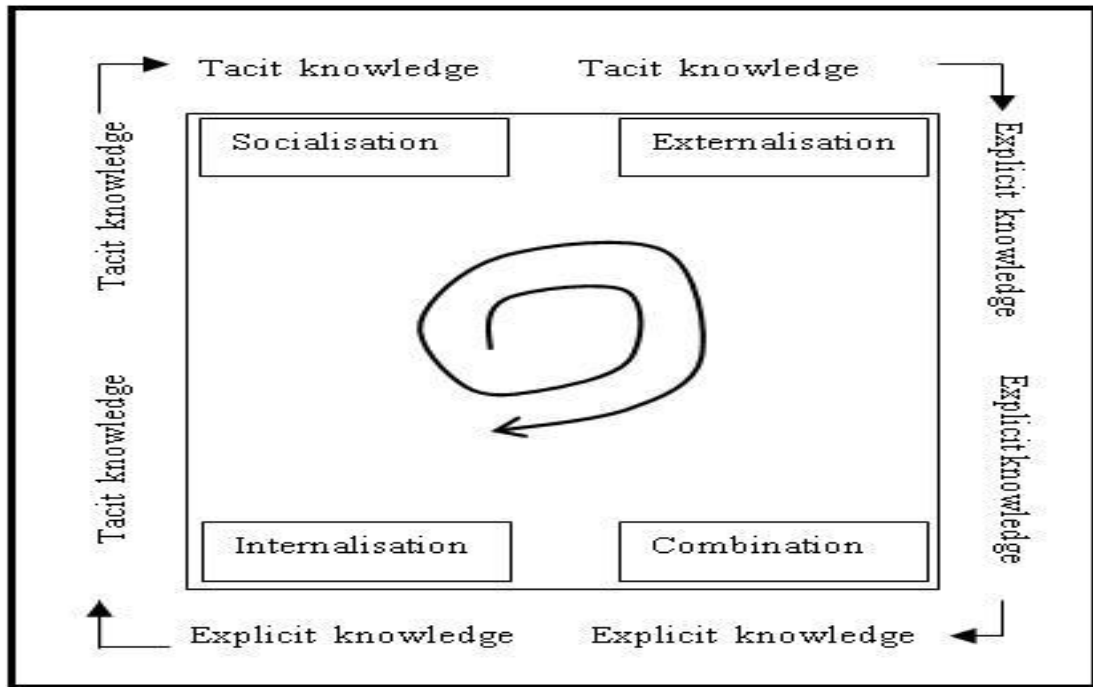
Tacit knowledge, on the other hand, resides in the minds of people and includes insights, intuitions, hunches, gut feelings, expertise and experience (Liyanage *et al.*, 2009; King, 2007; Al-Busaidi and Olfman, 2005; Jashapara, 2004). An example of tacit knowledge is the knowledge held by a mechanic who through years of experience can identify the quality of a car engine by its sound and vibration. Such

knowledge cannot be transferred through a written document. Irani *et al.* (2005, p. 215) suggests that tacit knowledge is “deeply rooted in the behaviours and actions of individuals, who have a commitment to a specific context such as a particular area of expertise or a series of work practices”. This type of knowledge is learned through extended periods of experience and repetitive performance of tasks. King (2005b, p. 32) states that tacit knowledge “is laboriously developed over a long period of time through ‘trial and error’”. Tacit knowledge often requires very close and extensive personal contact between the source and the recipient in order for it to be effectively transferred (Chen and McQueen, 2010). According to Foos *et al.* (2006), tacit knowledge is derived from accumulative personal experience gained over time and is often learned via shared and collaborative experience. It is “highly context specific and has a personal quality” (Inkpen, 2000, p. 1028). Tacit knowledge is also called *sticky* knowledge because it may be relatively difficult to pull it away and transfer it from its source (Szulanski, 2003), especially in the case of inter-organisational knowledge transfer. As Schulz (2001, p. 665) puts it, tacit knowledge “travels particularly poorly between organisations”.

Therefore, tacit knowledge is difficult, costly or even in some cases impossible to express (Hackney *et al.*, 2008; Becerra-Fernandez and Sabherwal, 2001). Such knowledge may not be easily transferred, either verbally or through a written document, and yet it is very important and valuable (Lam, 2000; Salmi and Torkkeli, 2009). McManus and Snyder (2003) argue that tacit knowledge is responsible for more than 70% of organisational knowledge. Furthermore, Blumenberg *et al.* (2009) consider tacit knowledge to be more valuable and important in achieving a competitive advantage.

Nonaka and Takeuchi (1995) provide four inter-dependent and intertwined modes of knowledge creation as shown in Figure 2.2. This conceptualisation illustrates how knowledge (tacit/explicit) is converted to another form (tacit/explicit). This is often referred to it as the SECI model, an acronym specifying four knowledge conversion modes: *Socialisation*, *Externalisation*, *Combination*, and *Internalisation*.





**Figure 2. 2:** The SECI model: demonstrating four modes of knowledge creation

Source: Adopted from Nonaka and Takeuchi (1995)

(a) *Socialisation* [tacit-to-tacit]

Socialisation is the process of sharing tacit knowledge, including skills and ideas, through face-to-face communication, dialogue or shared experiences, often through joint activities, observation, imitation and practice rather than written or verbal instructions. Socialisation may also occur during an informal gathering outside of the workplace. In the context of IS outsourcing, for example, a simple discussion about a project during a business lunch between individuals from the client and vendor organisations may yield knowledge creation and transfer.

(b) *Externalisation* [tacit-to-explicit]

Externalisation is the process by which an individual attempts to represent his or her tacit knowledge and makes it accessible to others. It refers to converting and articulating tacit knowledge to new explicit knowledge. The successful conversion of tacit knowledge into explicit knowledge depends on the sequential use of metaphor, analogy and model. An example of externalisation in the context of IS outsourcing is when the technical expert of the vendor writes down step-by-step instructions for the client on how to troubleshoot a particular technical problem.

(c) *Combination* [explicit-to-explicit]

Combination is the process of converting explicit knowledge into more systematic sets of explicit knowledge. The creation of new explicit knowledge is conducted by merging, categorising, reclassifying and synthesising existing explicit knowledge. This often performed using large sets of databases and computerised communication networks. An example of combination in the context of IS outsourcing is when different types of new knowledge was collected from various vendors consolidated and categorised in more systematic reports.

(d) *Internalisation* [explicit-to-tacit]

Internalisation refers to the creation of new tacit knowledge from explicit knowledge (e.g. the learning-by-doing, on-the-job-training and understanding that results from reading or discussion). An example of internalisation in the context of IS outsourcing is when the vendors provide training programmes and workshops for IS employees of the clients at different stages of the IS outsourcing project. By reading these training manuals and documents, IS employees in the client organisations internalise the tacit knowledge and try to create new knowledge after the internalisation process.

Having defined knowledge, explained its dimensions and discussed the four modes of knowledge creation, the next section will illustrate the importance of knowledge and its impact on organisational performance and business success.

### **2.7.3 Importance of Knowledge**

The importance of knowledge has been discussed extensively in the literature. In today's knowledge-based society, knowledge has become increasingly recognised as the most valuable and strategically significant resource within an organisation (Park, 2011; Garud and Kumaraswamy, 2005; Foss and Pedersen, 2002; Griffith *et al.*, 2001; Lee, 2001; Grant, 1996). Nonaka (1991, p. 162) states that, "in an economy where the only certainty is uncertainty, the one sure source of lasting competitive advantage is knowledge". Similarly, Hackney *et al.* (2005, p. 1) highlight that "knowledge possessed by an entity, whether it is an individual, group, organisation, or an inter-organisational network, is a source of power".

Today, knowledge plays a vital role in organisational performance and business success (Kuo, 2011; Wang and Noe, 2010; Harrington and Guimaraes, 2005).

Furthermore, it has been considered as a powerful tool to develop better decision-making and an important source of innovation (He and Wei, 2009; Al-Busaidi and Olfman, 2005; Courtney, 2001). King (2005a) argues that knowledge is potentially predictive and may lead to diagnoses and better understanding of business issues, processes and objectives. Increasingly, knowledge is also recognised for its importance as a critical resource for firms' competitive advantage (Wang and Noe, 2010; Yeoh, 2009; Jasimuddin, 2007; Chen, 2004; Argote and Ingram, 2000).

Based on the above discussion, it is worth highlighting that knowledge has become the source of power for modern organisations and has been recognised as the key to competitive advantage. While explicit knowledge can be articulated, expressed and transferred formally and easily, tacit knowledge requires direct communication between individuals, networking and face-to-face social interaction to be effectively transferred. The next section presents the definition of knowledge transfer and addresses how knowledge is transferred within and between organisations.

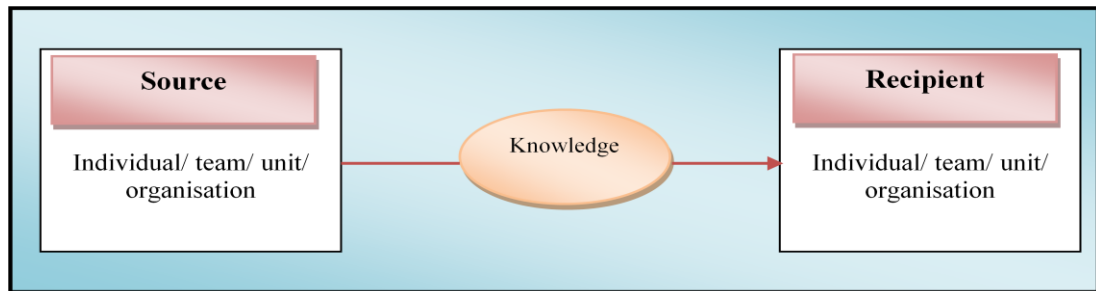
## **2.8 Knowledge Transfer**

There is a growing body of theoretical and empirical research addressing knowledge transfer and its importance for organisational success. The next sub-sections define knowledge transfer and discuss how knowledge is transferred within and across organisational boundaries.

### **2.8.1 Knowledge Transfer Definition**

The literature offers various but related definitions of knowledge transfer. Knowledge transfer is defined by Ko *et al.* (2005) as "the communication of knowledge from a source that is learned and applied by a recipient". Kumar and Ganesh (2009, p. 163) describes knowledge transfer as "a process of exchange of explicit or tacit knowledge between two agents, during which one agent receives and uses the knowledge provided by another". It is thought of as a dyadic exchange process in which a source makes knowledge available to be acquired by the recipient (Slaughter and Kirsch, 2006). Therefore, knowledge may be purposely transferred or it may occur as the unintended outcome of other activities, social interactions and chance meetings (Welch and Welch, 2008). There are several other terms used in the

literature to describe knowledge transfer such as ‘*knowledge flows*’ (e.g. Rothaermel and Thursby, 2005; Gupta and Govindarajan, 2000), ‘*knowledge sharing*’ (e.g. Lilleoere and Hansen, 2011; Lee and Ahn, 2007; Tsai, 2001) and ‘*knowledge acquisition*’ (e.g. Tsang, 2002). For terminological reasons, it has been decided to combine these definitions under the term *knowledge transfer* as it is more established in various literary sources. Figure 2.3 provides a schematic representation of knowledge transfer.



**Figure 2. 3:** Schematic representation of knowledge transfer

*Source:* Adopted with modification from Kumar and Ganesh (2009)

Knowledge transfer can take place within a single organisation (i.e. intra-organisational knowledge transfer) or across organisational boundaries (i.e. inter-organisational knowledge transfer) (Ahmad and Daghfous, 2010; Zhao and Anand, 2009; van Wijk *et al.*, 2008). The next sub-section briefly discusses intra-organisational knowledge transfer and the sub-section after the next addresses inter-organisational knowledge transfer in detail.

### 2.8.2 Intra-organisational Knowledge Transfer

Intra-organisational knowledge transfer is the sharing of relevant knowledge between units or individuals within the same organisation (Ipe, 2003). It is the process by which knowledge held by a unit or an individual is made available to others within the same organisation (Kalling, 2003). Evidence is accumulating that knowledge transfer across organisational units within firms provides competitive benefits. Organisations which are able to transfer knowledge effectively between one unit and another are more productive and more likely to survive than organisations which are less adept at knowledge transfer (Lee and Ahn, 2007; Minbaeva *et al.*, 2003). Renzl (2008, p. 206) highlights that intra-organisational knowledge transfer is “of vital

importance to organisations, enabling them to develop skills and competencies, increase value, and sustain their competitive advantage”. Moreover, intra-organisational knowledge transfer often leads to the dissemination of crucial knowledge and innovative ideas which are considered critical to creativity and subsequent innovation in organisations (Ipe, 2003). For example, Lilleoere and Hansen (2011) examine knowledge transfer in a pharmaceutical R&D and suggest that it enhances the creation of new knowledge, potentially enabling new innovative products to be developed at greater speed. Many organisations have already achieved significant advantages of transferring knowledge across units, for example, Toyota (Dyer and Nobeoka, 2000), IKEA (Jonsson and Elg, 2006) and Tata (Oshri *et al.*, 2008). Cabrera and Cabrera (2005) highlight the importance of intra-organisational knowledge and argue that the knowledge, insights and best practice held by an individual or a unit must also be passed along to others in same unit or other units within the organisation in order to be appropriated and leveraged to the overall business end.

However, not all organisations possess all the knowledge and capabilities necessary to perform every possible activity internally, and so they need to seek knowledge, insights and skills externally, and learn from the experience of outside organisations (Hackney *et al.*, 2008; Chen, 2004; Song *et al.*, 2003). As Costa and Peiró (2009, p. 32) put it, “in today’s business environment, organisations can no longer rely only on their own knowledge and competencies to advance their business”. Abou-Zeid (2002, p. 32) argues that since knowledge is continuously changing and evolving, most organisations cannot possess all required knowledge within their formal boundaries. He writes that “since no single firm has the full range of knowledge and expertise needed for timely and cost-effective product and service innovation, firms are increasingly setting up various forms of collaborative arrangements ..... in order to access knowledge and capabilities unavailable internally”. Likewise, Rai and Tang (2010) posit that in today’s business context, it is rare for an organisation to be able to create and develop all knowledge internally and launch effective competitive actions independently. Instead, an organisation’s competitive actions are embedded in the knowledge that is acquired through a network of inter-organisational relationships (Hackney *et al.*, 2008; Anand *et al.*, 2002). Chen (2004, p. 311) affirms that successful organisations are those “that not only are able to create knowledge

within their boundaries, but also can expose themselves to a variety of new knowledge from outside in order to prevent rigidity and to encourage the reshaping of their competencies”.

### 2.8.3 Inter-organisational Knowledge Transfer

Inter-organisational knowledge transfer has been widely recognised in recent literature as prevalent and critical to an organisation’s survival and competitiveness (He *et al.*, 2011; Hutzschenreuter and Horstkotte, 2010; Salmi and Torkkeli, 2009; Zhao and Anand, 2009; Pérez-Nordtvedt *et al.*, 2008). It has been argued that firms enjoy a competitive advantage if they know how to effectively and efficiently transfer crucial knowledge from their business partners. Easterby-Smith *et al.* (2008a, p. 677), for example, state that “while such knowledge is normally developed within the firm, it is important that firms possess the ability to learn from others in order to meet the increasing pace of competition”. Likewise, van Wijk *et al.* (2008, p. 830) assert that “transferring knowledge from external constituents has become central to a firm’s success. Inter-organisational knowledge transfer takes place when specific knowledge is passed on from one firm to the other (Buckley *et al.*, 2009). Vaara *et al.* (2010) define inter-organisational knowledge transfer as the beneficial use of knowledge, capabilities, or skills originally residing in another organisation. Inter-organisational knowledge transfer is the process by which an organisation identifies and learns specific knowledge which exists in another organisation (Oshri *et al.*, 2008). Hamel (1991) describes inter-organisational knowledge transfer as a process that consists of two critical steps. First, knowledge needs to be disclosed by the ‘expert partner’ or the organisation that possesses the knowledge. As a second step, the disclosed knowledge needs to be acquired and assimilated by the ‘novice partner’, the organisation that requires the knowledge.

Transferring knowledge across organisational boundaries can yield enormous benefits, especially for organisations that are not able or have difficulties developing knowledge within their confines (Easterby-Smith *et al.* 2008a; Goh, 2002). Today, inter-organisational knowledge transfer is viewed, moreover, as critical to ensuring higher efficiency and productivity (He *et al.*, 2011; Buckley *et al.*, 2009). As Squire *et al.* (2009, p. 461) note, “firms that can successfully transfer and absorb knowledge across boundaries accumulate a range of performance benefits, including reduced

failure rates and increased productivity”. Similarly, Pérez-Nordtvedt *et al.* (2008) suggest that inter-organisational knowledge transfer contributes to an increase in an organisation’s stock of knowledge and has been found to affect key organisational outcomes, including human resource development and performance. According to Darr and Kurtzberg (2000), new knowledge can promote innovations in new methods and practices, which can then be absorbed into the routines and culture of an organisation.

A primary driver of many inter-organisational knowledge transfer activities has been the desire to learn and obtain valuable resources, including knowledge, capabilities and technologies possessed by the source firms (Ranft and Lord, 2002; Ahuja and Katila 2001; Chaudhuri and Tabrizi, 1999). Prior inter-organisational studies note that organisations learn by collaborating with other organisations, transferring knowledge and by observing and importing best practices. Renzel (2008) posits that inter-organisational knowledge transfer enables organisations to develop new skills, increase value, and extend their knowledge base. A survey by Linder *et al.* (2003) of the senior executives of forty international companies covering several industries revealed that 45% of their innovations came from external sources. SONY Corp., for example, has established various partnerships with computer and telecommunications firms in an effort to enable its personnel at different organisational levels to gain access to a wealth of new knowledge from its business partners (Inkpen, 2000).

Extant literature has examined inter-organisational knowledge transfer in different arrangements, including strategic alliances, joint ventures, supply chain, and research and development (R&D). Table 2.4 provides a summary of selected recent studies which investigate inter-organisational knowledge transfer within various relationships. These studies suggest that the act of importing new external knowledge and combining it with existing knowledge provides recipient organisations with capabilities to improve their performance and decision making.

Study	Context	Setting	Aim	Results
He <i>et al.</i> (2011)	Supply chain	China	Examine the relational attributes that cultivate knowledge transfer in supply chain partnerships	Trust, commitment, interdependence, shared meaning, and balanced power facilitate knowledge transfer in supply chain partnerships
Williams (2011)	Offshore outsourcing	India	Develops and tests a model of client–vendor knowledge transfer at the level of the individual offshore information systems engineer	Knowledge transfer success is associated with formal training and client embedment, informal discussion and previous experience
Faems <i>et al.</i> (2007)	R & D	Belgium	Examines the process of inter-firm knowledge transfer in R&D relationships	Legal clauses, expectations of a long-term relationship and similarity of technological equipment are important facilitators for acquisition and assimilation of knowledge
Muthusamy and White (2005)	Strategic alliance	USA	Examines the effects of the social exchange process between alliance partners on knowledge transfer	Social exchanges (reciprocal commitment, trust, mutual influence) between alliances have strong influence on the extent of inter-organisational knowledge transfer and learning.
Rothaermel and Thursby (2005)	University–incubator firm	USA	Investigates how knowledge flows from universities to incubator firms and assess the effect of these knowledge flows on incubator firm-level differential performance	Incubator firms' absorptive capacity is an important factor when transforming university knowledge into firm-level competitive advantage.
Pak and Park (2004)	Joint venture	Korea	Examines the determinants of cross-border knowledge transfer from MNEs to Korean firms	Positive social interaction is pivotal and it provides firms with a learning environment which facilitates the transfer of new knowledge and skills.

Table 2. 4: Selected studies on inter-organisational knowledge transfer



#### 2.8.4 Knowledge Transfer in IS Outsourcing

The growing importance of knowledge transfer in IS outsourcing stems from the recognition that organisations can no longer be solely ascribed to internal idiosyncrasies, but also depend on knowledge and capabilities acquired from external vendors (Xu and Ma, 2008; Ko *et al.*, 2005). IS outsourcing is a viable organisational structure and a promising fertile environment that provides client organisations with a platform for transferring knowledge that is not available or difficult to develop in-house. Leavy (1996, p. 52) argues that the greatest advantage of outsourcing is “the opportunity to harness the complementary core competencies of an array of sophisticated suppliers”. Heeks (2006) found that one of the main intentions behind IS outsourcing by public sector organisations is to access a pool of new external knowledge which is not available internally. In the same vein, Tafti (2005, p. 255) states that “one of the key reasons organisations outsource their IT activities is to tap into the extensive knowledge and technical experience that a vendor may offer”. Knowledge transfer in IS outsourcing enables clients to utilise complementary technical know-how and expertise offered by vendors to solve challenging technical problems, handle complex projects, promote new ways of doing things, enhance IS staff expertise and performance and improve actions (Yakhlef, 2009; Oshri *et al.*, 2008; Tiwana and Bush, 2007; Khalfan and Alshawaf, 2003; Yang and Huang, 2000).

There are two main types of knowledge that are often transferred from vendors to clients in IS outsourcing projects: technical knowledge and business knowledge (Goles *et al.*, 2008; Tafti, 2007). Technical knowledge is defined by Tiwana *et al.* (2003, p. 248) as “knowledge that is used to translate business needs into a software-based solution”. Technical knowledge is distinguished as “being more specialised and closely tied to the IT artefact” (Rong and Grover, 2009, p. 376). This involves knowledge such as programming, operating, configuring and testing (Rong and Grover, 2009; Srivardhana and Pawlowski, 2007; Xu and Ma, 2008). Technical knowledge is developed cumulatively and improved over time through participation in various IS initiatives (Harrington and Guimaraes, 2005). Business knowledge is defined by Bassellier and Benbasat (2004, p. 676) as a set of knowledge that “enables IS professionals to understand the business domain, speak the language of business and interact with other business partners”. This involves knowledge such as

planning, project management, contract negotiation, risk assessment and business process re-engineering (BPR) (Rong and Grover, 2009; Tarafdar and Gordon, 2007; Lee *et al.*, 1995).

Some of the technical and business knowledge that is transferred from vendors to clients in IS outsourcing is explicit and well-documented (Narteh, 2008). This type of knowledge can be easily handed in or transferred in files to the client organisations. This type of knowledge usually involves routine work processes, standard rules of operations, well-defined product specifications and project plans. Other knowledge is more tacit and must be explained, placed in context, or elaborated on, often via two-way communication. Such knowledge is usually transferred through on-the-job training programs, face-to-face meetings, or other interactive and social means.

In summary, the extant literature on inter-organisational knowledge transfer has focused on various factors that impact knowledge transfer success. However, important gaps, especially related to the context of IS outsourcing still exist. The gaps that will be addressed in this study are described in the next section.

## **2.9 The Gaps in the Literature**

This extensive review of relevant research on IS outsourcing and inter-organisational knowledge transfer identifies some important gaps in the literature.

The first gap in the literature concerns the lack of investigation surrounding the factors which impact knowledge transfer success in a more comprehensive way. Although there has been proliferation of research which has investigated inter-organisational knowledge transfer in different contexts (as briefly shown in Table 2.4), there is a lack of research offering a holistic and thorough examination and analysis of the key factors that facilitate or inhibit knowledge transfer success. Prior research has focused on the type of knowledge transferred, the source itself, the recipient itself or the relationship between the source and the recipient. The few exceptions (e.g. Gupta and Govindarajan, 2000; Szulanski, 1996) have only examined Intra (within an organisation) knowledge transfer. Furthermore, there are relatively few studies which have looked at the impact of cultural distance on knowledge transfer (van Wijk *et al.*, 2008). This may be, according to Easterby-

Smith *et al.* (2008a, p. 684) because “cultural aspects are rarely visible within the quantitative methods that have dominated in published studies”, prompting future researchers to investigate the cultural issues using qualitative methods and case studies. To the best of the researcher’s knowledge, there is no study that has examined all these factors simultaneously in the context of inter-organisational knowledge transfer. Thus, the current understanding of what contributes to successful inter-organisational knowledge transfer is still quite limited.

Secondly, an extensive review of the literature indicates that although a large number of studies have examined inter-organisational knowledge transfer, little is known about how knowledge is transferred from vendors to clients in the context of IS outsourcing. This dearth of research in knowledge transfer is a severe gap in the IS outsourcing field since the IS/IT markets seem to provide client organisations with access to more abundant and unique knowledge and skills that may not be available or are hard to develop in-house. Furthermore, as important as transferring knowledge and learning is believed to be, it should be even more valuable to the client organisation to transfer knowledge from offshore or near-shore markets since this knowledge may be more exclusive than that present in the domestic market. This is especially true when client organisations, as is the case of those in developing countries, suffer from a shortage of the technical and business knowledge and skills needed to develop and maintain highly sophisticated information systems.

Thirdly, while there is a plethora of research on IS outsourcing, only a few focused on the public sector (Lin *et al.*, 2007; Hancox and Hackney, 2000). Swar *et al.* (2010, p. 2) state that, “to date, empirical studies and reference books for practitioners on IS/IT outsourcing in the public sector are rarely found”. Similarly, Moon *et al.* (2007) assert that there is a shortage of research that investigates IS outsourcing issues in the context of the public sector. In addition, despite the growing stream of literature in the knowledge transfer field in the last two decades, the research that has investigated knowledge transfer and learning in the public sector is relatively limited. According to Rashman *et al.* (2009, p. 464), “it is striking that there is little research on learning and knowledge transfer in the non-profit sector”.

Another important gap which has been identified is that despite the growing number of studies relating to IS outsourcing, there is limited research conducted with regard

to developing countries. To date, few studies have explored this issue within the context of the MENA region in general, and Oman in particular.

Thus, this study is a response to the above deficiencies. The study, therefore, represents an early attempt to provide a holistic examination and analysis of how knowledge is transferred successfully from clients to vendors in the context of IS outsourcing in the public sector of a developing country.

## **2.10 Chapter Summary**

The purpose of this chapter was to build a theoretical foundation for the empirical research through a review of existing related literature. The chapter was divided into two main parts. The first part discussed the growth of the IS outsourcing phenomenon, addressed the key motivations for IS outsourcing and explained how outsourcing relationships provide a valuable knowledge transfer platform and learning opportunities for client organisations. The second part offered definitions of knowledge and knowledge transfer, highlighted the importance of inter-organisational knowledge transfer and addressed the issue of knowledge transfer in the context of IS outsourcing. In doing so, the gaps in the literature were identified. It was revealed that there is a lack of holistic examination and analysis of the factors that impact knowledge transfer success in the context of IS outsourcing.

On the basis of this extant literature review, the next chapter proposes a conceptual framework that explains the key factors which facilitate or inhibit knowledge transfer success from vendors to clients in IS outsourcing.

## CHAPTER THREE: CONCEPTUAL FRAMEWORK FOR KNOWLEDGE TRANSFER IN IS OUTSOURCING

### 3.1 Introduction

The previous chapter critically reviewed the relevant literature. In doing so, it provided a solid ‘background theory’ for the study. Following the recommendation of Walsham (1995, p. 76) that a researcher embarking on interpretive case studies “create an initial theoretical framework which takes account of previous knowledge”, a conceptual framework is developed and presented in this chapter. A conceptual framework lays out the key constructs related to the phenomenon being studied and the presumed relationships between them (Miles and Huberman, 1994). Voss *et al.* (2002, p. 196) also argue that the starting point for case research is the research framework that graphically underlies the research and provides “a prior view of the general constructs or categories that we intend to study, and their relationships”. Furthermore, Saunders *et al.* (2009) argue that a conceptual framework enables the researcher to link the study into the existing body of knowledge in the subject area under study. It functions as a sensitising device helping the researcher “theorise or make logical sense of the research problem” (Sekaran, 2003, p. 87). Thus, the framework serves as a guide for the exploration and presentation of possible explanations for the phenomenon of knowledge transfer in IS outsourcing.

This chapter consists of five main sections, including this introduction. Section 3.2 discusses the theories which are utilised as a foundation for this research. Section 3.3 highlights the development of the proposed conceptual framework for this research and discusses the key sets of factors which are revealed from prior relevant literature to impact on inter-organisational knowledge transfer. Section 3.4 addresses knowledge transfer success and explains how it has been addressed in prior studies. Section 3.5 provides a brief summary of this chapter.

## 3.2 Theoretical Foundation

Multiple theoretical lenses have been used by prior researchers to examine issues related to knowledge transfer. However, the current understanding of what contributes to successful inter-organisational knowledge transfer is still quite limited. This study integrates the organisational learning theory and social capital theory to better conceptualise and explain how knowledge is transferred successfully in IS outsourcing, and to gain a better and more holistic understanding of the factors that contribute to a successful knowledge transfer. Incorporating these two theories may allow for cross-fertilisation that enables addressing some of the limitations of each one when applied in isolation. The next two sub-sections discuss these two theories and explain how they inform the research conceptual framework.

### 3.2.1 Organisational Learning Theory

In today's more dynamic business environment, organisations require faster acquisition of knowledge and learning in order to improve productivity and efficiency, and to provide greater value to customers (Salomon and Martin, 2008; Hau and Evangelista, 2007). More recently, organisational learning is recognised to significantly contribute to the development of a competitive advantage (Kuo, 2011; Schulz, 2001). Yli-Renko *et al.* (2001) argue that the accumulation of knowledge through learning constitutes a driving force in the development and growth of organisations.

Management and organisational theorists define organisational learning in multiple ways, but most common to these definitions is the view that learning involves transfer of new knowledge by the organisation (Muthusamy and White, 2005). As noted by Mason and Leek (2008, p. 775) learning is the "improvement of practices resulting from knowledge transfer among firms". Likewise, Huber (1991: 89) states that, "an organisation learns if any of its units acquires knowledge that it recognises as potentially useful to the organisation". Organisations mainly learn through their individual members who acquire new knowledge and continuously learn skills and competencies (Reid *et al.*, 2010). According to Yeo (2007, p. 346), "an organisation cannot learn on its own", individuals are the main agents of learning.

Organisational learning contributes to an increase in an organisation's stock of knowledge and very often it takes place via knowledge transfers from entities outside organisational boundaries (Argote and Ingram, 2000; Grant, 1996). Knowledge transfer is found to affect key organisational outcomes, including competency-based, human-resource development and performance (Pérez-Nordtvedt *et al.*, 2008). Wang *et al.* (2007) point out that organisational learning is a process of improving actions through better knowledge and understanding.

Therefore, organisations seek organisational learning through a multiplicity of organisational arrangements. Hau and Evangelista (2007, p. 1152) state that “many firms are seizing the opportunity to acquire new knowledge through various collaborative arrangements”. They further argue that “the ability to seek, absorb, and transfer knowledge from collaborative arrangements has become a crucial skill”. The establishment of close relationships with other firms is often regarded as a means to acquire new knowledge, skills and expertise, in order to enhance the competency of an organisation (Hamel, 1991). It is argued that IS outsourcing, for example, provides client organisations with learning opportunity and access to knowledge and resources which cannot be developed internally.

### **3.2.2 Social Capital Theory**

The term social capital first appeared in sociology, highlighting the importance of social networks and strong, personal relationships developed over time across groups that provide the basis for trust, co-operation, and collective action in communities (Sherif *et al.*, 2006). Social capital represents the ability of an organisation to secure benefits such as knowledge transfer and learning from networks (Hughes and Perrons, 2010). According to Yang and Farn (2009, p. 211), social capital is “a set of resources embedded in the social relationship among social actors and can be regarded as a valuable asset that secures benefits for social actors ranging from individuals to organisations”. Nahapiet and Ghoshal (1998) identify structural, relational, and cognitive dimensions of social capital. The structural dimension reflects the configuration of links and overall patterns of connections among actors within a set of relationships. The relational dimension captures the trust between actors and the amount of resources created and leveraged through ties. The cognitive

dimension refers to shared expectations, values, goals, interpretations and systems of meaning between actors of the firms involved in the relationship.

The concept of social capital is of particular relevance to inter-organisational knowledge transfer because of the inter-personal dynamics involved in transferring knowledge (particularly tacit knowledge) between individuals of the source and recipient organisations (Nahapiet and Ghoshal, 1998). A growing stream of research advocates that increases in social capital increase access to knowledge and expertise. In the knowledge transfer context, Anand *et al.* (2002) describe organisational social capital as the knowledge which organisations can access by using their informal ties with outsiders. The study of Autry and Griffis (2008) highlights that social capital promotes co-operative behaviour, including knowledge transfer in supply chain relationships, because of its association with shared vision, trusting relations, and social ties. Similarly, Collins and Hitt (2006) point out that the complex process of transferring tacit knowledge requires greater attention to the relational dimension of social capital.

Van den Hooff and Huysman (2009, p. 2) highlight that the establishment of effective social capitals with partner firms are necessary in order to capture the full knowledge transfer potential. They state that social capital provides “access to people with relevant knowledge” and “shares a common ability that helps in understanding other people’s knowledge and as well as correct interpretation and assessment of all knowledge”. Social capital has also been shown to enhance the speed and efficiency of the creation and transfer of knowledge (Kogut and Zander, 1996). Andrews (2010) notes that social capital is essential in order for knowledge transfer to occur as effectively as possible. In the same vein, Villena *et al.* (2010) find that social capital reduces the likelihood that a partner might withhold crucial knowledge. Furthermore, Weber and Camerer (2003) argue that social capital overcomes cultural differences when transferring knowledge across boundaries.

Developing social capital often requires intentional effort and is accumulated over time and with experience (Gooderham *et al.*, 2010). Adler and Kwon (2002) argue that the development and maintenance of social capital require mutual commitment, co-operation and effective communication between the source and the recipient involved. As interactions within the linkage between the two firms increase, social



capital is improved, thereby potentially increasing the transfer of knowledge (Hughes and Perrons, 2010).

### 3.3 Development of the Conceptual Framework

The research conceptual framework encapsulated in Figure 3.1 is explicitly guided by the notation that outsourcing relationships represent a means for client organisations to transfer knowledge from vendors during IS outsourcing projects. The following sections discuss the sets of key factors which have been revealed in prior literature to have an impact on knowledge transfer success. It is worth recapping here that, in this study, the vendor is the source of knowledge and the client is the recipient of knowledge.

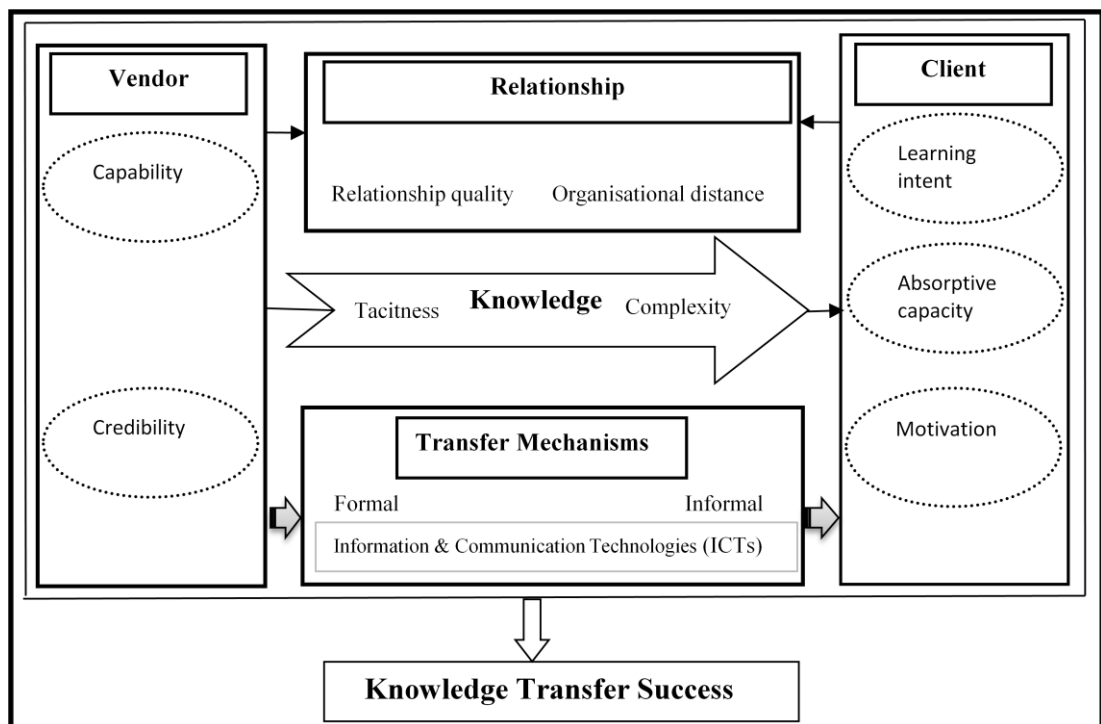


Figure 3. 1: Conceptual Framework

The following sub-sections explain the conceptual framework and discuss the sets of factors that have been found to impact knowledge transfer outcomes.

### 3.3.1 Knowledge Factors

The first set of factors is classified as ‘*Knowledge*’ factors, as shown in Figure 1. The nature and characteristics of the knowledge being transferred have been recognised as important factors which impact knowledge transfer success (Easterby-Smith, 2008a; Westphal and Shaw, 2005; Kalling, 2003). Understanding knowledge characteristics is a key to understanding knowledge transfer. Simonin (2004) argues that the properties of knowledge affect the ability and the success of transferring and assimilating that knowledge. Two main factors were found to have a significant impact on the efficiency and effectiveness of knowledge transfer, namely knowledge tacitness and knowledge complexity, explained further in the sub- sections below.

- ***Knowledge Tacitness***

Knowledge transfer success is affected by the knowledge tacitness (Narteh, 2008; Gosain, 2007; Inkpen and Pien, 2006; Inkpen, 1998). Minbaeva (2007, p. 573) defines ‘knowledge tacitness’ in terms of “how difficult it is to articulate and codify a given domain of knowledge”. As noted earlier, explicit knowledge is transmittable in a formal systematic way; it can be embodied and expressed in blueprints, schemata, diagrams and charts. Tacit knowledge, however, is relatively hard to articulate and express verbally or in writing because it is often rooted in action within a specific context. Many researchers see knowledge tacitness as a key impediment for knowledge transfer success. For example, Suzlanski (2003) uses the term ‘knowledge stickness’ to describe the difficulty of transferring tacit knowledge. Simonin (1999) addresses the role of knowledge tacitness on the transfer of marketing know-how in international strategic alliances and suggests that the degree of tacitness influences the knowledge transfer outcomes. The study revealed that a lower degree of articulation decreases the speed of transfer. Similarly, Cavusgil *et al.* (2003) investigate the effect of tacit knowledge transfer on firm innovation capacity and argue that the higher the degree of tacitness of knowledge, the harder it is to be transferred from one firm to another.

In ERP implementation, Xu and Ma (2008) argue that knowledge tacitness significantly impacts on the process of transferring technical and business knowledge from consultants to client organisations. The higher the extent of tacit knowledge

involved, the more difficult it is to transfer the knowledge and the more costs incurred in the execution of the transfer.

- ***Knowledge Complexity***

The complexity of knowledge has also been regarded as a major impediment to the success of knowledge transfer (Minbaeva, 2007; Simonin, 1999). Knowledge complexity refers to the number of inter-dependent routines, individuals, technologies and resources linked to a particular knowledge (Gosain, 2007). It is “the amount of information required to characterise the item of knowledge in questions” (Minbaeva, 2007, p. 573). Research on this aspect yields mixed results. Zander and Kogut (1995) find no significant direct relationship between complexity and the speed of transferring manufacturing-related knowledge. On the other hand, Narteh (2008) contends that complex knowledge is likely to involve many inter-dependent components and may be difficult to communicate between the source and the recipient. Similarly, Simonin (1999, p. 600) argues that “in some rapidly developing fields, knowledge may be inherently sophisticated and widely dispersed..... and this is expected to affect the comprehension of the totality of an asset and to impair its transferability”.

### **3.3.2 Vendor Factors**

The second set of factors is classified as ‘*Vendor*’ factors, as shown in Figure 3.1. The two factors that are identified in this set are vendor capability and vendor credibility.

- ***Vendor Capability***

The knowledge transfer research highlights the vital role of the source capability in the success of knowledge transfer (Joshi *et al.*, 2007; Ko *et al.*, 2005; Sarker *et al.*, 2005). Source capability is described by Parent *et al.* (2007, p. 87) as “the ability to contextualise, format, adapt, translate and diffuse knowledge through a social and/or technological network” in a way that can be understood and absorbed by the recipient. Mu *et al.* (2010, p. 30) use the term ‘disseminative capacity’ to describe the effort exerted by the source to diffuse the knowledge to the recipient. They argue

that disseminative capacity is the ability of the sender (i.e. source of knowledge) “to efficiently, effectively and convincingly articulate, communicate and spread knowledge” in such a way that the recipient can understand it correctly, and finally, tactically put the learning into practice. Szulanski (1996) argues that a knowledge source’s ability and willingness to devote time and resources to support the transfer of knowledge to the recipient is essential for successful knowledge transfer. Other researchers such as Davenport and Prusak (1998) also see a positive relationship between the capability of the source and knowledge transfer success. Organisations tend to acquire knowledge more successfully from a source which possesses worthwhile and valuable knowledge (Easterby-Smith *et al.*, 2008a).

The IS outsourcing literature has recognised the importance of selecting the right outsourcing vendor and highlighting that vendor capability is one of the most critical factors for the successful implementation of IS outsourcing (Feeny *et al.*, 2005; Kim and Chung, 2003). Vendor capability is the extent to which the client views the vendor as capable and expert, with a wealthy technical and business knowledge-base (Gregory *et al.*, 2009; Ko *et al.*, 2005). Vendor capability is essential for successful knowledge transfer because a capable, knowledgeable and committed vendor tends to devote adequate time and effort to support the transfer of knowledge to the client (Mu *et al.*, 2010; Tang *et al.*, 2010; Ko *et al.*, 2005; Wang *et al.*, 2007). Joshi *et al.* (2007) suggest that the success of knowledge transfer depends upon the wealth of the source’s knowledge-base. Client organisations tend to acquire knowledge successfully from competent vendors that possess worthwhile and valuable knowledge and experience. In ERP implementation, Wang *et al.* (2007, p. 206) establish that a competent vendor tends to effectively and efficiently offer ERP related knowledge and various technical skills which help the client maintain ERP successfully. They argue that a capable vendor that possesses a great amount of knowledge, skills and expertise offers “related and needed knowledge, to mobilise various skills, and to help the client configure and derive value from the ERP package”. Contrarily, a study by Gorla and Lau (2010) finds that a lack of vendor capability is one of the risk factors in IS outsourcing. They highlight that an incompetent vendor that lacks adequate technical skills may not be able to provide sufficient support and expected services, resulting in limited knowledge transfer to in-house IS staff.

▪ *Vendor Credibility*

The inter-organisational knowledge transfer literature has paid considerable attention to the role of credibility and trustworthiness in facilitating more efficient and effective knowledge transfer (Szulanski *et al.*, 2004; Inkpen, 1998). Ko *et al.* (2005) defines credibility as the extent to which a recipient of knowledge perceives a source to be trustworthy and reputable. It is the belief that the source's word is reliable and that it will fulfil its obligation of transferring knowledge (Inkpen, 1998). Furthermore, a credible source tends to have a desire and willingness to expend resources in the development of long-term relationships which facilitate an ample atmosphere for knowledge transfer (Sarker *et al.*, 2005; Szulanski *et al.*, 2004).

Prior knowledge transfer studies highlight that credibility and trustworthiness increase the amount of knowledge that can be transferred and decreases the cost of transfer. In the literature specifically examining the relationship between trust and knowledge sharing, Nahapiet and Ghoshal (1998) argue that trust, representing the relational dimension of social capital, facilitates the sharing of knowledge. The study of Ipe (2003) also finds that source trustworthiness creates a basis for learning and is central for effective knowledge transfer. Inkpen and Pien (2006) examined the impact of trust on collaboration and knowledge transfer and suggest that trust considerably influences both the extent of knowledge transfer and the effectiveness with which it is exchanged. The absence of trust, however, is more likely to give rise to misunderstanding, confusion and anxiety, which reduces the level of collaboration and thus hinders knowledge transfer (Park and Ghauri, 2011).

Reputation has also been regarded as vital for knowledge transfer success, because it is often used in screening and evaluating the value of the source of knowledge (Joshi *et al.*, 2007). A relationship based on a perceived reputation affects knowledge reliability, and eventually, willingness to engage in the transfer. Timbrell *et al.* (2001) argue that people tend to judge knowledge according to the status and reputation of the source. Likewise, Squire *et al.* (2009, p. 465) note that, where the level of the source's credibility is high, the recipient "is more inclined to accept the knowledge at face value rather than spending time checking the knowledge for accuracy". However, when the knowledge source is not perceived as reputable, the

recipient is much less likely to expend efforts at internalising the new knowledge communicated by the source (Lucas, 2006).

With respect to IS outsourcing, vendor credibility has been considered as a vital factor for the success of outsourcing projects in general (Barthelemy, 2001), and knowledge transfer in particular (Xu and Ma, 2008; Ko *et al.*, 2005). Selecting a credible vendor in an outsourcing relationship is vital for knowledge transfer success, particularly the transfer of tacit knowledge (Joshi *et al.*, 2007). Under conditions of high trust, the client spends less time and resources on monitoring to see if the vendor is shirking or fulfilling the spirit of the agreement (Dyer and Chu, 2003). Therefore, credibility involves confidence in the vendor's faith, intention and behaviour.

A study by Lee *et al.* (2008) investigates the impact of vendor credibility on IS outsourcing success and suggests that credibility facilitates more successful knowledge transfer. Moreover, initiating a knowledge transfer from a trustworthy vendor tends to be less challenging. In contrast, Bandyopadhyay and Pathak (2007) contend that in the absence of trust, client firms perceive vendors' knowledge to be less valuable and not much persuasive. In other words, when the client perceives the vendor as less credible or trustworthy, it will be more suspicious and thus more hesitant to accept the new knowledge.

### **3.3.3 Client Factors**

The third set of factors is classified as "*Client*" factors. The transfer of knowledge depends not only on the characteristics of the knowledge transferred or the capability of the vendor but also on the learning intent, absorptive capacity and motivation of the client. Below, the impact of these three factors on the knowledge transfer success.

- ***Learning Intent***

The literature emphasises that the presence of learning intent in the recipient organisation is the first step towards effective knowledge transfer and learning (Hau and Evangelista, 2007; Tsang, 2002, Inkpen, 2000; Hamel, 1999). Learning intent is

defined by Tsang (2002) as the level of desire, will and actual commitment of the recipient with respect to learning and transferring knowledge from the source. If the recipient has the intent to learn and acquire knowledge possessed by the source, it will be better prepared psychologically to understand and assimilate the required knowledge (Easterby-Smith *et al.*, 2008a; Perez-Nordtvedt *et al.*, 2008). Knowledge transfer performance increases when individuals in the recipient organisation set higher learning goals for themselves (Quigley *et al.*, 2007). Hamel (1991) suggests that a partner's intent to internalise the other's skills is a key determinant of learning. Senge (1990) further explains learning intent, describing a 'learning organisation' as an organisation in which people are committed to gain access to knowledge and learn. Narteh (2008) argues that clear and strong learning intent on the part of the recipient is a key factor enhancing and influencing the amount of knowledge transferred from another entity. Similarly, Park and Ghauri (2011) point out that intent to learn new knowledge from business partners is a critical component of the firm's knowledge transfer success. According to them, intent to learn influences the commitment and allocation of organisational assets to the learning process and will affect the initial decision to transfer new knowledge. In the same vein, Kim (1998) advocates that aspiration to learn and intensity of efforts for learning play a more pivotal role in the commitment to the knowledge transfer process, and specifically influences the decision to commence learning. Thus, unless a constant effort is made to internalise new knowledge, knowledge transfer is more likely to be difficult (Park, 2011).

Bandyopadhyay and Pathak (2007) explored knowledge transfer within outsourcing projects and found that knowledge transfer success highly depends on the learning intent of the client and the time and efforts employed to acquire the knowledge offered by the vendors. Client firms acquiring knowledge from vendors (especially offshore) often suffer from what is typically referred to as the 'NIH' (not invented here) syndrome (Cummings and Teng 2003; Gupta and Govindarajan, 2000). This translates into decreased interest in learning from outsiders.

▪ ***Absorptive Capacity***

Another factor found to influence knowledge transfer success that is closely related to learning intent is absorptive capacity (Lichtenthaler, 2009; Todorova and Durisin, 2007; Zahra and George, 2002; Tsai, 2001). It is argued that it is not enough that individuals in the recipient organisation have the learning intent, but they must also have the adequate capacity to harness and absorb new knowledge gained from external sources (Meier, 2011; Narteh, 2008; Lane *et al.*, 2001). Cohen and Levinthal (1990), who coined the term ‘absorptive capacity’, define it as the ability to recognise the value and importance of new external knowledge, assimilate it and apply it to business ends. They see absorptive capacity as related to the aggregation of prior related knowledge or experience of the individual members of a recipient organisation, because for them absorptive capacity is the ability to recognise links with previous knowledge. Internal resources including basic skills and relevant prior experience strengthen a recipient’s ability to promptly recognise, understand and digest new knowledge (Park, 2011, Van Den Bosch *et al.*, 2005). Park and Ghauri (2011) also posit that the acquisition of new external knowledge is virtually impossible without possession of prior related knowledge. As Powell *et al.* (1996, p. 120) put it, “knowledge facilitates the use of other knowledge. What can be learned is crucially affected by what is already known”. Similarly, Brockmann and Anthony (2002, p. 439) affirm that “the more we know, the more we can learn”. Narteh (2008) argues that absorptive capacity is a set of prior knowledge, experience and exposure or how well-equipped the recipient is to exploit and apply new knowledge from outside sources successfully. Zahra and George (2002) see absorptive capacity as a combination of effort and knowledge base, a multi-dimensional construct involving the ability to value, assimilate, and apply knowledge. For a knowledge recipient, prior experience with a given asset or knowledge base predetermines the level of familiarity and comfort with both information content and context, and thus favours the transferability of knowledge (Srivardhana and Pawlowski, 2007; Lee, 2001). Anh *et al.* (2006) describe prior related knowledge as various knowledge domains such as cognitive structure, basic skills, problem solving methods and prior learning experience. Absorptive capacity is increased by accumulating experience with knowledge transfer that results in a set of routines and processes by which



individuals acquire, assimilate, transform, and exploit new knowledge (Park, 2011; Berta and Baker, 2004).

In IS outsourcing projects, Srivardhana and Pawlowski, (2007) argue that project success is much related to the ability and aptitude of individuals in the client organisation to identify, acquire and apply new knowledge available from vendors and consultants involved in system implementation and support. Ko *et al.* (2005) explains how knowledge transfer success is much related to that capacity of the clients to absorb knowledge from the vendor and apply it during ERP implementation. The study further found that the client who lacked absorptive capacity experienced difficulties acquiring new knowledge and applying it effectively. This finding echoes Szulanski's (1996: 36) empirical verification that indeed the lack of absorptive capacity, which is "a function of the recipient's knowledge endowment prior to the transfer", is one of the most important origins of stickiness. It can be argued, therefore, that clients with prior relevant related knowledge and experience (i.e. higher levels of absorptive capacity) can acquire much knowledge and learning and therefore perform better than those with lower levels.

#### ▪ **Motivation**

The knowledge transfer literature highlights that motivation and rewards are critical ingredients for successful knowledge transfer and learning (Duan *et al.*, 2010; Narteh, 2008; Cabrera *et al.*, 2006). Perez-Nordtvedt *et al.* (2008, p. 721) state that "motivation is central to learning and lack of motivation can hinder knowledge transfer". Ipe (2003) also notes that there is a positive relationship between incentives and knowledge transfer success. Individuals tend to actively participate in the knowledge transfer process if they are rewarded (Narteh, 2008). Kalling (2003, p. 121) states that "the stronger the motivation to learn, the more likely it is that individuals will work harder on trying to learn and pick up new knowledge". Xu and Ma (2008) examined the key determinants of knowledge transfer success in ERP implementation and suggest that the stronger the motivation to learn, the more likely it is that individuals will attempt to use and master new external knowledge. Contrarily, lack of motivation and incentives may result in reluctance of some

recipients to accept and use new external knowledge. According to Narteh (2008) poor remuneration for individuals often results in less commitment to search for and acquire new external knowledge.

Teerajetgul *et al.* (2009) argue that some organisations tend to reward employees based on the valuable knowledge and special skills they add to the organisation. For example, Hewlett-Packard (hp) and 3M are widely known as learning organisations as they actively encourage and reward their employees for transferring new knowledge and skills which could improve products and work processes (Narteh, 2008).

There are two main types of motivations for knowledge transfer that have been identified and discussed in prior research: (1) intrinsic motivation and (2) extrinsic motivation. The next sub-sections address these two types of motivations.

#### *(a) Intrinsic Motivation*

Intrinsic motivation is defined by Teigland and Wasko (2009) as the motivation to work because the activity is interesting and personally satisfying. It refers to doing a particular job because it is inherently enjoyable (Fagan *et al.*, 2008, Lee and Ahn, 2007). Bartol and Srivastava (2002, p. 66) state that intrinsic motivation is “the pleasure derived from performing a task itself”. According to Ko *et al.* (2005, p. 65) “employees are intrinsically motivated when their needs are directly satisfied”. In the knowledge transfer context, Osterloh and Frey (2000) argue that intrinsic motivations encourage recipients to acquire and absorb new knowledge, particularly if their needs lie in the content of the transfer activities. The study of Teigland and Wasko (2009) confirms that intrinsic motivations are self-sustained and they have significant direct effect on an individual’s intention to acquire new external knowledge and to learn, aside from any organisational performance consequences which may be anticipated. For example, by acquiring new external knowledge, individuals can be satisfied with a confidence in their ability to develop and enhance competency and expertise. Furthermore, Mudambi *et al.* (2007) find intrinsic motivations are strongly related to creativity and efficiency, and organisations should support individual level activities that include not only the use of internal knowledge sources but also the use of external knowledge sources.

*(b) Extrinsic Motivation*

Extrinsic motivation is defined by Mudambi *et al.* (2007, p. 443) as “the motivation arising from external sources such as expected evaluation or rewards, competition with peers, monitoring, or dictates from superiors”. He and Wei (2009) consider extrinsic motivation to be an important component of the knowledge transfer process. They argue that in order to encourage knowledge transfer behaviours, organisations may provide various forms of extrinsic motivations and rewards. Similarly, Bock *et al.* (2005) highlight that extrinsic rewards influence employees’ behaviours and often trigger knowledge transfer and learning. These extrinsic motivations and rewards could be monetary or non-monetary (Bartol and Srivastava, 2002). Monetary incentives include salary raises, bonuses, job security or opportunities for promotion (Choi *et al.*, 2008; Lee and Ahn, 2007). Ko *et al.* (2008) point out, that motivating employees through money plays a pivotal role in knowledge transfer success in ERP implementation. Non-monetary rewards could be in the form of praise and public recognition or performance certificates which do not have a financial equivalent value (Hung *et al.*, 2011).

### **3.3.4 Relationship Factors**

The fourth set of factors is classified as ‘*Relationship*’, as presented in Figure 3.1. As Perez-Nordtvedt *et al.* (2008) suggest, relationships are the channels through which organisations acquire knowledge from affiliates. A good relationship signifies the quality of transmission between the source and the recipient. *Relationship quality* and *organisational distance* are found to significantly impact inter-organisational knowledge transfer success. These two factors are discussed below.

- ***Relationship Quality***

Relationship quality in a business-to-business (B2B) context has been extensively discussed in recent literature and is acknowledged as one of the most important elements of developing a close, strong and synergetic working atmosphere between business partners (Liu *et al.*, 2010; De Cannière *et al.*, 2009; Ananda and Francis, 2008; Rauyrueen and Miller, 2007). Relationship quality is defined by Duanmu and Fai (2007; p. 462) as “a product of each partners’ perceived satisfaction with the

pattern of interaction and performance that occurs between them". Lages *et al.* (2005) argue that relationship quality is an important precondition for the success of a venture, and that long-term exchange relationship determines the likelihood that transactions among relationship partners will continue. In the relationship marketing research, Morgan and Hunt (1994) emphasise that the nature of the relationship quality lies in its commitment, and the high quality and frequency of communication. A quality relationship enhances the opportunities for individuals in both firms to share feelings, emotions, collaborative experience through face-to-face interactions (Cavusgil *et al.*, 2003). Fynes *et al.* (2005) investigate the impact of supply chain relationship quality on quality performance and suggest that relationship quality greatly contributes to improving product quality.

Inter-organisational knowledge transfer research addresses the vital role of relationship quality on the success of knowledge transfer (Perez-Nordtvedt *et al.*, 2008; Dhanaraj *et al.*, 2004; Reagans and McEvily, 2003). A transfer of knowledge requires numerous individual interactions, exchanges and smooth communication between the source and the recipient (Meier, 2011; Chen, 2004). Building and maintaining a close relationship with the source, a recipient of knowledge can reap great benefits from the relationship and ensure effective and efficient knowledge transfer (Pak and Park, 2004; Lyles and Salk, 1996). Furthermore, a good relationship between the source and the recipient of knowledge decreases fear and improves mutual understanding, and therefore enhance knowledge transfer (Park and Ghauri, 2011; Teerajetgul *et al.*, 2009). Contrarily, Suzlanski (1996) argues that an arduous relationship often creates hardship in the transfer of knowledge from the source to the recipient.

Relationship quality between clients and vendors has also been extensively recognised and has drawn immense attention in the recent IS outsourcing literature (e.g. Swar *et al.*, 2010; Goles and Chin, 2005; Kern, and Willcocks, 2002; Lee, 2001). In this study, relationship quality is defined as the client's overall assessment of the strength of a relationship and the extent to which the parties (i.e. client and vendor) maintain a co-operative environment that meets the needs and expectations of the client with regard to knowledge acquisition and learning. For example, Lee *et al.* (2008) argue that building and sustaining quality relationships between clients and vendors is pivotal to creating values in IS outsourcing. Faraj and Sproull (2000)

empirically demonstrate the importance of establishing a quality relationship in IS projects. Likewise, in ERP implementation projects, Ko *et al.* (2005) highlight a need for an ongoing and co-operative relationship between consultants and clients in order to facilitate effective knowledge transfer.

▪ ***Organisational Distance***

There is a growing stream of research emphasising the importance of acknowledging organisational distance issues in inter-organisational relationships (Meier, 2011; Evangelista and Hau, 2009; Alami *et al.*, 2008). In the knowledge transfer context, organisational distance measures the degree of organisational integration between the source and the recipient of knowledge (Cummings and Teng, 2003). The organisational differences often create barriers to knowledge transfer. Simonin (1999) maintains that organisational distance produces additional difficulties and challenges in the process of knowledge transfer, and the knowledge recipient must allocate more time to communication, collaboration and the design of compatible work routines and development of common approaches. The review of the relevant literature reveals that the two main types of organisational distance that may impact inter-organisational knowledge transfer success are physical distance and national cultural distance. The next two sub-sections address these two factors respectively.

*(a) Physical Distance*

Physical distance is the remoteness of the source from the recipient (Carmel and Abbott, 2007). Cummings and Teng (2003, p. 46) describe physical distance as “the difficulty, time requirement and expense of communicating and getting together face-to-face”. Prior knowledge transfer studies suggest that geographical separation between the source and the recipient is expected to complicate face-to-face (F-2-F) interactions, and thus limit knowledge transfer (Bell and Zaheer, 2007; Cramton, 2001). As noted by Jasimuddin (2007, p. 298), “distant proximity makes knowledge transfer through F-2-F interface problematic and expensive”. A study by Ambos and Ambos (2009) on the impact of distance on knowledge transfer effectiveness indicates that geographical distance is one of the key obstacles for transferring knowledge effectively and efficiently. Similarly, Cramton (2001) investigates the challenges of communication, collaboration and knowledge transfer among

geographically dispersed teams and suggests that physical distance distribute and limit the speed of transferring knowledge. Thus, the larger the distance between the source and the recipient, the slower and less the knowledge transfer. In the contrary, Almeida *et al.* (2003) point out that close geographical proximity reduces the cost of communications and increases the frequency of personal contacts which serve to build social relation between the source and the recipient of knowledge, helping to build a context for effective and efficient knowledge transfer.

The IS outsourcing literature also recognises that physical distance between clients and vendors is a major inhibitor for successful knowledge transfer. A study by Nicholson and Sahay (2004) on knowledge transfer in software offshore outsourcing projects between a British client firm and an Indian vendor suggests that geographical separation negatively influences knowledge transfer, resulting in serious misunderstanding. Differences in time zones also hamper effective knowledge transfer as they “reduce the window for real-time interactions” between clients and vendors and limits their opportunities to “to discuss, debate and explain diverse opinions and perspectives” (Oshri *et al.*, 2008, p. 595). Today, client firms are increasingly seeking IS services from near-shore vendors as they witness that close proximity offers a better and faster environment for accessing and acquiring new knowledge and skills (Carmel and Abbott, 2007). Slaughter and Kirsch (2006) confirm empirically that close proximity facilitates a better platform for interactions between individuals in software development, allowing ample opportunities for knowledge transfer.

*(b) National Culture Distance*

National culture distance has been widely recognised by numerous researchers as a major inhibitor for knowledge transfer between the source and recipient (Chen and McQueen, 2010; van Wijk *et al.*, 2008; Lucas, 2006; Simonin, 1999). National culture is defined by Hofstede (1997, p. 5) as “the collective programming of mind, which distinguishes the members of one group of people from another”. It defines the value, beliefs, assumptions, customs and the way of life of a group of people (Griffith and Harvey, 2001). Park (2011, p. 77) investigates knowledge transfer in international joint ventures (IJVs) and suggests that national culture distance is “a

major obstacle, which has negative influences on all facets of co-operation.....and it is the “key causes of minimising inter-firm knowledge transfer”. Park and Ghauri (2011) indicate that difference in national culture is a major hindrance to knowledge transfer, as they create various problems particularly in organisations requiring co-operation with foreign firms. Cultural boundaries often generate extra communication difficulties, unsuccessful negotiations and time-consuming problem solving, and therefore lessen the opportunities for knowledge transfer (Park, 2011; Fabry and Zeghni, 2003). Lin *et al.* (2005) posit that insufficient background about each other, lack of common languages and cultural misunderstanding create friction and limit the ability of the source and the recipient to share and transfer knowledge across their organisational boundaries. Chow *et al.* (2000) investigate the impact of national culture on knowledge sharing between a group of Americans and a group of Chinese and point out that the Chinese are less likely than the Americans to share their critical knowledge with someone considered an ‘out-group’ member.

The impact of national culture distance has also been extensively discussed in the IS outsourcing literature (Rai *et al.*, 2009; Avison and Bank, 2008; Huang and Trauth, 2007; Inslan and Sahay, 2005). For example, Goles and Chen (2005) examined the key relationship factors that impact on IS outsourcing and point out that cultural background difference and language incompatibility can be major stumbling blocks for outsourcing relationships in general and knowledge transfer in particular. Insufficient background about each other, lack of a common languages and cultural misunderstanding limit the ability of clients to acquire knowledge and learn from vendors in IS outsourcing (Swar *et al.*, 2010). Hau and Evangelista (2007) suggest that verbal communication suffers from both perceptual and encoding/decoding gaps. In their study of German firms offshoring IS to India, Winkler *et al.* (2008, p. 246) point out that national cultural distance between clients and vendors causes unique challenges for client organisations attempting to acquire knowledge and learn from vendors. They argue that, “since English is not a native language for either of the countries, differences in language skills and language usage can cause difficulties in communication and misunderstandings”, limiting the amount and speed of knowledge transfer. In their study of ERP implementations, Soh *et al.* (2000) argue that knowledge transfer is very challenging between clients and vendors who have incompatible backgrounds and interests.

### 3.3.5 Knowledge Transfer Mechanisms

The fifth set of factors is referred to as “*Knowledge Transfer Mechanisms*”, as shown in Figure 3.1. This set represents the channels that are utilised to transfer knowledge from the vendors to the clients. The literature suggests a variety of knowledge transfer mechanisms that are used to transfer explicit and tacit knowledge from the source to the recipient. Jasimuddin (2007, p. 294) uses the term ‘appropriateness’ to describe the “extent to which a mechanism is useful and convenient to carry out the transfer of knowledge”. Knowledge transfer researchers identify various related approaches to classify knowledge transfer mechanisms, but the most common approach is classifying the mechanisms into formal and informal (Boh *et al.*, 2007; Strach and Evert, 2006).

#### ▪ *Formal Mechanisms*

Many formal mechanisms exist for transferring knowledge from the source to the recipient (Hong and Nguyen, 2009). Easterby-Smith *et al.* (2008a) suggest that knowledge is often transferred through documents, blueprints or electronic media that embody the knowledge transferred to the recipient organisation. Dedrick *et al.* (2009) argue that well-documented knowledge such as routine work process, standard rules of operations, well-defined product specifications and project plans can be transferred easily from one firm to another. According to Slaughter and Kirsch (2006) knowledge is transferred formally through organised training, observation of experts, tooling and formal meetings. However, Strach and Evert (2006) argue that on-the-job-training (i.e. learning-by-doing) produces more knowledge transfer and learning than typical classroom training. In their study of IS outsourcing, Chua and Pan (2008) highlight that seminar presentations offered by vendors to internal IS staff within the client organisations during the outsourcing projects are one of the common mechanisms for one-to-many knowledge transfer. The study further points out that oral presentation often offer larger quantity of information and therefore are more suitable for raising awareness of a particular new topic or technology and giving a broad overview of key concepts.



▪ ***Informal Mechanisms***

Prior inter-organisational studies have recognised the importance of utilising informal mechanisms for transferring knowledge, particularly with tacit dimension (Blumenerg *et al.*, 2009). Chen and McQueen (2010, 56) state, “tacit knowledge transfer generally requires extensive personal contact and extensive socialisation”. In the same vein, Hoegl *et al.* (2003) suggest that when individuals have informal and rich communication interactions, the transferability of critical knowledge may be facilitated, and individuals may expend fewer resources to acquire and utilise the required knowledge.

Social ties have been increasingly regarded as important and effective channels for knowledge transfer (Easterby-Smith *et al.*, 2008a; Bell and Zaheer, 2007; Jasimuddin, 2007; Adler and Kwon, 2002), particularly in knowledge intensive works such as IS outsourcing (Kotlarsky and Oshri, 2005). For example, Blumenberg *et al.* (2009) suggest that frequent F-2-F interaction is crucial for transferring technical tacit knowledge in IS outsourcing projects. In a similar vein, Hansen (1999) points out that repeated interactions between individuals with strong ties facilitate knowledge acquisition. The results of Carlile’s (2004) study suggest that successful knowledge transfer requires social networks through which individuals develop common language, understanding, and interests.

However, there has been some debate as to whether the two modes (formal and informal) are substitutes or complements, but there is a general consensus that both are instrumental in transferring knowledge (Slaughter and Kirsch 2006; Malhotra *et al.* 2001; Rulke *et al.* 2000). Argote and Ingram (2000) note that transferring knowledge with a combination of task and tool elements can be effective. Others researchers observe similar findings about the use of multiple kinds of mechanisms. Galbraith (1990), for example, points out that effective knowledge transfers utilise a combination of formal and informal mechanisms.

▪ ***ICTs and Knowledge Transfer***

Information and communication technologies (ICTs) are frequently mentioned as the solution to inter-organisational knowledge transfer, particularly when the source and

the recipient are geographically dispersed (Alavi and Tiwana, 2005; Hayes and Walsham, 2005; Jashapara, 2004). As Lopez-Nicolas and Soto-Acosta (2010) put it, “organisations are designing and developing information and communication technologies (ICTs) which offer opportunities for enhancing strategic learning, even at distance”. Jasimuddin (2007) argue that computer mediated tools are appropriate mechanisms when the actors of the transfer process are located in wide proximity from each other. Hackney *et al.* (2005) support this, arguing that computer-assisted mechanisms help bridge spatial and temporal barriers, and facilitate distributed and virtual communication and co-ordination of work. Ambos and Ambos (2009) suggest that utilisation of technology-based mechanisms such as collaboration software, distributed learning and knowledge discovery and discussion forums are positively related to effectiveness of inter-organisational knowledge transfers. Likewise, Jashapara (2004) argues that groupware tools such as Lotus Notes support collaboration, co-ordination and communication of knowledge between business partners over space and time. The study of Lopez-Nicolas and Soto-Acosta (2010) that investigates that impact of ICTs on organisational learning of 300 Spanish small-and-medium-sized enterprises (SMEs) suggests that firms improve their learning capacity and foster knowledge transfer capabilities by employing emerging, novel and pioneering ICTs. Parallel to this, Van Baalen *et al.* (2005) contend that interactive ICTs such as knowledge portals facilitate the diffusion of knowledge in disconnected innovation projects.

### **3.4 Knowledge Transfer Success**

The definition of knowledge transfer success varies somewhat in the literature. At the most basic level, knowledge transfer success is defined as the number of knowledge transfers engaged during a certain time period (Hakanson and Nobel, 2000). Likewise, Schulz (2001, p. 662) argues that knowledge transfer success depends on the “aggregate volume of know-how and information transmitted per unit of time”. A second approach, drawing on the project management literature, defines a successful knowledge transfer as the one that is on time, on budget and produces a satisfied recipient (Szukanski, 1996). A third approach to defining transfer success is offered by Easterby-Smith *et al.* (2008a) who determine knowledge transfer success by the change in knowledge, level of innovativeness or performance of individuals in

the recipient organisations. A fourth approach is conceptualised by Lord and Ranft (2000) in terms of usefulness of the knowledge transferred, or the extent to which the knowledge transferred is relevant and salient to organisational success. Another approach was suggested by Perez-Nordtvedt *et al.* (2008) who see knowledge transfer success in terms of both the effectiveness and efficiency of knowledge transfer.

This study follows the definition of knowledge transfer success provided by Perez-Nordtvedt *et al.* (2008). It advocates that the effectiveness of knowledge transfer is the degree of comprehensiveness and usefulness of knowledge that was transferred from the vendor by the client. That is, the degree to which the transfer of new knowledge satisfied the client and was relevant, useful enough and has positive effect to the staff in the IS division. The efficiency of knowledge transfer is the degree to which the transfer of knowledge was done in a timely fashion and with the least amount of resources possible. That is, the rate by which the client acquires the new knowledge from the vendor with the minimal amount of resources.

### **3.5 Chapter Summary**

IS outsourcing relationships have become a vital strategy for many client organisations to gain access, transfer knowledge and learn from vendors. The purpose of this chapter was to provide the conceptual framework that explains the key factors that facilitate or inhibit knowledge transfer success in IS outsourcing. Organisational learning and social capital perspectives were utilised to guide this research. The extensive review of prior relevant studies provided a comprehensive understanding of the knowledge transfer process and revealed that there are five sets of factors that may impact knowledge transfer success. The first set of factors is related to the characteristics of the transferred knowledge. Knowledge tacitness and knowledge complexity are considered two major inhibitors for knowledge transfer. The second set of factors is related to the characteristics of the vendor (which is the source of knowledge). Vendor capability and vendor credibility are found to be pivotal for successful knowledge transfer. The third set of factors is related to the characteristics of the client organisation (the recipient of knowledge). The three factors that belong to this set are learning intent, absorptive capacity and motivation.

The fourth set of factors is related to the relational context of the transfer. Relationship quality and organisational distance are found to significantly impact knowledge transfer success. The fifth set of factors explains the impact of knowledge transfer mechanisms on knowledge transfer success. The channels for knowledge transfer may be formal (particularly suited for codified knowledge) or informal (more suited to uncodified knowledge).

After presenting and discussing the conceptual framework of this research, the thesis proceeds to discuss the research methodology adopted for the empirical fieldwork, detailing and justifying the research approach, as well as the data collection and data analysis methods.

## CHAPTER FOUR: RESEARCH METHODOLOGY

### 4.1 Introduction

The previous chapter proposed a conceptual framework that is aimed at examining how knowledge is transferred successfully in IS outsourcing. This chapter aims to provide an overview of the research approaches utilised within the information systems (IS) field, which leads to the selection of an appropriate research methodology for guiding the validation of the conceptual framework, and therefore answering the research inquiry. Eldabi *et al.* (2002, p. 64) states that “conducting any type of research should be governed by a well-defined research methodology based on scientific principles”. In this chapter, the reasons for the selection of the research philosophical underpinning, type of research approach, data collection methods and data analysis techniques are explained and justified.

This chapter is structured as follows. Initially, Section 4.2 provides an overview of the underlying research paradigms in the IS field and then provides justifications for the preferred one. This is followed by an overview discussion of various issues related to the available two research approaches (quantitative and qualitative) and a justification for the selection of the qualitative approach in Section 4.3. Section 4.4 provides the rationale for adopting case study as the research strategy for this study. Section 4.5 addresses the overall research design and explains the suitable methods for data collection and data analysis. A detailed account of the various aspects of the ethical considerations is offered in Section 4.6. Issues relating to the methodological rigour and how they are addressed in this study are discussed in Section 4.7. Finally, Section 4.8 offers a brief summary to this chapter.

### 4.2 Research Paradigm

The choice of a research methodology needs to be guided by a scientific research paradigm concerning the nature of reality and how knowledge about reality can be comprehended (Myers, 2009). A research paradigm is a set of people’s beliefs, philosophies and assumptions about some aspects of the world and the nature of

knowledge (Collis and Hussey, 2009; Oates 2006) and in this instance it is about how scientific research should be undertaken (Orlikowski and Baroudi, 1991). Myers (1997) highlights that researchers have different beliefs and values, and all research is based on some underlying assumptions about what constitute valid research and which research methods are appropriate. All research paradigms that guide field research have three major, inter-related beliefs about ontology, epistemology and methodology as explained in Table 4.1 (Bailey, 2007). The purpose of this section is not to provide a comprehensive account of the philosophical arguments surrounding debate about different research paradigms, but rather to set the context of the research and establish the epistemological approach followed in this study and the effect that this will have on the inquiry. As Pozzebon (2004, p. 277) notes, a research paradigm remains useful in “helping researchers position themselves clearly and argue for the value of their work”. The following discussion, therefore, highlights the key considerations associated with the different philosophical approaches within the IS field.

There are three underlying research paradigms that are used within the IS research, namely: positivist, interpretive and critical (Mingers, 2003; Darke *et al.*, 1998; Orlikowski and Baroudi, 1991), as summarised in Table 4.1 and discussed in the sub-sections below.

Basic Beliefs	Research Paradigms		
	Positivist	Interpretive	Critical
<b>Ontology</b> (What is the nature of reality?)	<ul style="list-style-type: none"> <li>• A single objective reality exists</li> </ul>	<ul style="list-style-type: none"> <li>• Multiple realities, socially constructed</li> </ul>	<ul style="list-style-type: none"> <li>• Multiple, contextually situated realities</li> </ul>
<b>Epistemology</b> (Is what is learned independent of the researcher?)	<ul style="list-style-type: none"> <li>• What can be learned about the social world exists independently of the researcher</li> </ul>	<ul style="list-style-type: none"> <li>• What is learned in research does not exist independently of the researcher</li> </ul>	<ul style="list-style-type: none"> <li>• The researcher is not independent of what is researched</li> </ul>
<b>Methodology</b> (How should the researcher go about finding out about social reality?)	<ul style="list-style-type: none"> <li>• Survey questionnaire</li> <li>• Simulation</li> <li>• Experiment</li> </ul>	<ul style="list-style-type: none"> <li>• Action Research</li> <li>• Case Study</li> </ul>	<ul style="list-style-type: none"> <li>• Case study</li> <li>• Grounded theory</li> <li>• Ethnography</li> </ul>

**Table 4. 1:** Research Paradigms in information systems (IS) Research

Source: Compiled after Bailey (2007) and Vaishnavi and Kuechler (2004/5)

### 4.2.1 Positivist Paradigm

The positivist paradigm argues that inquiry is assumed to be value free, so that the researcher remains detached or independent, neutral and objective from what is being observed (Collis and Hussey, 2009; Easterby-Smith *et al.*, 2008b; Robson, 2002). Positivists seek facts or causes of social phenomena, with little regard to the subjective state of the individual (Collis and Hussey, 2009). As Chen and Hirschheim (2004, p. 201) put it, “positivists believe that reality exists objectively and independently from human experiences”. The positivist research is concerned with the empirical testability of theories in order to discover the general principles or laws which govern the natural and social world, in an attempt to increase the predictive understanding of the phenomenon under investigation (Myers, 2009; Orlikowski and Baroudi, 1991). Positivist principles emphasise the use of random sampling techniques, the measurement of outcomes and the development of causal models with predictive power (Myers and Avison, 2002). Orlikowski and Baroudi (1991) define research as positivist if there is evidence of formal propositions, quantifiable measures of variables, hypothesis testing, and the drawing of inferences about a phenomenon from the sample to a stated population. Additionally, positivist researchers assume the possibility of generalising and modelling, mathematically in particular, the observed phenomena (Oates, 2006).

### 4.2.2 Interpretive Paradigm

The interpretive paradigm is based on an ontology in which reality is subjective, a social product constructed and interpreted by humans as social actors according to their beliefs and value systems (Andrade, 2009; Saunders *et al.*, 2009). Interpretivists, thus, reject the status of a researcher as a neutral observer and place the emphasis on human interpretation and understanding as a part of valid knowledge (Gray, 2009, Saunders *et al.*, 2009). Interpretive research does not attempt to prove or disprove a hypothesis, as in positivist studies, but tries “to identify, explore and explain how all the factors in a particular social setting are related and inter-dependent” (Oates, 2006, p. 292).

IS scholars, led by Geoff Walsham (Cambridge University - Judge Business School), highlight the importance of an interpretive approach of research and its valuable contribution to IS theory and practices, especially as the focus and concerns of IS

research have been shifting from technological towards social and organisational issues of IS (Walsham, 2006; Walsham, 1995; Wlatham, 1993). Klein and Myers (1999, p. 87) contend that “interpretive research has emerged as a valid and important approach to information systems research”. In discussing the development of IS research, Howcroft and Trauth (2004, p. 1999) also write “we witness a shift in focus from technical development to interpretation of social action”, promoting more interest on interpretive paradigm to advance IS research. Walsham (1993) argues that the interpretive methods of research start from the position that the knowledge of reality, including the domain of human action, is a social construction by human actors. Similarly, Chen and Hirschheim (2004, p. 201) highlight that “interpretivists emphasise the subjective meaning of the reality that is constructed and reconstructed through a human and social interaction process”. Research undertaken with an interpretive paradigm in mind mainly focuses on what kind of things the participants do, how they do them and what purpose the activities serve and what they mean to the participants (Bailey, 2007).

Today, the interpretive paradigm “constitutes an important and increasing part of the information systems (IS) knowledge base” (Bygstad and Munkvold, 2010, p. 1). Interpretive researchers attempt to gain a deep understanding of the phenomena through accessing the meanings and values that participants assign to them, and focuses on their cultural and historical context (Alexander *et al.*, 2008; Oates, 2006; Orlikowski and Baroudi, 1991). As Collis and Hussey (2009) describe it, the interpretive approach is concerned with understanding human behaviour from the participants’ own frame of reference based on their direct interactions and experiences with the phenomenon under study. Furthermore, Oates (2006) argues that the interpretive researchers study the phenomenon from the perspectives of the participants, and without imposing their outsiders’ previous understanding or expectation on the situation. The intention of interpretive research is to look for multiple interpretations and gain a deeper understanding of the phenomenon, which can then inform other settings, rather than to generalise (Sedmak and Longhurst, 2010; McGrath, 2005). As Orlikowski and Baroudi, (1991, p. 5) point out with regards to the interpretive paradigm, “generalisation from the setting (usually only one or a handful of field sites) to a population is not sought; rather, the intent is to



understand the deeper structure of a phenomenon, which it is believed can then be used to inform other settings”.

### **4.2.3 Critical Paradigm**

The critical paradigm is the least utilised approach in the IS research, but it has been gaining much interest in the last few years (Myers and Klein, 2011; Myers, 2009; Kvasny and Richardson, 2006). This philosophical stance is based on an assumption in which reality is “historically constituted and that is produced and reproduced by people” (Avison and Pries-Heje, 2005, p. 244). Critical research tends to emphasise ‘totality’; that “things can never be treated as isolated elements” (Orlikowski and Baroudi, 1991, p. 19). The goal of critical research is to bring about social change through a critique of existing social conditions (Myers, 2009). It attempts to “critique the status quo, through the exposure of what are believed to be deep-seated, structural contradictions within social systems, and thereby to transform these alienating and restrictive social conditions” (Orlikowski and Baroudi, 1991, p. 6). As Walsham (2006, p. 112) puts it, critical researchers tend “to investigate what is wrong with the world rather than what is right”. In addition, Howcroft and Trauth (2004) argue that the central principle of critical research is the balance between being informed by critical theoretical ideas and political agenda, and maintaining an empirical sensitivity toward an interest in the discovery of repression. Likewise, Myers (2009) points out that critical researchers embrace the ideological influences on their research by balancing their interest in the people being studied with an awareness of the social, cultural and political forces.

### **4.2.4 Justifications for the Adoption of the Interpretive Paradigm**

After considering the three underlying paradigms in IS research, this study which examines how knowledge is transferred successfully in IS outsourcing, adopts an interpretive paradigm as the most appropriate to address the aim of this study. The rationale behind the adoption of an interpretive paradigm in this study is explained below.

Firstly, this study attempts to address a gap in the existing theory that does not holistically explain the inter-organisational knowledge transfer phenomenon in the IS outsourcing context. Prior IS studies find that interpretive paradigm is better

equipped to appreciate the richness of a social context in comparison to the positivist paradigm (Orlikowski and Baroudi, 1991). According to Klein and Myers (1999, p. 67), the interpretive approach allows IS researchers to “understand human thoughts and actions in social and organisational context.... and has the potential to produce deep insights into information systems phenomena”. Therefore, the interpretive paradigm allows for deep exploration, rich description and holistic understanding of the factors that impact on knowledge transfer success in IS outsourcing.

Secondly, this study attempts to seek and understand how knowledge is transferred successfully in IS outsourcing from the point of view of the participants under study. As noted earlier, the interpretive paradigm does not detach the researcher from the subject which is under study, the researcher argues that this paradigm presents the most appropriate basis on which to develop a more holistic picture of the phenomenon through close investigation, observation, face-to-face contact and listening to the participants during the course of their daily work. Furthermore, the utilisation of the interpretive paradigm enables the researcher to explore what IS employees from different hierarchical positions are thinking about the phenomenon under study, why they acted as they did, and what they want to accomplish (Vannoy and Salam, 2010). It is acknowledged that even in the same setting, participants may have different experiences, and therefore it is vital to interact closely with subjects in order to obtain their perspectives.

Finally, as there is no hypothesis testing, quantifiable measures of variables or formal propositions, and since there is none of these in this research, the positivist approach cannot be used. Thus, the interpretive paradigm was deemed to be the most suitable basis for this study.

After deciding on the most appropriate paradigm for this study, the next section addresses the most suitable research method to answer the research inquiry. As Guba and Lincoln (1994, p. 106) write “the selection of a method is secondary to the adoption of a philosophical paradigm”.

### 4.3 Research Approach

Another perspective of research is the divide between quantitative and qualitative research approaches. The next two sections discuss these two approaches to enquiry and justify the most suitable one for this particular study.

#### 4.3.1 Quantitative

Quantitative research methods were originally developed within the natural sciences to study natural phenomena (Saunders *et al.*, 2009). This approach of research mainly emphasises the use of measurement to describe objects and relationships under study (Sarantakos, 2005). Furthermore, quantitative researchers are often independent of the context of study and they aim for large numbers of context stripped data, and seek statistical significance (David and Sutton, 2004; Neuman, 2003). Examples of quantitative research methods are survey questionnaires, laboratory experiments, simulation, mathematical modelling and econometrics (Myers, 2009; Neuman, 2003; Myers and Avison, 2002).

#### 4.3.2 Qualitative

In contrast to quantitative approach, qualitative research is based on words or pictures rather than numbers (Johnson and Harris, 2002; Miles and Huberman, 1994). Qualitative researchers usually work with small samples of people who are studied in-depth in their natural context (Berg, 2009). According to Silverman (2010), a qualitative method is characterised by the detailed observation of, and involvement of the researcher in, the natural setting in which the study occurs. Qualitative research methods are chosen when not much is known about the issue or the problem under study. In this case, the qualitative researcher attempts to explore and uncover meanings people assign to their experiences of the issue or problem (Sarantakos, 2005). The researcher often talks to the participants face-to-face and sees them behave and act within their context (Creswell, 2009). Gibbs (2002, p. 3) argues that the qualitative method “involves a commitment to viewing events, actions, norms, values etc. from the perspective of those understudied”. Likewise, Creswell (2009) highlights that qualitative research enables the researcher to explore and understand the meaning individuals ascribe to a social phenomenon.

The main advantage of the qualitative research is the ability of producing more richness and holism of knowledge of the examined phenomena, especially the social condition (Silverman, 2010). Miles and Huberman (1994, p. 10) state that the qualitative method enables the researcher to provide “thick descriptions that are vivid, nested in a real context and have a ring of truth”. Similarly, Creswell (2009) argues that qualitative researchers attempt to report multiple perspectives and identify the many factors involved in order to develop a holistic picture of the issue under study. Examples of qualitative approaches are case study, action research, ethnography and grounded theory, (Myers, 2009; Myers and Avison, 2002).

Table 4.2 provides a brief comparison of quantitative and qualitative methods, providing the basis for the justification for adopting the most suitable research method for this study.

	Qualitative	Quantitative
<b>Assumptions</b>	<ul style="list-style-type: none"> <li>• Reality socially constructed</li> <li>• Variables are complex and difficult to measure</li> <li>• Events viewed from perspective</li> </ul>	<ul style="list-style-type: none"> <li>• Facts and data have an objective reality</li> <li>• Variables can be measured and identified</li> </ul>
<b>Purpose</b>	<ul style="list-style-type: none"> <li>• Interpretation</li> <li>• Contextualisation</li> <li>• Understanding the perspective of others</li> </ul>	<ul style="list-style-type: none"> <li>• Prediction</li> <li>• Generalisation</li> <li>• Causal explanation</li> </ul>
<b>Methods</b>	<ul style="list-style-type: none"> <li>• Data collection using interview, observation and documents</li> </ul>	<ul style="list-style-type: none"> <li>• Testing and measuring</li> </ul>

**Table 4. 2:** Comparison between quantitative and qualitative methods

*Source:* Burns (2000)

### 4.3.3 Justifications for the Adoption of the Qualitative Research Method

In the present research, several reasons make qualitative research the most suitable research approach. These are discussed and explained below.

Firstly, as previously noted in chapter two, little research has examined knowledge transfer in the context of IS outsourcing, and qualitative research is regarded to be the most suitable option for such inquiry. Corbin and Strauss (2008) argue that qualitative research methods can be used to better understand any phenomenon about which little is yet known, as well as to gain new perspectives on issues about which much is already known, or in order to gain more in-depth information that may be difficult to convey quantitatively.

Secondly, the basic premise of this research is to gain a better understanding of how knowledge is transferred from vendors to clients in IS outsourcing projects. However, the underlying factors that impact on knowledge transfer are by no means clear. Qualitative research can be especially instructive in the examination of the processes of knowledge transfer and explore the key factors that facilitate or inhibit knowledge transfer success.

Thirdly, as the intention of this research is to focus on the factors that influence knowledge transfer success, so qualitative research method is more appropriate than a quantitative research method, as the former is designed to help researchers understand people's thoughts and the social and cultural contexts within real life (Corbin and Strauss, 2008; Myers and Avison, 2002). Recording actual words and expressions of the participants is a reliable way of gathering data, and as this study is related to human attitude and behaviour towards knowledge transfer, this gives the participants an opportunity to express their feelings more freely and openly. Furthermore, a qualitative method allows us to understand the social and cultural contexts within which the participants work and approach them from different job positions, in order to compare, contrast and understand their viewpoints (Myers, 2009). Contrarily, the use of a survey questionnaire method generally would not provide the detailed and rich information needed to deeply understand a complex phenomenon such as knowledge transfer. The researcher is not much concerned with objective truth, but rather with the truth as the participants perceive it. As Kaplan and Maxwell (1994) point out, the goal of understanding a phenomenon from the point of

view of the participants, and its particular social and organisational context, is largely lost when attempting to quantify data. Therefore, a qualitative method provides a more complete portrayal than quantitative approach.

So far, this research has argued for an interpretive paradigm, with the use of a qualitative mode of inquiry. The next section focuses on the selection of an appropriate research strategy for this study.

## **4.4 Research Strategy**

There are several qualitative research strategies that could be employed in IS research. The choice of a particular strategy mainly depends on the aim and the objectives of the study (Creswell, 2009). Darke *et al.* (1998) highlight that there is an increasing awareness among the IS community of the need for adopting qualitative research strategies such as case study, ethnography, grounded theory and action research which focus on examining social phenomena in their life context. This section, however, does not intend to offer a full illustration and comparison of these qualitative research strategies, but rather to focus on case study as the most suitable strategy for this particular research. This study follows the view of Walsham (1993) that the most appropriate research strategy for conducting IS empirical research in the interpretive tradition is the in-depth case study. The following sections define, discuss and provide justification for adopting a case study strategy in this research.

### **4.4.1 Case Study Definition**

The case study is defined by Yin (2009, p. 18) as “an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident”. It is a widely used research strategy in situations where the purpose of research and the objectives are to find answers to questions of *how* or *what* (Greenhill, 2004; Klein and Myers, 1999). Paré (2004) clearly states that the case study is “particularly well-suited for IS research”. Benbasat *et al.* (1987) recommend the use of a case study strategy when the IS phenomenon of interest is complex and cannot be investigated outside the immediate context. The case study research strategy involves rich investigation of one or more social entities or situations about which data are

collected using multiple sources of evidence in order to develop a holistic description through a research process (Saunders *et al.*, 2009, Sarantakos, 2005). Case study research is bounded by time and activity, and the researcher collects detailed information using a variety of data collection procedures over a sustained period of time (Stake, 1995). Oates (2006) argues that the purpose of the case study is not to validate any hypothesis through controlled experiment or statistical analysis; however it is likely to enable the researcher to gain constructive thought, and useful knowledge which is related to the examined context. The case study is also regarded as a powerful and rigorous approach to expand on or clarify doubts about existing theories (McCutcheon and Meredith, 1993). According to Benbasat *et al.* (1987), research employing a case study strategy often attempts to assess the conditions surrounding the phenomenon under study in order to build a plausible explanation. Table 4.3 summarises some of the key characteristics of case study research.

Characteristic	Description
Focus on depth rather than breadth	The researcher obtains as much detail as possible about the phenomenon under investigation
Natural setting	The case is examined in its natural setting
Holistic	The researcher focuses on the complexity of relationships and process and how they are inter-connected and inter-related, rather than trying to isolate individual factors
Multiple sources and data collection methods	The researcher uses a wide range of data sources and seeks multiple perceptions using various data collection methods such as interviews, observation and document analysis.

**Table 4. 3:** Characteristics of Case Study Research

*Source:* Oates (2006)

#### 4.4.2 Case Study Strengths

There are several advantages to using the case study as a research strategy. One of the key advantages is that more accurate inferences and holistic first-hand data are obtained from the study of an entirely real situation (Oates, 2006, Sarantakos, 2005). Cases study research allows the capturing of ‘reality’ and detail by studying a phenomenon in its natural context (Cavaye, 1996). As Halinen and Toornroos, (2005)

express it, instead of statistical representation, case studies offer depth and comprehensiveness in understanding the specific phenomenon in its natural setting. Case study strategy also enables the research to investigate the complexities involved in a particular phenomenon and explore alternative meaning and explanations through close contact with the participants (Oates, 2006). Hartley (2004, p. 212) points out that the case study allows for “processual, contextual and generally longitudinal analysis of the various actions and meanings which take place and which are constructed within specific social or organisational contexts”. Eisenhardt (1989, p. 534) also emphasises the potential of case studies in capturing the dynamics of the studied phenomenon. She writes, “the case study is a research strategy which focuses on understanding the dynamics present within single settings”. Moreover, case studies provide “a source of well-grounded, rich descriptions and explanations of processes occurring in local contexts” (Miles and Huberman 1994, p. 15).

#### **4.4.3 Case Study Limitations**

Despite the above mentioned advantages of utilising the case study strategy, there are some weaknesses that are worth highlighting. Firstly, the availability of suitable case study sites may be difficult and even sometimes restricted, as many organisations feel hesitant and unwilling to participate in case study research (Myers, 2009; Walsham, 2006; Darke *et al.*, 1998). Oates (2006) argues that, it is often relatively difficult to negotiate access to the necessary setting, people and documentations required to investigate a particular phenomenon using a case study approach. Secondly, designing and scoping a case study research project in order to ensure that the research inquiry can be appropriately and adequately completed is often difficult and daunting (Yin, 2009). The data collection process can be time-consuming and tedious, and often results in the accumulation of a large amount of data (Gray, 2009; Cavaye, 1996). Another frequently cited criticism of case study research is that it lacks generalisability of findings (Gray, 2009; Oates, 2006). However, Yin (2009) refutes this criticism by stressing that the most scientific inquiries have to be replicated by multiple examples of the experiment, and case study research can too be based upon multiple cases of the same phenomenon. Gummesson (2000) supports this view, by asserting that a complete understating of a phenomenon is often built up through knowledge of many individual cases. In the same vein, Walsham (1993, p. 15) is unconcerned with the issue of the generalisability of case study research. He



argues that “the validity of an extrapolation from an individual case or cases depends not on the representativeness of such cases in a statistical sense, but on the plausibility and cogency of the logical reasoning used in describing the results from the cases and drawing conclusions from them”.

#### 4.4.4 Single Versus Multiple Case Design

The case study research can be designed as either single or multiple cases (Yin, 2009; Oates, 2006). The study of a single case enables the researcher to investigate and get close to the phenomenon under study, which allow rich description and full analysis of primary data (Irani *et al.*, 1999; Dyer and Wilkins, 1991). As Cavaye (1996, p. 236) puts it, “study of a single case enables the researcher to investigate a phenomenon in depth, getting close to the phenomenon, enabling a rich description and revealing its deep structure”. A single case is often selected because the case under study is both an exemplary case containing extreme and/or unique circumstances, and a revelatory case, being one of the first examinations of the phenomenon for scientific purposes (Yin, 2009; Blumberg *et al.*, 2008). However, a single case approach may lead to some risk of the misjudging of a single event, and of exaggerating easily available data (Lee, 1989).

A multiple case study approach, on the other hand, allows cross-case analysis and comparison, and the investigation of a particular phenomenon in diverse settings (Yin, 2009). Multiple cases may also be selected to predict similar results (literal replication) or to produce contrasting results for predictable reasons (theoretical replication) (Yin, 2009; Voss *et al.*, 2002). Moreover, studying multiple cases makes it possible to build a logical chain of evidence (Yin, 2009; Miles and Huberman 1994). The analytic conclusion derived from multiple cases is more powerful and robust than from a single case, as it will be able to move the investigation from one organisational context to another, thus isolating idiosyncrasies that contribute to exploring the phenomenon (Yin, 2009). Furthermore, Benbasat *et al.* (1987) add that multiple case studies yield more general results when compared to single case, and are the most useful for description and theory extension. However, multiple case study research tends to be more time consuming to perform than single case study, and results in much more data to analyse (Oates, 2006).

This research employed multiple case study design. Data was collected from the public sector in Oman. The choice of a multiple case study approach was determined by the need to explore a variety of cases that represent different IS outsourcing settings. Furthermore, using multiple cases enabled the researcher to validate and cross-check findings. The chosen multiple case study approach treats each case as a separate test of the initial proposed conceptual framework presented in the previous chapter (Figure 3.1), in order to achieve an analytic generalisation through replication logic rather than sampling logic where each case is comparable to a new experiment (Yin, 2009; Irani *et al.*, 2008; Eisenhardt and Graebner, 2007). Furthermore, multiple cases provide more compelling evidence than a single case, and therefore strengthen the findings and increase the robustness of the research (Yin, 2009; Irani *et al.*, 1999; Eisenhardt, 1989).

#### 4.4.5 Number of Cases

Another issue that the researcher should consider when using multiple case studies is the number of cases to target (Barratt *et al.*, 2010; Yin, 2009; Cavaye, 1996; Miles and Huberman, 1994; Benbasat *et al.*, 1987). This issue, however, has created a dilemma in case study research as there is no single rule concerning the number of cases that should be selected or is sufficient for a given multiple case research project. Therefore, various researchers suggest a different ‘number of cases’ that need to be employed in order to allow for rigours findings (Paré, 2004). Voss *et al.* (2002) argue that the fewer the number of cases, the greater the opportunity for depth of observation. Eisenhardt (1989) suggests that case study research should have between 4-10 cases, in order to capture the complexity of the phenomenon under investigation. Creswell (1998) counters this suggestion by arguing that a multiple case study researcher should typically choose no more than four cases in order to capture in much more detail the context within which the phenomenon under study occur. Irani *et al.* (1999), however, did not provide an exact number or range of cases that could serve as guidelines for researchers, arguing that the selection of the number of cases is mainly up to the researcher’s decision and it is influenced by the research aim and questions. Similarly, Eriksson and Kovalainen (2008, p. 124) note that, “unlike statistical sampling methods, there is no single role concerning the minimum number of cases that should be selected for a given multiple case research

project. Selection of the number of cases is necessarily influenced by the study aim and the research question”. In the same vein, Romano (1989, p. 36) clearly states that the decision on the number of cases to be included is “left to the researcher”.

In this study, the theoretical saturation concept was followed to decide on the number of cases used. No further cases were added when the latest conducted case did not reveal new insights to the research inquiry, compared to the early ones (Bowen, 2008; Pawlowski and Robey, 2004). Three organisations were chosen from three different industries (education, municipality and e-services) in order to avoid industry bias. These three organisations have been involved in extensive IS outsourcing projects in the last few years.

#### **4.4.6 Access to the Case Organisations**

Securing access to organisations, people and data is necessary for the successful completion of any research project (Lewis, 2003). This is particularly vital for case study research as the researcher often wishes to spend a considerable amount of time with various people within the organisation (Yin, 2009; Voss *et al.*, 2002).

In this study, access to the sites and the willing co-operation of the participants were gained through personal contacts and the researcher previous employment in the public sector of Oman. A principal informant was identified for each of the organisations, and E-mails were sent to them, explaining the objectives of the research, stressing the importance of the research and requesting participation. This was done to ensure maximum co-operation from the organisations. This is consistent with the recommendation of Lewis (2003, p. 62), who stresses the importance of having a single point of contact within the chosen organisations in order to “avoid duplications or gaps in communication”. Similarly, Voss *et al.* (2002, p. 200) highlight that a principle informant “should be senior enough to be able to open the doors where necessary and to know who best to interview to gather the data required”. After a week, the informants were contacted by phone to ascertain the organisation’s willingness to participate in the study. They all extended full support to the fieldwork plans.

#### 4.4.7 Justifications for the Adoption of Case Study Research Strategy

After defining and discussing the key characteristics of case study research, it is worth highlighting the rationale for choosing case study strategy for this particular research. Thus, the selection of case study research strategy is justified for three principle reasons as explained below.

Firstly, as there has been limited previous research that has investigated knowledge transfer in the context of IS outsourcing in general and in the public sector in particular, this study is exploratory in nature and exploratory case study strategy is deemed to be appropriate in order to find out what is happening and to seek new insights. As Benbasat *et al.* (1987) indicate, a case study is an appropriate way to research an area in which few previous studies have been carried out. Also, Eisenhardt (1989) suggests that case study strategy is appropriate when conducting exploratory research on complex social phenomena in real-life contexts.

Secondly, this research attempts to provide a holistic understanding of the key factors that impact on knowledge transfer success in IS outsourcing. It has been argued that case study strategy is useful when a holistic, in-depth investigation is needed (Yin, 2009). A case study approach allowed us to grasp more detailed, varied and extensive understanding of the phenomenon under investigation using multiple sources of evidence.

Thirdly, research on inter-organisational knowledge transfer has been dominated by quantitative studies using survey questionnaires (Salmi and Torkkeli, 2009). Easton (2010, p. 127) suggests that case study research is “the prevalent research method in B2B research”. Moreover, a questionnaire-based approach cannot fully capture the richness and social complexity of the inter-organisational knowledge transfer process (Perez-Nordtvedt *et al.*, 2008). Therefore, more detailed case analysis using thick description is needed for this research in order to better understand the complexity of the phenomenon, leading to a more compelling and robust explanation (Eisenhardt, 1989). Thus, the researcher argues that only the case study strategy could capture holistically the dynamic and the complexity of the knowledge transfer from vendors to clients in IS outsourcing.

## 4.5 Research Design

Research design is a cohesive and logical process undertaken by a researcher to collect, analyse and interpret data (Yin, 2009). The following sub-sections discuss the plan and the structure of the investigation that the researcher has undertaken, to collect and analyse the fieldwork data. They address the unit of analysis, the case study protocol, data collections methods and data analysis.

### 4.5.1 Unit of Analysis

The unit of analysis is the level at which the research is conducted and which objects are researched (Blumberg *et al.*, 2011). Specifying the unit of analysis is critically important for case study research. Dubé and Paré (2003, p. 610) emphasise that clear specification of the unit of analysis “is critical if we want to understand how the case study relates to a broader body of knowledge”. Since the goal of this research is to investigate how the ‘IS division’ transfer and learn technical and business knowledge from vendors during IS outsourcing, the ‘IS division’ is the primary unit of analysis in this research.

### 4.5.2 Case Study Protocol

A case study protocol is an important tool that needs to be developed before embarking on the data collection stage (Yin, 2009). The case study protocol is an instrument with which the case study is conducted, as well as the general rules and procedures with which the empirical work is carried out (Burns, 2000). In other words, a case study protocol defines the structure of the overall case study effort, acting as an action plan, and setting rules and regulations by which data will be gathered. As Johnston *et al.* (1999, p. 207) highlight, “prior to entering the data collection phase, a systematic plan must be developed that stipulates what information is to be sought....and how it is to be obtained”. The protocol has to be updated and improved with each replication (Eisenhardt, 1989).

The core of the case study protocol is the interview guide (see appendix III) that sets all the questions to be used in interviews. It outlines the subject to be covered during an interview, states the questions to be asked, and indicates the specific data required (Lubbe, 2003; Voss *et al.*, 2002). This allows the study to be performed in such a

way that other researchers may replicate it and still obtain the same results (Yin, 2009).

### 4.5.3 Data Collection

Prior to the main data collection effort, eight pilot interviews were conducted to provide preliminary insights into knowledge transfer process in IS outsourcing in the public sector and to test potential interview questions. The pilot informants were IS managers who had significant experience with outsourcing within the public sector of Oman. Additionally, the pilot interviews helped with refining data collections plans with respect to both the contents of the data and the procedures to be followed. The interviewees were invited to comment and provide suggestions with regard to any ambiguity on wording of interview questions. Furthermore, those pilot interviews were proved to be useful in gaining feedback from the industry's practitioners prior to undertaken the main empirical study.

Once the research strategy had been decided (i.e. multiple case study), it was necessary to decide upon the manner in which data would be collected for the main study. Gillham (2000, p. 20) suggests that a researcher employing a case study approach should look for different types of evidence when collecting data, including “what people say, what you see them doing, what they make or produce, what documents and records show”.

In this study, multiple methods of data collection were employed. Semi-structured interviews was the main source of data, with the non-participant observation and documentation data serving as important supplementary sources for understanding the phenomenon (Miles and Huberman, 1994; Eisenhardt, 1989). Adopting various data collection methods and multiple sources of evidence “to gain a fuller picture of what is happening” is referred to as ‘triangulation’ (Myers, 2009, p. 10). A central benefit of using the triangulation technique is in the reduction of “inappropriate uncertainty” (Robson, 2002, p. 370). That is, exclusively relying on a single method of data collection and assuming that it has yielded the correct answer. Therefore, triangulation provides multiple perspectives on an issue, supplies more information on emerging concepts and allows for cross-checking and testing one source of data against other sources. For example, using documents in conjunction with interviews and observations allows for exploring and comparing how some participants explain

an issue and how they document it. The application of different data collection methods can increase the robustness of the research results through the cross-validation of data obtained through different methods (Remus and Wiener, 2009). As Eriksson and Kovalainen (2008, p. 126) express it, “case studies are usually considered more accurate, convincing, diverse and rich if they are based on several sources of empirical data”. Additionally, triangulation enables the researcher to “obtain a rich set of data surrounding the specific research issue, as well as capturing the contextual complexity” (Benbasat *et al.*, 1987, p. 374). Myers (2009) also notes that triangulation of data from different sources improves the quality of data, and consequently the accuracy of the findings.

Table 4.4 highlights the key strengths and weaknesses of the three major data collection methods that were employed in this study.

Data collection method	Strengths	Limitations
<b>Semi-structured Interviews</b>	<ul style="list-style-type: none"> <li>▪ Flexible and adoptable for collecting data</li> <li>▪ Researcher is free to probe the participant for more data in particular points</li> <li>▪ Capacity for correcting misunderstandings by participants</li> </ul>	<ul style="list-style-type: none"> <li>▪ Very time consuming and require careful preparation</li> <li>▪ Biases are difficult to rule out</li> <li>▪ Sensitivity (some participants are less likely to want to speak about sensitive issues)</li> </ul>
<b>Observation</b>	<ul style="list-style-type: none"> <li>▪ Researcher has first- hand experience with participants</li> <li>▪ Researcher can records interactions, actions and behaviours as they take place</li> </ul>	<ul style="list-style-type: none"> <li>▪ Does not provide insights into what a person think about the action</li> <li>▪ Researcher may be seen as intrusive (ethical/privacy issues)</li> </ul>
<b>Documents</b>	<ul style="list-style-type: none"> <li>▪ Retrospective (enable a researcher to study past events and issues)</li> <li>▪ Stable (can be reviewed repeatedly)</li> <li>▪ Exact (contains precise details of names, positions, events, dates)</li> <li>▪ Inexpensive and less time consuming (especially documents available on the Internet)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Access (problems of confidentiality in some organisations)</li> <li>▪ Incompleteness (some documents are not complete or not up-to-date)</li> <li>▪ Reliability (the reliability of some documents is questionable and may be biased)</li> </ul>

**Table 4. 4:** Data collection methods: strengths and limitations

*Sources:* Compiled after Creswell (2009); Gray (2009); Yin (2009); Sarantakos (2005)

▪ *Semi-structured Interviews*

Interviewing has been regarded as the best and most important qualitative data collection method (Myers, 2009; Ritchie, 2003; Burns, 2000), and it is widely used in IS research (Schultze and Avital, 2011). It is particularly essential source of evidence in case study research (Yin, 2009; Voss *et al.*, 2002; Darke *et al.*, 1998). In research, an interview is basically defined as a professional verbal conversation with the purpose of collecting data, beliefs and opinions from the interviewee (Burns, 2000). According to Kvale (2007, p. 8), a qualitative interview is a data collection method “with the purpose of obtaining descriptions of the life-world of the interviewee with respect to interpretation of the meaning of the described phenomena”. When conducting an interview, the researcher engage interviewees directly in conversation and poses questions concerning behaviours, ideas, attitudes, beliefs and experiences in order to generate rich data with regard to a social phenomenon (Schultze and Avital, 2011; Boeije, 2010). There are three main types of interviews: unstructured, structured and semi-structured (Myers, 2009; Burns, 2000). An unstructured interview is often an informal conversation in which the researcher has general topics of interest and concerns with no (or very few) fixed sets of questions. Structured interviews have pre-determined questions with fixed wording in a pre-set order, and sometimes with a specified time limit. In a semi-structured interview, the researcher has some pre-determined questions, but the order can be modified based upon the interviewer’s perception of what seems most appropriate. New questions may emerge during the conversation.

In this study, semi-structured interview was adopted for data collection for two related reasons. Firstly, as this study is interpretive in nature, semi-structured interviews allowed the access to the interpretations and views of the participants with regard to the actions and events that are happening or have already taken place with regard to knowledge transfer during IS outsourcing projects. As Myers (2009, p. 79) points out, semi-structured interviews are useful for “finding out people’s motivations, and their rationale as to why they did certain things”. Similarly, Gray (2009, p. 373) highlights that a semi-structured interview is vital when an interpretive approach is being adopted, “where the objective is to explore subjective meanings that respondents ascribe to concepts or events”. In this study, the participants were triggered to share their own stories, pass on their knowledge in



their own words and provide their own perspectives. Collis and Hussey (2009) argue that the strength of semi-structured interviews lies in the process of open discovery of data as issues discussed, questions raised and matters explored and new topics that emerge vary at each interview.

Secondly, semi-structured interviews represent a useful balance between the very formal structured approach and the informal conversation approach, enabling the researcher to probe deeply to explore answers in more depth, to uncover new clues (Easterby-Smith *et al.*, 2008b) and “to add important insights as they arise during the conversation” (Myers, 2009, p. 125). Additionally, the researcher was able to prompt the interviewees with a set of possible expected answers (Robson, 2002). Moreover, as Eriksson and Kovalainen (2008) argue, semi-structured interviews are appropriate for answering ‘what’ and ‘how’ open-ended questions, which are common in the interview guide.

In this study, the ‘key informant’ bias (i.e. using a single informant) (Kumar, 1993) was avoided, and instead a multiple informants design was followed using multiple participants involved in knowledge transfer in IS outsourcing projects (Yin 2009; Maylor and Blackmon, 2005). Van Bruggen *et al.* (2002, p. 469) maintain that “multiple informant-based approach yields response data far superior quality” in comparison to a single informant approach. Thus, semi-structured interviews were conducted with representatives from three different hierarchical levels (Senior IS managers, Middle IS managers/Heads of sections and Junior IS staff) within the IS divisions of the three organisations. This approach provided the opportunity to collect “rich data from people in various roles and situations” (Myers, 2009, p. 121). This is consistent with the recommendation of Eisenhardt and Graebner (2007, p. 28) who argue that a key approach to limiting the interviewee’s bias is to use various knowledgeable informants from different hierarchical levels who “view the focal phenomenon from different perspectives”. The interview guide for the three types of participants followed a similar chronological structure, but was adapted to the roles that each level of individuals typically played in the IS outsourcing project. The interview guide allowed focusing on the participants’ responses on satisfying the needs of the lines of inquiry.

The purposive sampling technique was first followed, which is highly recommended for qualitative case study research (Neuman, 2003), in order to identify key participants within the organisations. The purposive sample consists of individuals that are selected because they have particular features or characteristics that enable a detailed understanding of the phenomena under study (Ritchie *et al.*, 2003). As Sarantakos (2005, p. 164) suggests, in purposive sampling “the researcher purposely choose subjects who, in their opinion, are relevant to the project”. Then, snowball sampling technique was employed in order to get access to further participants (Sarantakos, 2005). In this, the key participants were used to recommend other participants who met the criteria of the research objectives and who might be willing to participate in the study.

Interviews were first conducted with junior IS staff directly involved in the IS outsourcing projects. In these interviews, a detailed description of the various IS outsourcing projects was sought and the facilitating and inhibiting factors for knowledge transfer were investigated based on the participants’ own experiences and viewpoints. Then, interviews were conducted with a broader range of middle IS managers who are managing the day-to-day IS operations as well as heads of sections. Finally, the researcher attempted to understand the points of view of the executive IS managers on the policies, strategies and decisions about IS outsourcing in general, and the knowledge transfer process in particular. All the participants reflected on many experiences covering current projects as well as past ones.

Interviews were usually conducted in the interviewee’s office, which facilitated the consultation of relevant documents if the interviewee needed to check details or share related materials. Two of the participants within one of the organisations preferred to have the interviews in the common room, which the researcher found a distracting environment to record the conversation.

Prior to the interviews, participants were notified of the aim and the general objectives of the study. Interviewees were all fluent in English, so all interviews were conducted in English, except for those of two who felt more comfortable responding in their mother tongue (i.e. Arabic). The researcher used the *laddering* technique suggested by Easterby-Smith *et al.* (2008b) in order to trigger participants to reveal additional information and clarification as necessary about the phenomenon

understudy. Laddering allowed participants to explain their ideas and views in more detail and to elaborate on what they had said. This was achieved by following up each question with ‘why’ and ‘how’ questions which induced participants to provide further in-depth explanation and supply rich ‘stories’ from their own work experience and their interactions with individuals of the vendor organisations. The interviews varied in length from 45 minutes to 2 hours. Most interviewees responded to the questions without reluctance and consideration of the time limit of the interview, and therefore many complex facets of the phenomenon and related concepts were elicited. However, the researcher took care never to over-stay the agreed-upon time limit for the interview without the consent of the participant.

The interviews were tape-recorded (with interviewees’ permission) and transcribed so that a complete and accurate record of the conversation could be obtained. There were two participants who did not wish to be recorded on tape. In such cases, every effort was made to ensure the notes were as complete as possible. As Patton (2002) suggests, no matter what the kind of interviewing style used, and no matter how carefully interview questions are worded, all is wasted unless the words of the interviewee are captured accurately. Additionally, notes were made during the interview process to highlight key points made during the interview. By recording and transcribing the interviews, it was easier to revisit and recode text as more evidence emerged and patterns became clear. Additionally, recording allowed re-listening to the interviews and extracting direct quotes to support arguments in the writing up process.

Again within each organisation, the theoretical saturation perception was followed to decide when enough participants had been sampled. Data was gathered to the point of diminishing returns, when nothing new was being added.

- ***Observation***

Observation is an important qualitative data collection method, and it is defined by Marshall and Rossman (2011, p. 139) as a process of “noting and recording of events, behaviours and artefacts (objects) in the social setting”. Observation is mainly used to discover complex interaction in natural social settings and describe “what happens, who or what are involved, when and where things happen, how they

occur and why things happen” (Boeije, 2010, p. 59; Robson, 2002). In observation, researchers try to learn about the behaviours and the meanings attached to those behaviours (Eriksson and Kovalainen, 2008). There are two main types of observation: ‘participant observation’ and ‘non-participant observation’ (Eriksson and Kovalainen, 2008). In participant observation, the researcher (i.e. the observer) is fully involved and becomes a participant in the culture or the context being observed (Collis and Hussey, 2009). This type of observation requires extensive effort over a long period of time as the researcher need to become accepted as part of the context being observed (Burns, 2000). In non-participant observation, the researcher dose not becomes a participant; instead he/she attempts to observe specific issues (e.g. interactions, behaviours, actions) (Collis and Hussey, 2009). Non-participant observation often takes shorter time in comparison to participant observation (Burns, 2000).

In this study, a non-participant observation technique was adopted as the researcher merely attempted to carefully watch and listen to what was happening and record various knowledge transfer events, complex interactions and actions between individuals from the clients and the vendors ‘on the spot’ while working side-by-side on the IS projects. People were shadowed in their work environment and observed social interactions and impromptu discussions. The people who were observed were informed that the researcher was conducting academic research on knowledge transfer in IS outsourcing. Detailed field notes were written carefully in which the participants’ commands, conversations, tool usage, and use of documents and other work artefacts were all recorded. Data collected through observation was used as supplementary to complement data obtained through semi-structured interviews.

#### ▪ *Documents*

Gathering documents has been regarded as an important means of data collection in qualitative studies (Creswell, 2009; Saunders *et al.*, 2009), and it plays particularly a crucial role in case study research (Blumberg *et al.*, 2011). Case study researchers often supplement interviewing and observation with the gathering and analysing of relevant documents produced in the course of everyday events (Gibson and Brown, 2009). As Yin (2009, p. 103) points out, “for case studies, the most important use of

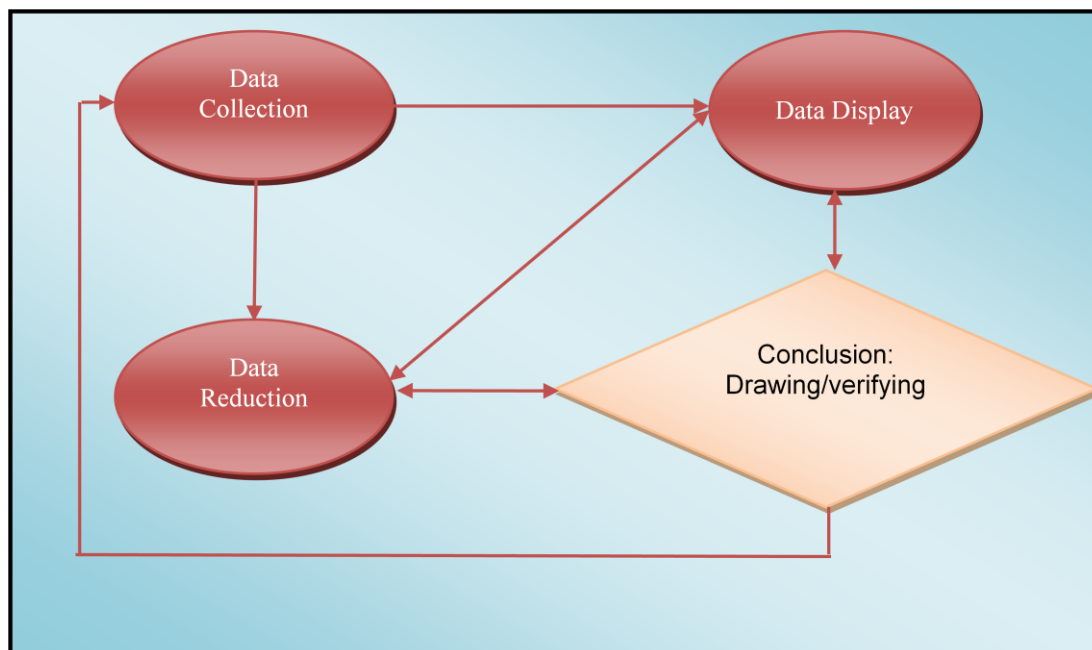
documents is to corroborate and augment evidence from other sources". Marshall and Rossman (2011) note that minutes of meetings, logs, announcements, formal policy statements, and letters and so on are useful in understanding the phenomenon under investigation.

In this study, different kinds of recorded data were collected to provide information about how knowledge is transferred from vendors to clients. Where available, copies of IS outsourcing contracts and service level agreements (SLAs) were gathered. Copies of reports, meeting minutes, related emails exchanged between clients and vendors, organisation charts were also obtained. In additions, selected materials from training and workshops sessions, provided by the vendors to the clients, were collected. During the course of the data analysis, the client organisations were contacted to gather additional documents and clarify issues that were vague or missing. The documents were mainly used to verify the participants' factual statements obtained in semi-structured interviews. For example, the document analysis enabled the researcher to double-check regarding particular issues and dates that participants had difficulty remembering during the interviews. Thus, collecting such imperative documents allowed the researcher to build a richer picture of the phenomenon under study.

#### **4.5.4 Data Analysis**

Data analysis is defined as a systematic process of searching and arranging the data in order to gain understanding and find useful meaning (Boeije, 2010; Burns, 2000). According to Bogdan and Biklen (2006), qualitative data analysis is working with qualitative data (interview transcripts, field notes and other materials), organising them, breaking them into manageable units, synthesising them, searching for patterns, discovering what is important and what is to be learned, and deciding findings. Miles and Huberman (1994) suggest that qualitative analysis is not a sequential process, but rather an interactive one that involves three concurrent activities: data reduction, data display and conclusions drawing/verification as illustrated in Figure 4.1. Data reduction refers to the process of selecting, simplifying, abstracting and transforming the raw case data. Data display refers to the organised assembly of information to enable the drawing of conclusions. Data display includes narratives, matrices, graphs, tables and various charts. Conclusions

drawing/verification involves drawing meaning from data and building a logical chain of evidence. Various types of matrices, clustering diagrams and causal networks are used.



**Figure 4. 1:** An interactive model of qualitative data analysis

Source: Miles and Huberman (1994)

There is, however, no specific formula or standard technique to analyse qualitative data (Patton, 2002). Research methodology books and articles offer various general analytical approaches towards qualitative data such as content analysis, grounded theory, narrative analysis, conversational analysis, discourses analysis, hermeneutics and semiotics (Gray, 2009; Myers, 2009; Maylor and Blackmon, 2005; Easterby-Smith *et al.*, 2008b). The next section discusses and justifies the suitability of qualitative content analysis technique, which was found to be the most appropriate methods for this research.

#### **4.5.5 Qualitative Content Analysis**

Content analysis is one of the widely used techniques in analysing qualitative data (Flick, 2009; Gray, 2009). Generally, there are two types of content analysis: quantitative content analysis and qualitative content analysis (Wilkinson, 2011;

Maylor and Blackmon, 2005). Mayan (2009) refers to quantitative content analysis and qualitative content analysis as ‘*manifest content analysis*’ and ‘*latent content analysis*’ respectively. In quantitative content analysis, researchers attempt to quantify qualitative data (turning the qualitative data into numerical data) by searching text (e.g. interview transcript) for recurring words or phrases (Patton, 2002). The results of quantitative content analysis are presented as frequency counts (Wilkinson, 2010). However, this method of data analysis seems to be less meaningful to many qualitative researchers as “the context of the words is not taken into consideration” (Mayan, 2009, p. 94). Qualitative content analysis, on the other hand, is used to interpret meaning from the content of text data (Mayring, 2000). According to Holdford (2008, p. 174), qualitative content analysis differs from quantitative content analysis primarily in “its emphasis on interpretation over quantification, subjectivity over objectivity, flexibility in process over outcome, and concern for influence of context on the research process”. Similarly, Hsieh and Shannon (2005) note that researchers using qualitative content analysis mainly focus on “the contextual meaning of the text”. Qualitative content analysis “goes beyond merely counting words to examining language intensely for the purpose of classifying large amounts of text into an efficient number of categories that represent similar meanings” (Hsieh and Shannon, 2005, p. 1278). The results of qualitative content analysis are presented as illustrative quotations (Wilkinson, 2010). Payne and Payne (2004) note that qualitative content analysis enables the researcher to demonstrate the meaning of a written source of data by systematically assigning their content to pre-determined categories or themes and then interpreting the outcomes.

In this study, the qualitative content analysis technique was followed in order to understand the nature of the phenomenon under study and interpret the meanings and significance of the beliefs and behaviours of the participants. A qualitative content analysis technique was deemed more desirable for this study as it preserves as much as possible the deep meaning of the qualitative data. Furthermore, it enabled the interpretation of all transcribed interviews, documents and notes of observation and relating each one to the whole in order to gain a holistic picture of the phenomenon. As Darke *et al.* (1998, p. 285) note, “the strength of analysis in case studies derives from the strength of the exploration of the phenomenon based on the interpretation of the data”. In this study, the analytical technique suggested by Maylor and Blackmon

(2005) and Miles and Huberman (1994) was followed. They recommend that codes should be related to the conceptual framework developed from previous theory, rather than being a random collection of categories. This approach helped to guide the analysis and interpretation with certain expectations, but still allowed for identifying those aspects that emerged from the empirical data, that differ from what is in the conceptual framework. They also suggest that deduction and induction are linked approaches for analysing data which could be used simultaneously. This pluralistic approach is apparently becoming preferred in IS research. For example, Cavaye (1996) notes that conceptual frameworks developed from prior theory can have a pivotal function in the design and analysis of case study. She further argues that IS researchers can employ deductive and inductive approaches in the same study. Thus in this study, first the deductive analysis was used, where the data was analysed according to the conceptual framework. After that, an inductive analysis was performed to look at the data for undiscovered codes or patterns and emergent understanding. The researcher was shifting back and forth between data collection and data analysis, and this enabled to move with the data and learn about the unique and untold aspects of the phenomenon. Important quotes from the transcripts that were emphasised with intensity were noted and used where appropriate in the analysis process. This was done in order to “bring in the voice of participants in the study” (Creswell, 1998, p.170) which has been considered to be a key element of an interpretive research approach such as the current one.

#### **4.5.6 Use of NVivo Software Package**

In the last few years, there has been much discussion about the importance and the usefulness of using computer software in qualitative data analysis (Creswell, 2009; Easterby-Smith *et al.*, 2008b; Miles and Huberman, 1994). Many qualitative researchers suggest the use of software packages such as NVivo and Atlas/ti to carry out a thorough and transparent and more reliable qualitative data analysis (Myers, 2009; Robson, 2002; Weitzman, 2000). Flick (2009) identifies three main benefits for using computer software for analysing qualitative data. These benefits are:

- **Speed:** qualitative software enables the researcher to handle, manage and search data in a shorter time in comparison to a manual process.



- **Increase of research quality:** software allows the researcher to be consistent in the analytical procedures which improves the validity of the research
- **Improvement of data representation:** qualitative software enables the researcher to display the data in graphical format which facilitates better interpretation and discussion from different perspectives.

In this study, NVivo 8 was used to help in facilitating the qualitative content analysis of the transcripts produced from the semi-structured interviews as well as the observation notes and the documents. Despite that conceptual decision, judging and interpreting were mainly done by the researcher; NVivo 8 simplified and speeded up the mechanical aspects of data analysis. Nvivo 8 was found to be a useful tool for the coding of such large quantities of unstructured texts. It enabled the development of themes inductively while at the same time allowing for a more systematic analysis of data, allowing transparency and an opportunity to re-visit the data more easily and more systematically should new insights or new information become available. Additionally, NVivo 8 was proved to be useful for creating memos linked to specific sections of text or to record relationships among themes. In this way, NVivo 8 provided an efficient and transparent approach to code, and in searching for and locating relevant segments of text within and between cases. This would be very difficult and time-consuming manually.

#### **4.6 Ethical Considerations and Anonymity**

Ethical issues and anonymity are critically important concepts in social research in general and in qualitative research in particular, and decisions can have far-reaching repercussion if not handled with great care (Tilley and Woodthorpe , 2011; Myers, 2009; Lewis, 2003). As Burns (2000) stresses, a researcher has a responsibility to ensure that participants are well-informed, have the right to privacy and understand the purpose and the nature of the data collection process. Similarly, Payne and Payne (2004, p. 68) highlight that participants should “be enabled freely to give their informed consent to participate, and advised that they can terminate their involvement for any reason, at any time”. Participants also have to be fully assured of anonymity and confidentiality in order to minimise the risk of harm (Tilley and Woodthorpe, 2011).

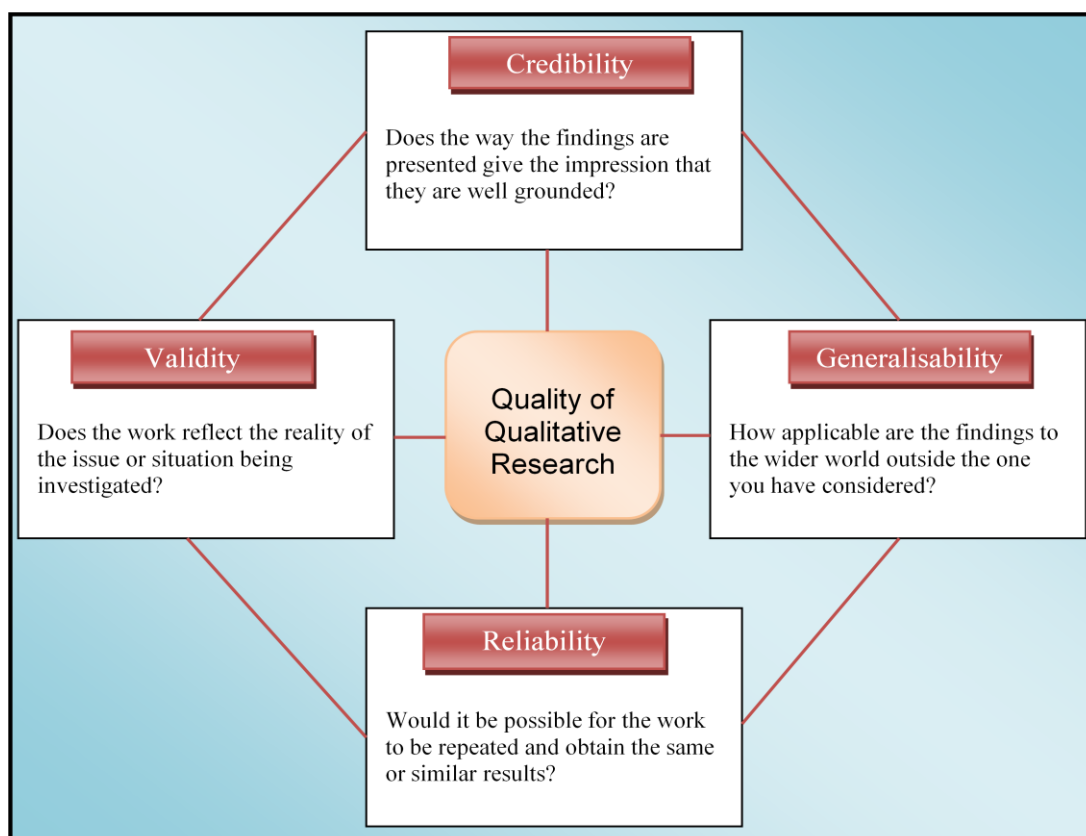
In this study, most of the ethical principles and issues that need to be considered in any empirical academic research were taken into account. Firstly and most importantly, this research had the approval of the Brunel Business School Ethics Committee as shown in appendix I. During the data collection process, an informed consent form (see appendix II) was handed to all participants and requested their signatures showing their participation to be voluntary. The informed consent form pointed out and explained the purpose and the objectives of this research. All the participants were notified and assured that their inputs and feedbacks would be used as a research view and it would be considered to be private. In addition, the identities of the participating organisations were kept anonymous (Oates 2006). Pseudonyms (ALPHA, BETA and GAMMA) were used to maintain the anonymity of the three organisations. This approach enabled the participants to be open and frank on sharing their personal beliefs and experiences.

#### **4.7 Methodological Rigour**

Building rigour into the research design is an issue which a researcher should respond to (Gray, 2009, Mayan, 2009; Darke *et al.*, 1998). Dubé and Paré (2003, p. 599) stress that a quality IS research “has to pass the tests of scientific rigour”. This involves addressing issues related to the quality of the research design (Yin, 2009). This issue is even critically important with case study research (Barratt *et al.*, 2010; Yin, 2009; Voss *et al.*, 2002), in which data is generated from either limited or particular samples or situations (Gray, 2009). Yin (2009) specifically lays out criteria for judging the quality of research in terms of construct validity, internal validity, external validity and reliability. However, other researchers highlight that trustworthiness is more important than concerns with validity and reliability in interpretive inquiry (Mayan, 2009; Sarantakos, 2005). For example, Guba and Lincoln (1994) argue that qualitative research demands different criteria for evaluation and quality judgments than those used for quantitative research. They suggest the use of credibility, dependability, conformability and transferability. Nevertheless, the ‘labels’ of these criteria have been revised several times (Mayan, 2009), and thus, there is no agreement amongst researchers with regard to the way of looking at the concept of rigour in qualitative research (Lee and Lings, 2008). As

Roulston (2010, p. 201) points out that “there is no consistency in the terms used in relation to the assessment of ‘quality’ of qualitative interview research”.

Despite this endless debate and conflicting opinions with regard to the set of criteria for ensuring methodological rigour and soundness of qualitative research, the researcher followed the advice of Long and Johnson (2000, p. 31) who argue that validity and reliability have “the same essential meaning” as trustworthiness irrespective of research tradition and “nothing is gained by changing labels”. Similarly, Morse (1999) points out, that it is a ‘myth’ to claim that reliability and validity are not relevant to qualitative inquiry. In this study, the researcher employed the framework suggested by Maylor and Blackmon (2005), which is shown in Figure 4.2, for assessing the quality of this research. Below (Sections 4.7.1 to 4.7.4), reliability, validity, credibility and generalisability were addressed; the criteria against which the rigour and the goodness of this interpretive, qualitative research were judged.



**Figure 4. 2:** A framework for assessing the quality of qualitative research

Source: Maylor and Blackmon (2005)

### **4.7.1 Reliability**

The first criterion is reliability which implies consistency (Oates, 2006). A study is reliable if it is possible to repeat it and achieve the same results (Gray, 2009). According to Collis and Hussey (2009) reliability is a condition in which the same results will be achieved whenever the same technique is repeated within the same study. So if the study was to be repeated with the same participants and under the same conditions using the same or similar methods, the results of the study would be the same (Burns, 2000). Baily (2007, p. 184) writes that “reliable questions are those that, regardless of when they are asked, elicit the same responses from interviewees. Reliable respondents are those who provide consistent answers. The conclusion is reliable if different researchers draw similar ones from the same data”.

In this study, the following several strategies were adopted in order to enhance the study’s reliability and to reduce possible biases in the research:

- Generated a case study protocol for collecting data. This ensured that standard procedures were followed in all cases.
- Recorded data was transcribed in full, directly following each interview in an effort to ensure as much accuracy as possible in terms of interpretation. The transcripts were carefully checked to make sure that they did not contain obvious mistakes made during the transcription.
- Creating a structured case study database to store empirical data from the entire interviews, documents reviews and observations process. This ensured that the fieldwork data was collected and impressions of the participants were noted and stored in a systematic way and that it was logically ordered.

### **4.7.2 Validity**

Validity refers to the correspondence between what is reported and the social phenomenon under study (Mayan, 2009). It is the extent that the researcher investigated what was intended to be investigated or “collected the right data from the right sources” (Oates, 2006). Researchers achieve validity when they are able to

produce an accurate representation of the setting (Bailey, 2007). It has been argued that qualitative studies have high validity because of their in-depth and contextualised nature (Gray, 2009). In this study, validity was strengthened through the following strategies:

- Prior to the fieldwork, the interview questions were reviewed and checked by two experts, one academic in the IS field and the other one is from the IS/IT industry.
- Clear and detailed explanation of the study aim, objective and significance was provided to the participants through e-mails in setting up appointments and at the beginning of the interviews.
- The researcher managed to engage and spend a around one month of time in the work settings of each of the three organisations in order to become familiar with the people participating in the research and to be able to observe their everyday situations, routines and any unusual events. Extensive effort was made to take notes and record events and behaviours. This prolonged engagement enabled the researcher to avoid making grandiose interpretations based on limited contact. In addition, it allowed the researcher to develop an in-depth and comprehensive understanding of the knowledge transfer process.
- Multiple methods (semi-structured interviews, observations and documents, including the websites and the internal publications of the three organisations) for collecting the data of this research were used, which permitted the researcher to achieve triangulation. In the semi-structured interviews, data from three hierarchical levels within the IS divisions of the three organisations were also collected in order to encourage a divergent line of inquiry and provide multiple measures of the phenomenon understudy, and therefore the findings and conclusions of this study are likely to be more accurate and convincing.
- The researcher established and maintained a chain of evidence. This enables external observers or reader of the case study report “to follow the derivation of any evidence from initial research question to ultimate case study conclusions” (Yin, 2009, p. 122) and to verify it for logic, flow and clarity.

- The initial drafts of each of the case study reports were e-mailed to some key participants of the three organisations in order to verify them for accuracy and to review them for comments, amendment, and further feedback and clarification where necessary. As Yin (2009, p. 183) highlights, the review of the draft of the case study report “produces further evidence, as informants and participants may remember new materials that they had forgotten during the initial data collection period”. This approach is a very valuable means of guarding against the researcher’s bias.

### **4.7.3 Credibility**

Credibility is concerned with the ability of the researcher to present the findings of the study in a way that gives a sense that they are sound and robust (Maylor and Blackmon, 2005). It is vital that a researcher provides adequate evidence in order to support any arguments or contentions made within the research findings (Myers, 2009). Lee and Lings (2008, p. 237) argue that some striking raw data collected from the fieldwork need to be included in the research write-ups in order to “allow the reader to get a better picture of the respondents’ own concepts and categories, without relying solely on the interpretation of the researcher”. Establishing the credibility of this research was achieved though adopting the following techniques:

- Using key verbatim quotations expressed by some research participants in supporting the arguments in each case report.
- Verifying facts through multiple data sources: including semi-structured interviews, observation and documents.
- Using multiple-informants design in the semi-structure interviews.

### **4.7.4 Generalisability**

Generalisability addresses the issue of whether the findings of the study can be generalised beyond the study itself (Boeije, 2010; Yin, 2009). According to Robson (2002, p. 93), generalisability is “the extent to which the findings of the inquiry are

more generally applicable outside the specifics of the situation studies”. Qualitative case study research is usually focused on the contextual uniqueness of the social world or the research situation and seeks to understand the phenomenon of interest in-depth. Statistical generalisation is not usually sought in multiple case studies (Robson, 2002). As Punch (2005) emphasises the objective of case study research is “not to generalise, but rather to understand the case in its complexity and its entirety, as well as in its context”. Klein and Myers (1999, p. 75) further highlight that the intention of conducting interpretive case study research is to understand the phenomenon, abstract the essence and relate those to “ideas and concepts that apply to multiple situations” of similar nature. In this study, the researcher adopted the ‘replication logic’ in the multiple case study approach suggested by Yin (2009). The purpose of using the replication logic is to replicate the initial case, carrying out further investigation in an area suggested by the first study, or complementing the first study by focusing on an area not originally covered (Yin, 2009). This process is often referred to as analytical or theoretical generalisation (Yin, 2009). According to Lee and Baskerville (2003, p. 236), theoretical generalisation is the process of “generalising from empirical statements to theoretical statements”.

## **4.8 Chapter Summary**

This chapter provided an overview of various methodological approaches that have been utilised within the IS field, and then selected appropriate ones for guiding and presenting this particular research. Primary emphasis was placed on selecting approaches that are effective at capturing and preserving the depth and richness of the data throughout the research process.

An overview of the three research paradigms (positivist, interpretive, critical) that exist in IS research was provided in order to decide that the interpretive stance should be the philosophical foundation for this research. Adopting an interpretive stance allowed the researcher to take a more holistic and comprehensive view of the phenomenon and all the complex relationships within it. Moreover, it enabled the researcher to interpret and make sense of the meaning the participants attach to their experiences and relationships with the vendors. Following this, an overview discussion on quantitative and qualitative research approaches and a justification that a qualitative approach would be more appropriate than a quantitative one were

provided. The qualitative approach enabled the researcher to interact more closely with the participants, and to explore issues of meaning and interpretation that they apply in their organisational activity. It was decided that multiple case study design was the most appropriate strategy for this research. The data collection methods that were employed included semi-structured interviews, non-participant observation and documents analysis. This enabled the researcher to appropriately capture the views, values, opinions, experiences, thoughts, attitudes, beliefs and knowledge of the participants. The qualitative content analysis was judged to be the appropriate technique for analysing the data. The issues related to ethical considerations and methodological rigour were discussed at the end of this chapter.

As this chapter presented and justified that the interpretive, qualitative multiple case study was the approach adopted for this study, this now sets the stage for the presentation and reporting of the key findings of the empirical work from the three cases in the following chapter.



## CHAPTER FIVE: MULTIPLE CASE STUDIES: ANALYSIS AND FINDINGS

### 5.1 Introduction

The preceding chapter discussed and justified the research methodology adopted for this study. The intention of this chapter is to present the findings from the analysis of the three case studies. Based on the ‘case descriptions’ strategy suggested by Yin (2009), the researcher analyses here the three stories of knowledge transfer in information systems (IS) outsourcing revealed from three public sector organisations in Oman. As noted in the previous chapter, the research inquiry were approached by adopting an interpretive worldview and, consequently, the researcher attempted to understand this phenomenon in terms of the meanings the participants bring to them based on their actual experiences in various IS outsourcing projects.

This chapter is divided into four sections, including this introduction. Section 5.2 presents an overview about Oman and its public sector; the context within which the selected three organisations are embedded. This section describes the social, economic and technological development in the country and briefly highlights the IS outsourcing market. It also justifies the rationale for choosing Oman as the context for this research. Section 5.3 provides detailed analysis and descriptions of each of the three cases. The descriptions emerged mainly from the examination of the data obtained from semi-structured interviews, observations and documents analysis. Section 5.4 summarises this chapter.

### 5.2 Overview of Oman

The Sultanate of Oman (hereafter, Oman) is a developing country which enjoys a strategically important geographical location in the south-east of the Arabian Peninsula (Al-Gharbi and Ashrafi, 2010; Al-Hamadi *et al.*, 2007). Oman shares borders with Saudi Arabia to the west, the United Arab Emirates to the north and Yemen to the southwest (Ministry of Information – Oman, 2011a). The country shares control of the Strait of Hormuz (the Gulf’s key gateway) with Iran. Oman has

a land area of about 309,500 square kilometres with a population of 2,694,094 (Oman Census, 2011). Arabic is the official language but English is widely spoken, especially in the private sector. Figure 5.1 shows the geographical location of Oman.



**Figure 5. 1:** Oman geographical location

*Source:* The Economist Intelligence Unit (2010)

Oman is a member of the six-nation Gulf Cooperation Council (GCC), which was established in May 1981 (GCC, 2009). The GCC states comprise Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and United Arab Emirates. These six countries share similar culture, values, language, history and geographic location (Common, 2011). The GCC's aim is to strengthen ties between the member states and promote coordination; integration and cooperation in various fields including the economy, trade and industry; and to encourage joint ventures, joint research, and other types of cooperation amongst members (GCC, 2009, Al-Wohaibi *et al.*, 2002). Oman is also a member of other regional and international organisations such as the Arab League, the United Nations, World Trade Organisation (WTO), the Organisation of Islamic Cooperation and the Indian Ocean Rim Association (Ministry of Information – Oman, 2011b). Traditionally, Oman's relations with most countries of the world have been warm. The 2011 Global Peace Index (GPI) report placed Oman amongst the most peaceful countries in world. It has been ranked 4<sup>th</sup> in the Arab World and 41<sup>st</sup> among 153 world countries (Times of Oman, 2011a).

The next three sub-sections provide respectively an overview of Oman's social and economic development, technological development and the IS outsourcing.

### **5.2.1 Social and Economic Development**

Oman has achieved a noticeable high level of social and economic development in the last four decades (Al-Gharbi and Ashrafi, 2010; Al-Lamki, 2007). As Common (2011, p. 215-216) notes, "Oman's development over the last 40 years has been swift and remarkable". Likewise, Khan and Al-Moharby (2007, p. 372) describe Oman as "one of the most progressive countries in the Middle East". Omani citizens have been enjoying significant developments in various fields including education, health and other civil service sectors (Goveas and Aslam, 2011; Al-Gharbi and Ashrafi, 2010). All important indicators such as the healthcare system, literacy rate and women's participation in corporate governance indicate steady improvement. As part of the reform of social development, the government has given women equal opportunities to contribute to the country's prospects of economic growth (Goveas and Aslam, 2011; Neal *et al.*, 2005). Today, increasingly, women are entering the labour market (Ashrafi and Murtaza, 2008, Al-Lamki, 2007), and, currently, several of them hold senior government positions, including Ministers, Undersecretaries (i.e. deputy ministers), Ambassadors and Members of the parliament (Metcalfe, 2007). Also, Oman's government has paid close attention to Education and Health. The very recent United Nations Development Programme's (UNDP) 2010 Human Development Report listed Oman at the top of the world's ten leading countries which have made the greatest progress in recent decades in education and public health (Khalil, 2010).

With regard to economic development, the Omani economy has transformed rapidly, and its performance has improved significantly in the last four decades (Goveas and Aslam, 2011, Looney, 2009). Moreover, it has been considered recently by the World Bank as "a regional economic model" (Oman Daily Observer, 2011). The government has been implementing economic reforms and liberalisation policies in order to build infrastructural capacity, increase economic growth and improve its citizens' well-being (Looney, 2009). The national currency of Oman is Riyal (1 Omani Riyal (OMR) = USD 2.58) (Ministry of Information-Oman, 2011c). As at the end of 2010, the Gross Domestic Product (GDP) was OMR 22,243.1 million; and the

country's main revenue comes from oil and natural gas (Ministry of National Economy-Oman, 2011). However, as a result of the fluctuations in the prices of oil, the country is pursuing strategies to diversify its economy in order to reduce its over-reliance on the oil sector (Khan, 2011; Ashrafi and Murtaza, 2008; Budhwar *et al.*, 2002).

Tourism, another source of revenue, is on the rise, and it is “considered mostly capable of providing a suitable source of income and employment” (Al-Masroori, 2006, p. 140). Oman's attractions include a 17000 km coastline, mountains, deserts and the burgeoning capital Muscat, with its forts, ports and palaces (BBC, 2011). Salalah, in the southern part of the country, is characterised by a moderate temperature and green landscape during the summer, providing an opportunity to attract regional tourists who can enjoy a cooling respite during the period when the GCC countries are experiencing their hottest weather (Ministry of Tourism- Oman, 2011). Other popular tourist activities include sand skiing in the desert, mountain-climbing, camel racing, and camping.

### **5.2.2 Technological Development**

With regard to technological reform, the Omani government has realised that informatisation is an important signpost of the degree of civilization and development (ESCWA, 2009). The government emphasises and support education, learning and the acquisition of technical knowledge.

Despite the noticeable gap in the adoption of information and telecommunication technologies (ICTs) in Arab countries compared to developed countries (Nour 2002), Oman has made a noticeable effort by constructing policies and procedures to encourage and support the use of ICTs for the purpose of transforming the country into a knowledge-based society (ESCWA, 2009; Al-Wohaibi *et al.*, 2002). As Naqvi and Al-Shihi, (2009) explain, the country has been playing a strong role in developing the necessary infrastructure and promoting greater use of ICTs (including the internet) in order to direct the country towards becoming a sustainable knowledge-based economy and achieving the types of benefits being enjoyed already in most of the industrialised world.

The Global Information Technology Report 2010–2011, the most comprehensive assessments of ICTs readiness, ranks Oman 41<sup>th</sup> out of 138 countries, realising ”an impressive nine-place jump” compared to the previous report (Dutta and Mia, 2011, p. 28). According to Ali (2011), “Oman made the biggest progress among GCC states, having advanced nine notches to secure 41<sup>st</sup> ranking worldwide”. In this report, Oman is placed 22<sup>nd</sup> in government prioritisation of ICTs and 11<sup>th</sup> in government procurement of advanced technology products. The report also places Oman in 10<sup>th</sup> position in respect of the utilisation of ICTs to improve the country’s overall competitiveness, and 19<sup>th</sup> in the assessment of the government’s success in promoting ICTs.

The government has embarked on various large scale projects and initiatives aimed at expanding the ICTs infrastructure in the country (ESCWA, 2009). The establishment of the technology park called ‘Knowledge Oasis Muscat’ (KOM) is playing an important role in fostering the development of ICTs in the country. KOM is creating an ideal environment which brings together from industry niches various ICTs-based enterprises such as software development, m-commerce, IS security and call centres. Today, several leading IS/IT multinational companies (MNCs) such as Microsoft, Oracle, HP, Motorola and NCR have offices in KOM. KOM is also the home of ‘The Knowledge Mine’ (TKM), an affordable facility of incubators for high-tech start-ups; and entrepreneurs who wish to start up offices with the mission of growing ICTs-based businesses. KOM provides infrastructural, administrative and technical supports to such entrepreneurs to enable them to turn their innovative ideas into market-leading companies (KOM, 2011). The government provides businesses in KOM with most attractive packages and internationally competitive incentives, including up to 100% foreign ownership, duty-free importation of hardware equipment, conference rooms and high speed internet access (ESCWA, 2009).

In 2002, the government established the Telecommunication Regularity Authority (TRA) with an aim “to liberalise and promote the telecommunication services” in the country..... and “ensuring that consumers receive world class telecommunications services, with world range of choices at affordable prices” (TRA, 2010, p. 13). In the same year, the government also launched an ambitious strategy called “E-Oman” with the aim of utilising ICTs to significantly improve the quality of services which

the government provides to its citizens and businesses. According to ESCWA (2009), the E-Oman strategy focuses on the following areas:

- Streamlining Government services to citizens and businesses
- Creating and nurturing knowledge-based industries
- Developing a local ICTs sector
- Supporting a more competitive environment
- Providing employment for Omani youth
- Enabling better healthcare
- Improving educational opportunities
- Supporting tourism sector
- Enhancing social development using ICTs
- Making Oman a more attractive destination for foreign investment and more conducive for businesses

The government has recently introduced the “Sultan Qaboos Award for Excellence in E-Government” (Information Technology Authority-Oman, 2011a). The award honours IS projects, implemented by government organisations, which deliver exceptional innovation and achievement in E-Government services (Al-Riyami, 2011). The award has five categories namely, E-Content, E-Service (Government to Government, Government to Business, and Government to Citizen), E-Readiness, E-Project and E-Economy (Information Technology Authority-Oman, 2011a).

Recently, the government has also introduced the “National PC initiative” which aims to encourage its citizens to become computer literate and to promote the use of computers (Information Technology Authority-Oman, 2011b). Each Omani beneficiary family, which is eligible for social insurance and has one or more children in the K-12 school system are given a free laptop and, in these families, grant one free personal computer per student who is enrolled currently in higher education studies. The initiative also includes subsidy of the cost of a personal computer for students of higher education enrolled in the first year of study, as well as teachers who are graduates of the Government IT Training and Certification (GITTC) project (GulfNews, 2010). The beneficiary families are also entitled for one year free internet access provided by one of the country’s leading internet service providers (Times of Oman, 2011b).

### 5.2.3 IS Outsourcing in Oman

Outsourcing of IS in Oman, as the rest of the world, has become a business practice which has been growing a pace in the last few years (Al-Gharbi *et al.*, 2009, Ashrafi and Murtaza, 2008; Alharthy, 2007). As noted earlier, this booming in IS outsourcing is a result of the many IS projects and initiatives which the government have undertaken in recent years. IS outsourcing has become a prominent strategy and is assumed to bring several advantages for client organisations in Oman's public sector beyond simple cost saving (Al-Gharbi *et al.*, 2009). Firstly, it enables client organisations to have access to specialised, state-of-the-art technologies which, supposedly, are supplied to them by vendors. Another benefit of outsourcing is the reduction in the risk of obsolescence since a client organisation avoids becoming outdated as a result of the fast pace of change in information technologies. Increasingly, IS outsourcing has become also an important business strategy for knowledge transfer and learning. The study of Al-Gharbi *et al.* (2009, p. 5) on IS outsourcing in Oman, reveals that the majority of the public sector organisations in Oman lack technical and business knowledge and the skills required to develop "reliable and robust applications in a reasonable time". Another study by Ashrafi and Murtaza (2008) on the impact of ICT on Oman' SMEs reports that 57% of SMEs which participated in their study transferred new knowledge and skills from vendors during IS outsourcing projects.

### 5.2.4 Justifications for Choosing Oman as the Context of the Study

Oman is perceived to be an appropriate context for studying knowledge transfer in IS outsourcing for multiple reasons. Oman of today stands out as one of the most successful transitional economies in the Arab world, and its public sector has been at the forefront of adopting contemporary information systems. The increasing demands of the Omani citizens and businesses for faster services but lower costs created pressure for public administrators to adopt IS solutions and e-government initiatives for efficient and more effective service delivery. In the last few years, many government agencies have taken steps toward implementing e-government.

Nevertheless, the majority of organisations in Oman's public sector have a high demand for a cadre of IS professionals with knowledge and skills in technology, business operations, management, and interpersonal skills which enable them to

function effectively in today's ever-changing technological and business environments.

In recent years, as noted earlier, the public sector of Oman has witnessed a total expansion in IS outsourcing, with contracts varying in type, length, and price. IS outsourcing ventures have provided opportunities for organisations to engage in various knowledge transfer activities, which allow their internal IS professionals to gain access to and transfer superior technical and business knowledge which is hard to develop within the premises of their own organisations.

After providing background information about Oman, the context of this study, the next part of this chapter presents the analysis of the three case studies.

### **5.3 Case Studies Analysis**

The following sub-sections present descriptive analysis of each case independently. This is referred to as "within-case analysis" (Yin, 2009; Miles and Huberman, 1994; Eisenhardt, 1989). According to Eisenhardt (1989), the use of within-case analysis helps the researcher to overcome the problem of coping with massive amounts of data by putting more focus on each case for which a detailed write-up is produced. Eisenhardt (1989, p. 540) further states that within-case analysis "allows the unique patterns of each case to emerge before investigators push to generalise patterns across cases". Within-case analysis involves the detailed case study write-up for each site in order to become intimately familiar with the contextual elements of each case as a stand-alone entity (Miles and Huberman, 1994).

As noted in the previous chapter (Chapter Four), it has been decided to present the analysis of the cases in a way that disguises as much as possible the identities of the organisations and individuals. Therefore, the organisations' names are kept anonymous and pseudonyms are used instead. Each case analysis follows the format outlined in Table 5.1.



1	Case Background
2	IS Outsourcing <ul style="list-style-type: none"> <li>▪ Motivations for IS Outsourcing</li> <li>▪ IS Projects Outsourced</li> </ul>
3	Knowledge Transfer
4	Factors Impacting Knowledge Transfer Success <ul style="list-style-type: none"> <li>▪ Knowledge Factors</li> <li>▪ Client Factors</li> <li>▪ Vendor Factors</li> <li>▪ Relationship Factors</li> <li>▪ Knowledge Transfer Mechanisms</li> </ul>
5	Case Summary

**Table 5.1:** Case analysis format

The background to the case provides a description of the organisation involved and its IS division. It also offers a brief description of the individuals who participated in this research. The second section provides information on the IS outsourcing activities, the key drivers for outsourcing IS and the main functions which were outsourced to external vendors. The third section addresses how knowledge is transferred in IS outsourcing. The fourth section presents an analysis of the key factors that facilitated or inhibited knowledge transfer in IS outsourcing. The fifth section provides a brief summary of the case.

### 5.3.1 ALPHA

#### *a) Case Background*

ALPHA is a public municipality which is located in Muscat, the capital of Oman. It provides to Muscat's people and businesses various services such as building permits, road and city maintenance, health and technical inspections, public parks maintenance, festivals events and waste management.

ALPHA invested heavily in ICTs as it sought to improve its internal efficiency and to deliver quality and transparent services to citizens and businesses. ALPHA had been well-positioned in the public sector through the utilisation of new technological innovation and the introduction of new e-government services. Several municipal

services which were highly bureaucratic and traditionally provided through face-to-face contacts, by phone or by post are delivered electronically now using the internet or other digital means. For example, citizens can now electronically apply for building permits, renew rent contracts and pay parking violation penalties. The municipality's website is also empowering citizens to seek information at their own convenience and not only when the municipality offices are open.

Recently, ALPHA has won two awards within the 'Sultan Qaboos Award for Excellence in E-Government'. ALPHA's portal was awarded for its E-Content and the E-Building Permit project was considered the best Government to Business (G2B) service conducted online.

The information systems (IS) division at ALPHA has been considered as one of the largest of its type in the public sector of Oman. The division is headed by a director general for IS. There is also a deputy director general for IS. Additionally, there are one administrative and three main technical departments within the division. Each department has multiple sections.

Ten IS employees were interviewed from three hierarchical levels within the IS division of ALPHA as shown in Table 5.2 below. Documents such as outsourcing contracts, training materials, newsletters and copies of relevant e-mails were collected. The municipality's web site was viewed for additional evidence. This was to augment the data collected by interviews and build up a richer picture of the phenomenon being studied.

	Hierarchical level	Job Title	Number of participants
<b>ALPHA</b>	Senior IS Managers	<ul style="list-style-type: none"> <li>▪ Acting director general for IS</li> </ul>	1
	Middle IS Managers	<ul style="list-style-type: none"> <li>▪ Deputy director for technical support</li> <li>▪ Deputy director for applications development</li> <li>▪ Head of IS projects</li> </ul>	3
	Junior IS Staff	<ul style="list-style-type: none"> <li>▪ IS developers (2)</li> <li>▪ IS security specialist</li> <li>▪ CRM specialist</li> <li>▪ Networking engineer</li> <li>▪ Senior programmer</li> </ul>	6
	<b>Total</b>		

**Table 5.2:** Interviewees of ALPHA

***b) IS Outsourcing***

ALPHA had decided to outsource several of its IS functions for multiple objectives. Firstly, ALPHA lacked certain technical knowledge and specialised skills in house, and few IS staff had the adequate technical experience and competency to handle sophisticated IS projects that the organisation had been undertaken. Consequently, outsourcing relationships were found to be the ideal platforms to engage in learning and knowledge transfer activities. Outsourcing enabled ALPHA's IS staff to gain access to specialised computing and system development skills. Another driver for outsourcing was gaining access to new technologies which were not available in house, enhancing the organisation's capability to offer new products and services, and reducing capital costs. According to the acting director general for IS:

*“IS outsourcing has been increasing in our organisation in the last few years due to the expansion of the e-services that we are offering. Well-established and maintained outsourcing relationships provided us with opportunities to gain access to knowledge and technical expertise relating to system functionality and implementation”.*

ALPHA established IS outsourcing relationships with several local IS vendors. IS functions which had been outsourced were networking, application development, hardware support and maintenance and security. Vendors were chosen for a variety of reasons, including prior relationship with the organisation, the vendor's prior experience with a given type of application and capability for knowledge dissemination.

***c) Knowledge Transfer***

As noted in the previous section, knowledge transfer was one of the key motives for IS outsourcing in ALPHA. ALPHA's IS division found outsourcing projects provided opportunities to identify and transfer new knowledge and to learn from experienced vendors. The acting director general for IS in ALPHA commented:

*“As technology experts within our organisations, IS staff are expected to stay abreast of technical knowledge and cutting-edge technologies and continually acquire and develop new knowledge and skills, so they are able to make assessment, troubleshoot technical problems and provide adequate advice to users. One of our objectives of IS*

*outsourcing is to acquire new technical and business skills from the vendors and try to apply them to our business”.*

All the IS middle managers who participated in this research stressed the importance of appreciating the knowledge offered by vendors and of using its value. For example, the head of IS projects reported:

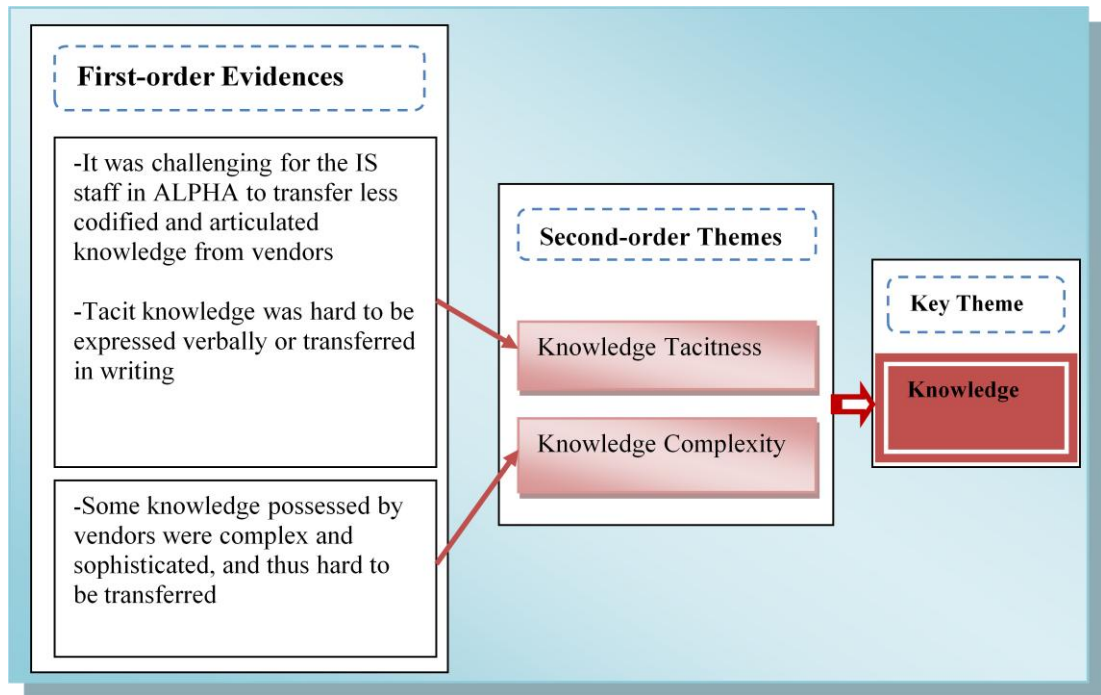
*“.....as technology is moving so fast, it becomes so critical to catch up with latest and updated knowledge and skills. Outsourcing vendors are one important source of such vital knowledge. They hold specialised technical knowledge that is not available or hard to develop within our organisational boundary”*

One of ALPHA’s leading IS outsourcing projects was the SMS (short messaging service) parking system which allows motorists to pay parking fees using their mobile phones. The system was outsourced to a local vendor. ALPHA’s IS team worked closely side by side with the vendor’s technical team during the whole system development life cycle. This close relationship with the vendor enabled ALPHA’s IS team to obtain access to state-of-the-art technology and up-to-date knowledge and expertise which were difficult to develop in house.

ALPHA’s knowledge transfer from vendors is affected by several factors as presented and discussed below.

- ***Knowledge Factors***

The analysis of the interviews revealed that there were two main types of knowledge factors which affected knowledge transfer during the IS outsourcing projects. These are knowledge tacitness and knowledge complexity as shown in Figure 5.2 and discussed below.



**Figure 5.2:** ALPHA – knowledge-related factors impacting knowledge transfer success

A vast majority of the participants in ALPHA explained that explicit knowledge was transferred easily in reports, documentations and codes. However, very crucial technical and business knowledge were mostly tacit and took time and efforts to be acquired from outsourcing vendors. According to the acting director general for IS:

*“The effectiveness of knowledge transfer highly depends on the tacitness of the transferred knowledge. Tacit knowledge is often hard to be transported and absorbed and requires time and resources to be acquired”.*

Knowledge complexity was another inhibiting factor which most of the participants echoed during the interviews. It was revealed that knowledge complexity and sophistication restrained knowledge transfer. ALPHA’s deputy director for applications development commented:

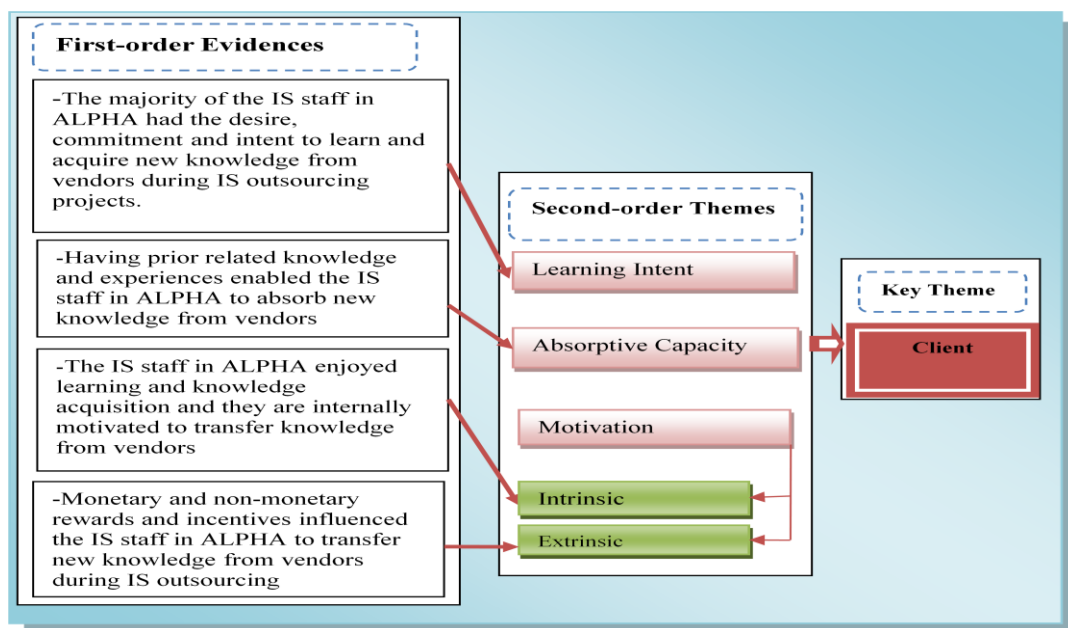
*“The characteristics of knowledge being transferred from vendors affect the ease and success of knowledge transfer. Some knowledge was really complex”.*

The IS security specialist also explained how knowledge complexity had a significant negative impact on comprehension and the transfer of knowledge from vendors. He stated:

*“Some technical knowledge is so complicated because they are often embedded in people and therefore hard for us to fully understand and acquire”.*

▪ **Client Factors**

The analysis of the data revealed that the success of knowledge transfer was also affected by the client’s characteristics (in this case ALPHA’s IS division). Figure 5.3 illustrates that learning intent, absorptive capacity and motivation were the three key factors which impacted on successful knowledge transfer.



**Figure 5.3:** ALPHA – client- related factors impacting knowledge transfer success

The learning intent of the individuals in ALPHA to acquire knowledge and learn from vendors was highlighted as one of the main facilitators for successful knowledge transfer. ALPHA’s acting director general for IS emphasised the importance of entering into an outsourcing relationship with an intention to learn and search for new knowledge which was not available in house. He commented:

*“Intention to learn is an important predictor of the extent and quality of knowledge transfer. Indeed, higher learning intent will lead to more gains in knowledge”*

The vast majority of the junior IS staff looked at outsourcing projects as opportunities for searching for knowledge which was difficult to develop in house.

They had a determination to acquire and learn a certain amount of knowledge and skills possessed by the vendors. One of the IS developers stated:

*“Most of the outsourcing vendors possess crucial knowledge that we look forward to search for those that are important and appropriate for us. For me, outsourcing is a learning environment and opportunity for skills development”*

Absorptive capacity was one of the most important factors influencing successful knowledge transfer. The absorptive capacity of an individual has proven to be related centrally to the person’s previous knowledge and experience. Most of the participants acknowledged the importance of having prior related knowledge and accumulated skills in order to acquire new knowledge successfully. Past transfer experiences with similar types and applications of knowledge, which were similar to new knowledge confronted learning and enhanced further that person’s absorptive capacity. The customer relationship management (CRM) specialist noted:

*“My prior experience with the CRM system enabled me to be more comfortable to understand and transfer new implementation knowledge offered by our CRM vendor”.*

Motivation was identified as an important factor which facilitated the transfer of knowledge from vendors. All the senior and middle IS managers agreed that motivation was essential and it was an enabling factor to transferring knowledge successfully. When asked about what kinds of motivation were needed to facilitate the transfer of knowledge from vendors, most of the middle managers reported that extrinsic motivation, especially through monetary compensation was vital and necessary for the knowledge transfer to be successful. The deputy director for technical support commented:

*“Ya [Yes], money is important especially for IS employees in the public sector due to lower salary in comparison to the private sector”.*

The acting director general for IS also stressed, on the other hand, the importance of intrinsic motivation. He also highlighted that the establishment of a motivating work environment was essential during IS outsourcing projects. He commented:

*“Motivation is central to [knowledge] transfer success. Employees need to be self-motivated and find ways to do things they like and enjoy. It is also critically essential to create a knowledge transfer and learning culture for IS employees during outsourcing projects in order to boost their capability to utilise and acquire important knowledge from vendors”.*

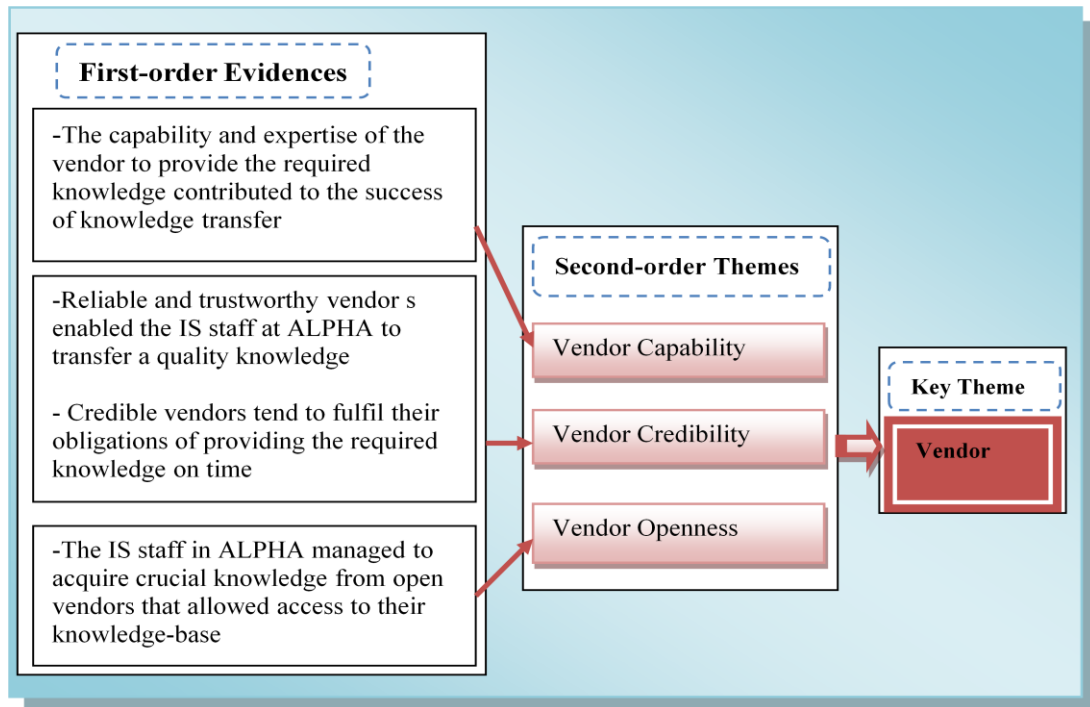
The researcher asked the junior IS staff to elaborate on the impact of motivation on successful knowledge transfer during outsourcing projects. They all shared similar perceptions regarding the importance of receiving financial incentives and recognition of consistent learning and bringing new skills to the organisation. However, some of the junior IS staff were concerned that in their organisation the financial incentives were so limited, and sometimes this limited their intention to spend extra time and effort to learn and acquire new knowledge.

It seemed clear that both extrinsic and intrinsic motivations were essential for ALPHA’s IS employees, since both types of motivation tended to increase enthusiasm; optimise a passion to transfer new knowledge and learn from vendors.

▪ ***Vendor Factors***

In interpreting the empirical data, it appeared that almost all the participants shared the same perceptions and views regarding the importance of working with vendors which were capable, credible and transparent. Therefore, the analysis revealed that vendor capability, credibility and openness were three key factors which impacted on successful knowledge transfer in ALPHA’s IS outsourcing as shown in Figure 5.4 below.





**Figure 5.4:** ALPHA – vendor-related factors impacting knowledge transfer success

The participants stressed that vendor capability was essential for effective knowledge transfer in IS outsourcing. They highlighted that a capable vendor which possessed significant operational capabilities, such as human resources, process management, and client relationship capabilities could generate value and transfer knowledge successfully. The head of IS projects explained the criteria for choosing an outsourcing vendor; he stated:

*“... we are very selective when it comes to choosing an outsourcing vendor. We carefully look at the history of the company and its market reputation. We even request the CV’s of all members of the technical team in the RFP [request for proposal]”.*

Highly experienced and competent vendors which maintained the capability to disseminate knowledge and best practices were perceived to be vital for successful knowledge transfer in IS outsourcing. The CRM specialist also commented on his team experience with various outsourcing vendors:

*“The presence of capable IS professionals within vendors which have the specific domain expertise was critically necessary to accomplish the knowledge transfer. We*

*really struggled to acquire a quality knowledge from vendors with novice or low quality of technical staff”.*

Vendor credibility was highlighted by the participants as a key element for successful knowledge transfer. The perceived trustworthiness of vendors was found to influence the likelihood of ALPHA’s IS employees accepting knowledge. The deputy director for applications development expressed:

*“... once we perceive the vendor as credible and trustworthy, we would be less suspicious about the quality of the knowledge and we would be more likely to be receptive to the knowledge”.*

All participants viewed trust as the foundation for successful knowledge transfer. The Networking engineer asserted that:

*“Knowledge transfer is likely to be more successful when the vendor is credible and trustworthy. In my opinion, vendor trustworthiness tend to foster our ability to get access to valuable knowledge”.*

On the contrary, most of the participants perceived less credible vendors to be likely to act in an opportunistic manner by not allocating the resources required to support knowledge transfer.

For many individuals in ALPHA’s IS division, the role of vendors’ openness was critical for successful knowledge transfer. Most of the participants reported that the success of knowledge transfer was highly dependent on the willingness of the vendors to share their crucial knowledge. The head of IS projects commented:

*“Knowing that a particular individual within the vendor has valuable expertise is important, but their knowledge is really helpful only if they are accessible. Some individuals fear of losing ownership and privilege of technical knowledge”.*

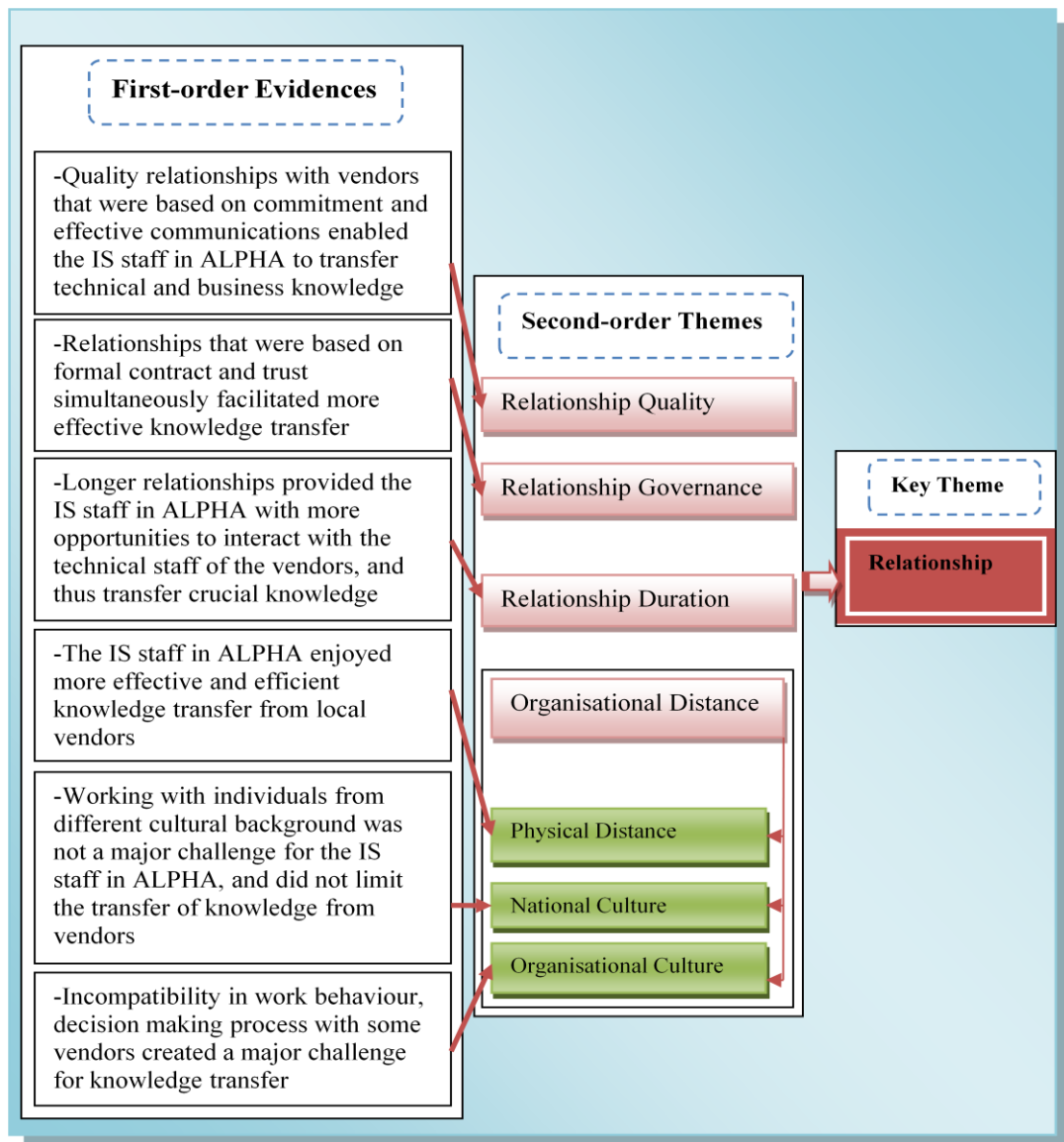
The senior programmer expressed her view and perception about her experience with the vendor which had developed the SMS parking system:

*“.....they have also shown us a significant commitment and tremendous willingness to share their expertise and knowledge. I worked with two Java experts*

*and they were very transparent and I did not feel that they wanted to protect any crucial knowledge or hide it from me”.*

▪ **Relationship Factors**

The interpretation of the data collected from semi-structured interviews and ALPHA’s documents indicated that the effectiveness and the efficiency of knowledge transfer were highly dependent on certain factors concerning the relationship between ALPHA and its outsourcing vendors. These factors include relationship quality, relationship governance, relationship duration and organisational distance as shown in Figure 5.5.



**Figure 5.5:** ALPHA – relationship-related factors impacting knowledge transfer success

Relationship quality was one of the most frequently mentioned facilitating factors for knowledge transfer in IS outsourcing. It was found that the managers at ALPHA's IS division were very keen to establish cooperative relationships with the vendors which were based on effective communication and commitment. For example, the acting director general for IS argued that a quality relationship was a vital facilitator for successful knowledge transfer. He commented:

*"...we tend to establish friendly relationships with our outsourcing vendors. In fact, we consider some of them [the vendors] as partners instead of suppliers and this becomes crucial in attaining higher knowledge transfer performance".*

Similarly, the head of IS projects emphasised:

*"We attach great importance to establishing long-term quality relationships with our vendors who are committed to our expectations because this enables us to gain access to specialised technical and managerial expertise that build up our capabilities".*

All the junior IS staff also agreed that their ability to gain smooth access to critical knowledge depended greatly on the level of commitment and the vendors' willingness to allocate adequate time and much needed resources to the outsourcing relationship.

The governance of the outsourcing relationship was found to be also a significant predictor of successful knowledge transfer. The acting director general for IS and the three middle IS managers all agreed that managing the outsourcing relationship by formal 'tight' contract was insufficient in gaining successful knowledge transfer from vendors. Furthermore, they explained that developing informal mechanisms to manage vendor relationships was a complementary component to the establishment of contracts. The deputy director of applications developments said:

*"The uncertainties inherent in information technology and fast changing IT knowledge and skills prevent the possibility of specifying the entire knowledge transfer requisite in a formal SLA [service level agreement]"*

It was found that ALPHA's IS division perceived contractual provisions and commitment worked together in outsourcing engagement in order to enhance the

design and management of contracts which improved the performance of IS outsourcing generally and knowledge transfer in particular. The acting director general for IS explained:

*“Well-crafted contracts are necessary but insufficient for managing outsourcing relationships. We are increasingly using commitment and partnership, to complement the adaptive limit of [formal] contracts for managing the uncertainties embedded in these arrangements and to ensure that crucial knowledge is accessible to our IS staff”*

The duration of the outsourcing relationship was also found to have a significant impact on the success of knowledge transfer. The acting director general for IS commented:

*“As the outsourcing relationship sustains itself over several months or even sometimes years, trust intensifies, attachment with vendors develops and we become more familiar with each other. This enables us to get access to more valuable knowledge”.*

The organisational distance between ALPHA and its vendors was also found to have an impact on the success of knowledge transfer. It was identified that organisational distance consisted of physical distance, organisational culture distance and national culture distance.

All the participants agreed about the importance of the vendor’s physical proximity to knowledge transfer. Most of the interviewees indicated that close proximity promoted the likelihood of communication by increasing the opportunity of face-to-face interaction. In this regard, the acting director general for IS provided the following quote:

*“One of the criteria that we often take into account when selecting an outsourcing vendor is the physical proximity. We believe that close proximity leads to better chance for frequent meetings in which our people gradually become comfortable with vendors, and develop bonds that enable them to learn and acquire knowledge”.*

One of the most important inhibiting factors for knowledge transfer, which was ALPHA’s participants mentioned frequently, was the differences in organisational

culture between their organisation and the vendors. Many junior IS staff reported that organisational culture incompatibility impeded knowledge transfer. The CRM specialist, whom were interviewed, expressed his frustrating of knowledge transfer failures during the CRM implementation which resulted from dissimilar work procedures with the vendor. He commented:

*“It was hard to coordinate several knowledge transfer activities in the CRM project because of the entirely different ways in which we and the vendor operate”.*

The acting director general for IS also explained that knowledge transfer could not be achieved effectively when working with a vendor which did not share a common organisational culture which facilitated communication and collaboration. He noted:

*“Organisational cultural differences have the potential to increase transaction costs and reduce knowledge transfer. We spend considerable time on reviewing, clarifying, and resolving the meaning of issues resulting in delays and costly knowledge transfer process”.*

Drawing from the interviews and the document analysis, it was found that ALPHA stressed a more formal and structured style of communication with the vendors. It was understood that whilst vendors preferred to communicate in daily communications by e-mails, the people in ALPHA were instructed to accept only formal letters. This difference in organisational culture was found to be a significant hurdle to effective knowledge transfer.

The researcher also investigated the impact of national culture distance on successful knowledge transfer. Despite that all of ALPHA’s outsourcing relationship had been limited to local vendors, it was understood that a large number of these vendors’ IS employees were expatriates who came from various countries, but mostly from India. The differences in cultural background and language were not perceived to have a significant effect on knowledge transfer during IS outsourcing projects. With regard to this issue, the deputy director for applications development commented:

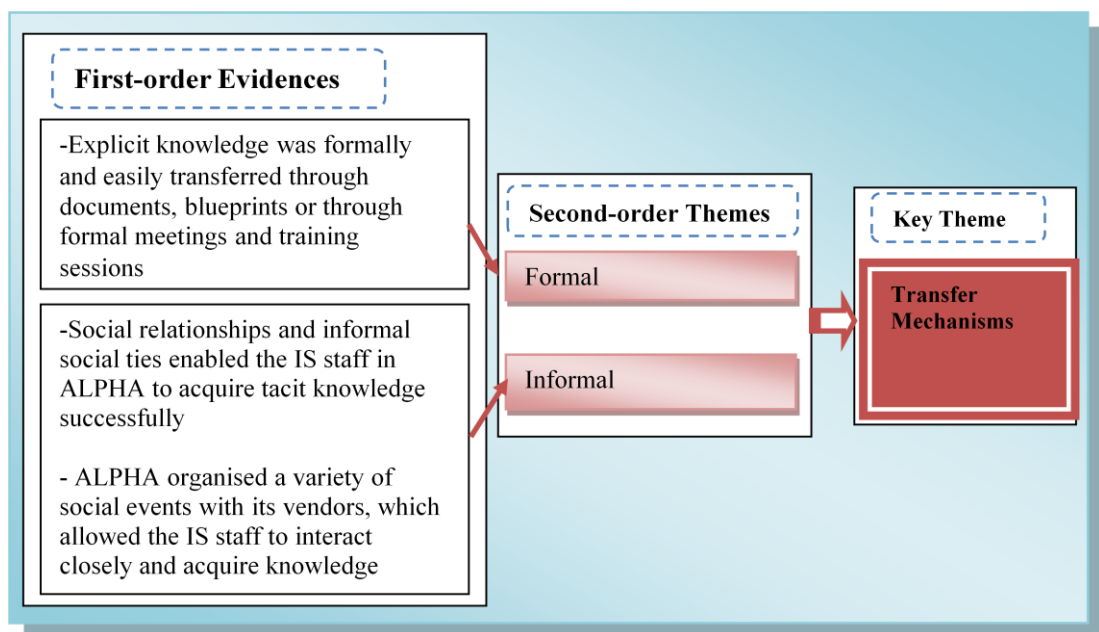
*“Culture and language differences create a challenge for us to interpret certain issues, but rarely hamper our knowledge transfer activities from vendors. Some individuals in the vendors have different beliefs and behavioural norms. This leads them to define situations differently and see issues in different ways”.*

Another comment was extracted from the interview with the senior programmer. She explained her experience with one of the vendors in a recently completed project.

*“Culture incompatibility existed during outsourcing projects as we are working with people from different countries, but we have managed through time to bridge these cultural gaps. I have never experience difficulty to learn and acquire knowledge from a person from different culture”.*

▪ **Knowledge transfer mechanisms**

From the interpretation of the data, it is seen that knowledge transfer success highly depends on the mechanisms that were utilised to transfer knowledge from the vendors as shown below in Figure 5.6.



**Figure 5.6:** ALPHA – transfer mechanisms impacting knowledge transfer success

The majority of ALPHA’s participants indicated that, generally, they employed two main types of mechanisms to transfer knowledge from vendors in IS outsourcing projects. The first type was formal mechanisms which included training sessions, structured workshops and technology-based systems which facilitated the transfer of knowledge. Knowledge shared through formal channels tended to be mostly explicit in nature. However, not many participants were satisfied with such formal

mechanisms and they did not find all of them effective ways for transferring crucial knowledge from vendors. For example, the majority of the junior IS staff were dissatisfied with the online training offered by the vendor on one of the projects and instead, they preferred to have on-the-job training which enabled them to interact directly (i.e. face-to-face) with the vendor's technical staff. One of the IS technician expressed his experience with the online training:

*“The online training was a waste of time. On-the-job training was more effective, whereby I was able to experience different situations, understand it better and acquire knowledge and learn more effectively”.*

The second type of knowledge transfer mechanisms, which most of the ALPHA's participants highlighted frequently, was informal settings such as social ties and networking with individuals in the vendor organisations. Many participants reported that knowledge transfer was facilitated by numerous face-to-face interactions and establishment of close relationships with vendors. This was particularly true when the knowledge sought included a high degree of tacit elements. All the junior IS staff whom were interviewed, agreed that they were able to acquire knowledge more effectively by establishing social ties with individuals on the vendor's side. For example, the networking engineer reported:

*“...it is useful when you know the individual in person and be able to meet with him outside work at less stressful environment. In one of the projects, I gained a great deal of knowledge while discussing our project in a coffee shop in town with one of the software engineers of the vendor”.*

In this regards, the acting director general for IS also commented:

*“Despite the growth in communication technologies, email and instant messaging, continuous on-site visits and face-to-face interactions are still necessary. We build up good relationships with our vendors by organizing joint social activities outside work and having fun together. These informal opportunities to interact with some experts of the vendors helped us to develop respect and friendship, which definitely influences the behaviours of the vendors and therefore improve our learning and acquisition of new knowledge”.*



The above quotes illustrate that during the outsourcing projects there were frequent unscheduled meetings and gatherings outside working hours between the ALPHA's IS staff and vendors' technical experts which created an environment for knowledge transfer to occur.

*d) Case Summary*

Examining and analysing the case of ALPHA's IS division and its experience with various outsourcing projects revealed that knowledge transfer and learning was one of the issues which IS staff often sought to achieve during the course of the venture. However, knowledge transfer was challenging, and its success depended on multiple sets of factors. The nature of knowledge determined its ease or difficulty to be transferred and acquired by ALPHA's IS staff. The majority of the participants argued that explicit knowledge was easier to be captured and transferred through several digestible, formal channels. However, tacit knowledge was relatively difficult to express, and therefore required social capital and close face-to-face interactions to be transferred effectively. The intention to learn accompanied with absorptive capacity and motivation enabled ALPHA's IS professionals to transfer knowledge and learn from vendors effectively and efficiently. The success of knowledge transfer depended also on the characteristics of the vendor. The ALPHA's participants viewed capability, credibility and openness as critical factors for successful knowledge transfer. ALPHA had managed to establish quality relationships with some of its vendors. This enabled ALPHA's IS staff to engage in close and friendly relationships with the vendors' technical teams, and thus transfer knowledge and learn. Engaging in domestic outsourcing relationships characterised by close proximity to the vendors allowed ALPHA's staff to gain access to crucial knowledge more efficiently. Nevertheless, its IS division struggled to transfer knowledge successfully when working with vendors which had dissimilar organisational culture.

### **5.3.2 BETA**

*a) Case Background*

BETA is one of the largest government organisations in Oman which provides various educational services to citizens and schools in the country. It proposes

educational policy and develops plans and educational programmes. BETA is responsible also for ensuring that schools have the resources and support they need to deliver appropriate, high quality and timely educational oriented services to students in Oman.

BETA's IS division is one the largest of its type in Oman's public sector. The division is headed by the director general for information technology (IT). There is a deputy director general for IT and two assistants to the director general categorised as: assistant to the director general for e-services and assistant to the director general for IS. There are four main departments within the IS division namely: department of technical support and operations, department of networking and telecommunications, department of information systems and department of education technologies. Each department has multiple sections.

The main responsibility of the IS division is to provide IS-related services and support to BETA's staff and ensure a stable and reliable electronic working environment within the organisation. The division is also responsible for identifying emerging technologies to meet the organisation's changing needs. In the last few years, the IS division has been investing heavily in electronic services with the potential of improving the quality of services which BETA delivers and allowing citizens to request services and seek information at their own convenience, not only when BETA's offices are open.

Nineteen IS employees were interviewed from three hierarchal levels within the IS division of BETA as shown in Table 5.3 below. All the interviews took place in the participants' own offices, except for two who preferred to meet at coffee shops after working hours. Documents such as request for proposals (RFPs), outsourcing SLAs, training materials and internal newsletters were collected. Organisational web site was also viewed in order to collect additional data. Also, in BETA, non-participant observations were carried out. This enabled us to record the context in which certain behaviours relating to knowledge transfer took place. The augmentation of data allowed the researcher to gain a deeper and more comprehensive understanding of the knowledge transfer process.

BETA	Hierarchal level	Job Title	Number of Participants
	Senior IS Managers	<ul style="list-style-type: none"> <li>▪ Director general for IT</li> <li>▪ Deputy general manager for IT</li> <li>▪ Assistant general manager for E-services</li> <li>▪ Assistant general manager for IS</li> </ul>	4
	Middle IS Managers	<ul style="list-style-type: none"> <li>▪ Director of technical support and operations</li> <li>▪ Director of networking and telecommunications</li> <li>▪ Director of IS</li> <li>▪ Deputy director for telecommunications</li> <li>▪ Deputy director for archive management and E-services</li> <li>▪ Deputy director for IS and databases</li> </ul>	6
	Junior IS Staff	<ul style="list-style-type: none"> <li>▪ Network engineer (2)</li> <li>▪ IS operations team leader</li> <li>▪ Programmer</li> <li>▪ Software engineer</li> <li>▪ Hardware team leader</li> <li>▪ Technical support team leader</li> <li>▪ Web programmer</li> <li>▪ Database administrator</li> </ul>	9
<b>Total</b>			<b>19</b>

Table 5.3: Interviewees of BETA

### *b) IS Outsourcing*

Despite the growing demand for new IS to support education, BETA lacked adequate technical knowledge and expertise to develop and maintain such applications. Therefore, it turned to IS outsourcing in order to gain access to knowledge, technical talents and scarce skills, which the organisation may need to run its IS operations effectively. The deputy general manager for IT commented:

*“Information systems are increasingly becoming complex requiring specialised knowledge that unfortunately does not currently exist in our organisation”.*

BETA recognised its responsibility to utilise fully available ICTs to improve its educational services and to make some of them available to citizens anytime and anywhere. Schools at all levels faced a steeply increasing demand for an IS-based curriculum. In addition, BETA had realised that e-government services was no longer just an option but a necessity in providing a better and effective educational

services to citizens. Consequently, in 2006, BETA signed an extensive ‘mega’ IS outsourcing (near-shoring) contract with one of the leading IS vendors in the Middle East. The project was to develop and implement an electronic educational portal (E-portal) which enabled BETA’s administrative staff and teachers, students and, even, parents to carry out a variety of transactions online. Furthermore, it allowed them to exchange information, ideas, experiences and views electronically on various aspects of the educational process. Through the course of the E-portal development, members of BETA’s IS staff and the vendor’s staff often had the opportunity to engage with each other and work together in achieving common goals. In another major outsourcing project, BETA recently deployed Wireless Local Area Network (WLAN) solutions to enable up to thousands of students to gain access to high-speed Internet and e-learning applications.

These outsourced projects and several others enabled BETA’s IS staff to access various knowledge and industry best practices and learn specialised technical skills which were unavailable internally.

*c) Knowledge Transfer*

The absence of some technical knowledge made it difficult for BETA to respond on its own to new internal and external IS requirements. From exploring the reasoning for BETA’ outsourcing decisions, it was found that access to critical technical and business knowledge was the strongest motivation to seeking outsourcing arrangements. Knowledge transfer during the course of IS outsourcing projects enabled the BETA’s IS staff to utilise the complementary technical know-how and expertise offered by vendors, and obtain access to leading edge technologies and skills which were difficult develop in house. The assistant to the general manager for e-services commented:

*“When outsourcing relationship was formed, valuable learning opportunities often be created for our staff by identifying and transferring valuable knowledge from highly skilled external vendors”*

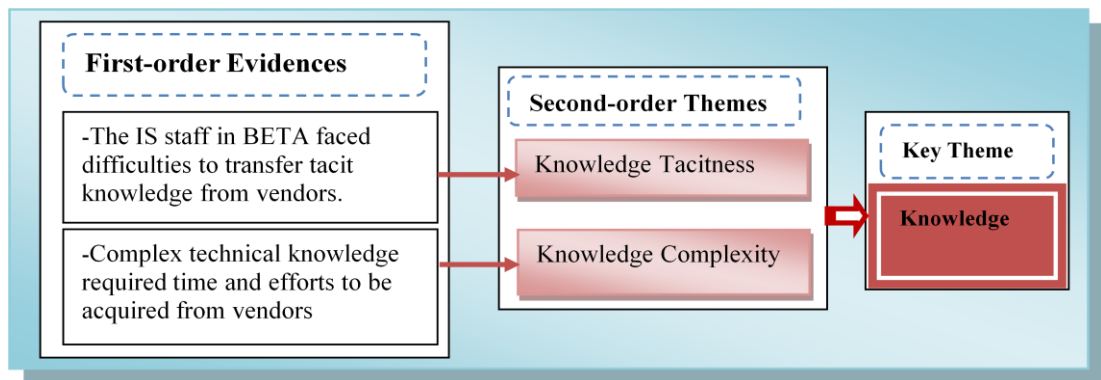
Thus, BETA’s IS staff realised that outsourcing projects presented opportunities to gain access to vendors’ technical expertise and knowledge. The IS operations team leader said:

*“Outsourcing relationships enabled us to transfer crucial knowledge, leverage important skills and best practices and learn from the experience of vendors. Indeed, we benefited from establishing connections with individuals in the vendor organisations and gain access to new expertise and ideas not available within the boundary of our organisation”.*

Despite these realised benefits of knowledge transfer and learning from outsourcing, the BETA’s journey to effective knowledge transfer was not straightforward. The participants perceived several factors which impacted on knowledge transfer success. The following sub-sections present these factors.

▪ **Knowledge Factors**

The characteristic of knowledge being transferred has been perceived by most of the participants in BETA to have a significant effect on the success of knowledge transfer as shown in Figure 5.7.



**Figure 5.7:** BETA – knowledge-related factors impacting knowledge transfer success

When asked about the impact of knowledge tacitness on the transfer of knowledge during outsourcing, they mentioned that successful knowledge transfer was affected by its articulability, or the extent to which knowledge could be verbalised and written. The director of technical support and operations noted:

*“Some technical knowledge can be coded in writing and passed to us, but this is a small part of the required crucial knowledge. We desperately look for important knowledge that resides in the heads of the experts of the vendors. Unfortunately this type of knowledge is tacit and relatively hard to be captured”*

The junior IS staff expressed their opinions and explained to us their experience on how difficult it was for them to gain access to and transfer tacit knowledge during the course of outsourcing projects. The web programmer, whom was interviewed, provided the following comment:

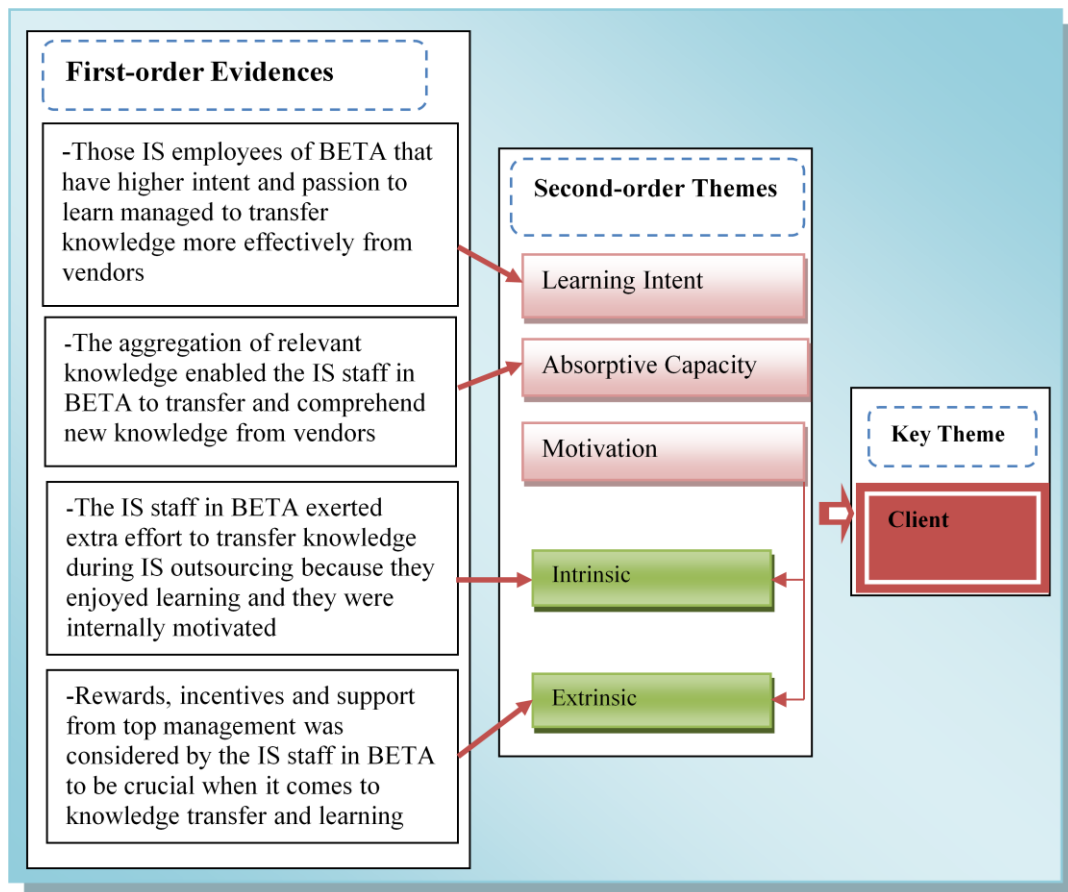
*“It was very delicate and daunting exercise of transferring what is in minds of individuals of the vendor organisations”.*

Knowledge complexity was also identified by the vast majority of the participants in BETA as a major impediment to the success of knowledge transfer in IS outsourcing. Complex knowledge was likely to involve many different components and might be difficult to be acquired from the vendors. Furthermore, knowledge complexity contributed significantly to the failure of knowledge transfer, especially under the circumstances when an individual had a lower le capacity to learn and acquire new knowledge. The database administrator expressed his point of view about the impact of knowledge complexity on knowledge transfer during the educational portal project:

*“Some knowledge was really complex and took time to digest despite attending several presentations and workshops offered by the vendor”.*

- ***Client Factors***

There were certain factors, that are related to the characteristics of the IS staff in BETA, as shown below in Figure 5.8, were found to play an important role in the knowledge transfer process during IS outsourcing projects.



**Figure 5.8:** BETA – client-related factors impacting knowledge transfer success

Firstly, the researcher examined to what extent learning intention contributed to successful knowledge transfer. The analysis of the data collected from BETA, revealed that learning intent was vital, and those IS staff who had a high intention to learn, managed to gain better access to knowledge. In fact, some of the IS staff whom were interviewed perceived outsourcing projects as opportunities for them to develop and upgrade their technical and business capabilities. Consequently, many of them set up plans to search for every opportunity to gain new knowledge including workshops and training courses conducted by the vendors. Additionally, during the observation sessions, the researcher observed several IS staff in BETA having IS-related books using them as references to the projects which they were undertaking. It was clear to us that those individuals were very keen to learn and acquire new knowledge. The general manager for IT stated:

*“The amount of knowledge transferred from vendors is greatly influenced by our people’s intent to learn and seek knowledge. The vendor would not spoon-feed*

*knowledge to us. Our people should have a high intention to search for potentially useful knowledge possessed by vendors”*

The researcher investigated also the impact of absorptive capacity on successful knowledge transfer. The vast majority of the participants indicated that having prior related knowledge was essential to acquiring new knowledge. However, it was found that novices often were unable to appreciate the knowledge offered by vendors. The assistant to the general manager for e-services commented:

*“Our employees vary in their abilities to transfer knowledge and learn from the vendors during the IS outsourcing projects. Their transfer capability and learning depends on their prior knowledge and experience”.*

Motivation was also perceived by the entire participants in BETA as a key facilitating factor when it comes to knowledge transfer and learning. The researcher investigated the perceptions of the junior IS staff on the impact of both intrinsic and extrinsic motivations on knowledge transfer during the course of outsourcing projects. It was found that both types of motivation had a significant impact on their job performance generally and on knowledge transfer and learning in particular. The majority of them perceived their participation in various outsourcing projects as opportunities to learn and acquire new knowledge. They had the desire to expend effort on knowledge transfer based on their interest in and enjoyment of the project itself. One of network engineers described his attempt to acquire knowledge from a vendor during one of the outsourced projects:

*“I was really excited and energised to be involved in that project. My knowledge transfer experience was challenging, but rather interesting, enjoyable and useful. I did learn a lot of new stuff that would be hard to capture in house”.*

Most of the participants at this hierarchical level also regarded external motivation as central. They expected, always to be motivated by their superiors praise and rewards when it comes to performance, productivity, learning and bringing new knowledge to the organisation. However, some of them complained about the limited financial motivations offered by their organisation.

Interpreting the interviews with BETA’s senior and middle IS managers, it was found that most of them considered motivation as a critical factor which needed to be



provided consistently. They highlighted that IS outsourcing projects were intense and required extra time and effort to transfer knowledge from vendors. The deputy general manager for IT stated in his interview:

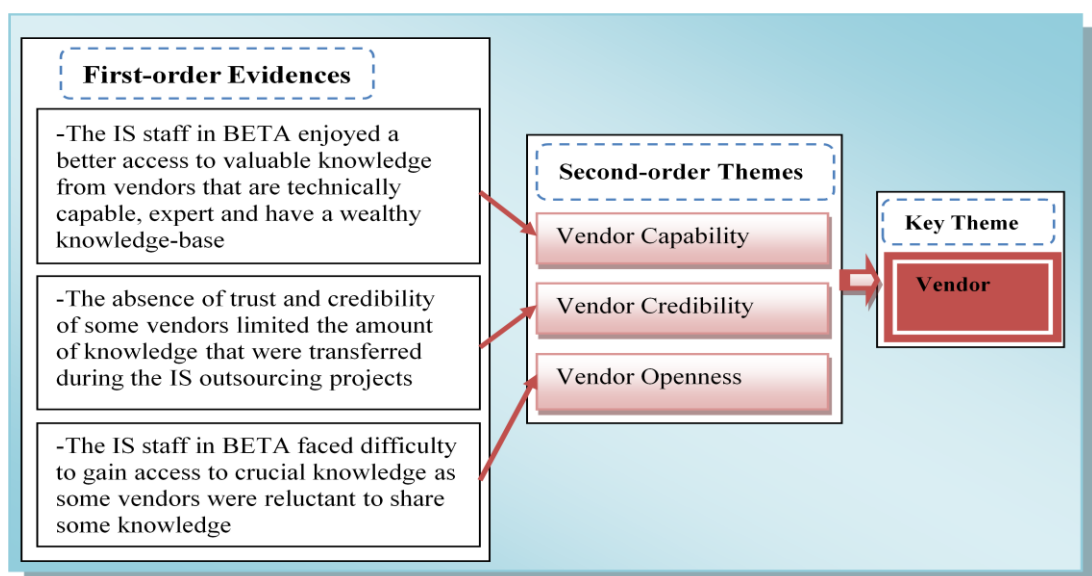
*“We make sure to establish a supportive and motivating working environment for our IS staff while working in IS projects in order to help them play a more active role in learning and searching for new knowledge and apply it to solve internal problems or make better decisions”.*

However, some of the senior IS managers were cautious with regard to external motivation. The following quote by the director general for IT explains this issue:

*“Extrinsic motivation is important; however it is dangerous in certain cases and it may lead to corruption. An employee who was initially enthusiastic about a task loses part of his/her interest when promised a reward for fulfilling the task, but this promise was not achieved”.*

▪ **Vendor Factors**

The outsourcing vendor’s characteristics were viewed as essential factors which might lead to success (or failure) in knowledge transfer. As show in Figure 5.9, three key factors were perceived to have a significant impact on successful knowledge transfer.



**Figure 5.9:** BETA – vendor-related factors impacting knowledge transfer success

This study examined the participants' perception of the impact of vendor capability and vendor credibility on successful knowledge transfer. With regard to vendor capability, the participants described their experiences and shared stories about various vendors. BETA seemed to be very selective when it came to short listing potential outsourcing vendors. Interpreting the data from the interviews, it could be seen that a capable vendor which had adequate resources and technical skills, would be able to disseminate knowledge more successfully. The programmer, whom was interviewed, explained to us how he was able to gain new coding skills and upgrade his knowledge and expertise in programming by working side by side on a project with one of the technical experts of a capable vendor.

All the participants also elaborated on the importance of vendor credibility in facilitating a better and efficient knowledge transfer. The majority of them perceived vendor credibility as one of the most vital enablers for successful knowledge transfer in IS outsourcing. According to them, a credible vendor not only provided quality knowledge, but also devoted extra time and resource to teaching and passing the required knowledge. On the contrary, in the absence of credibility and trust, knowledge transfer was perceived to be limited or, even, could not be achieved at all. The director of technical support and operations commented on his department's experience with one particular vendor:

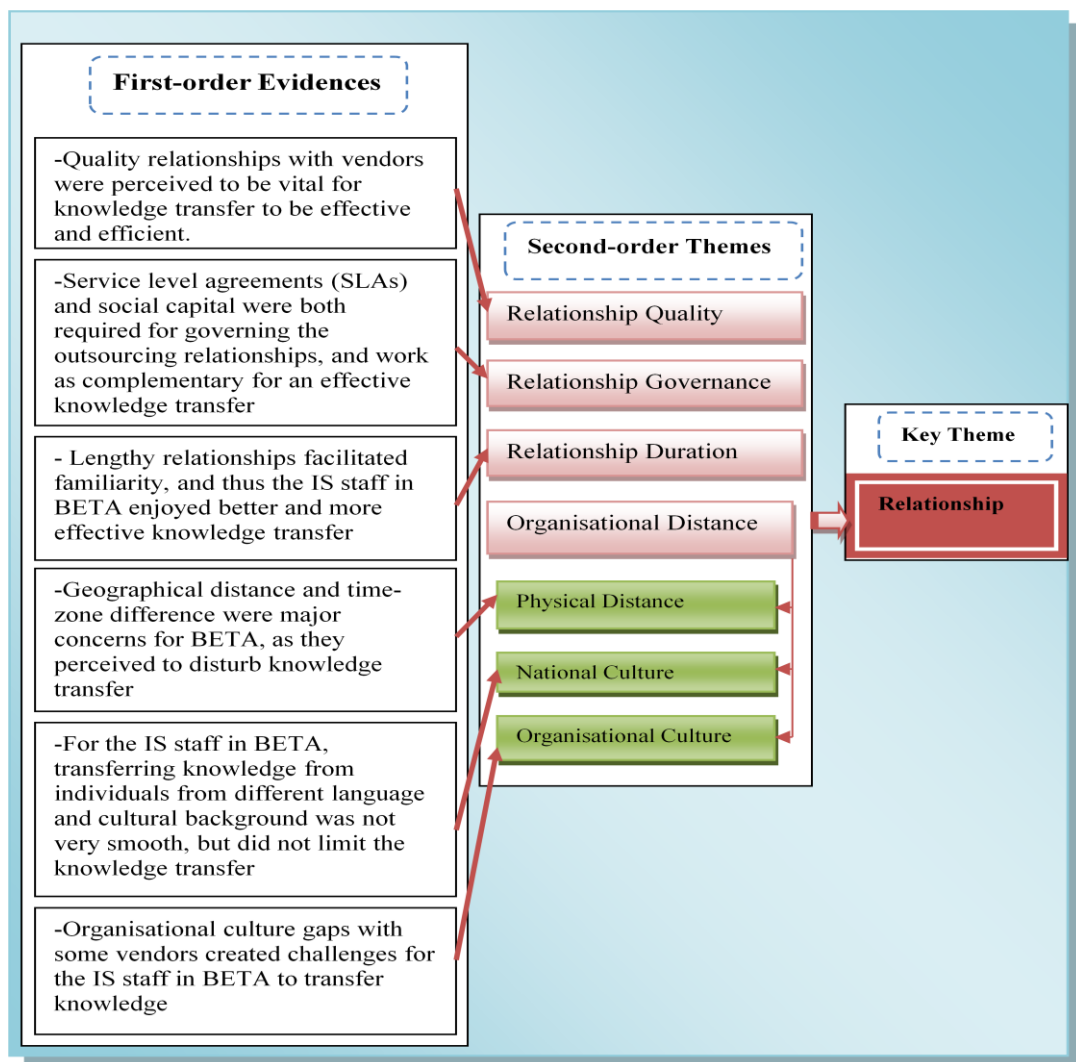
*".....after several months of signing the contract, we have realised that it [vendor] was not trustworthy. It tended to act opportunistically, it often lacked reciprocal faith and it rarely fulfilled its knowledge transfer obligations. We started suspecting the quality of knowledge it provides to use. It was really a miss up outsourcing relationship".*

Another related factor, which BETA's participants raised frequently, was vendor openness. The majority of the participants highlighted and explained how critically important it was that the vendor was able to create an atmosphere of openness in order to allow access to the required knowledge and skills. However, in the absence of transparency and openness, knowledge transfer was perceived to be less valuable and unsatisfactory. The hardware team leader shared a story about his knowledge transfer experience with some of the hardware suppliers:

*“We expected to get access to crucial know-how and best practices from our suppliers. However, some of them were more reticent in sharing technical knowledge and business practices. They tended to withhold important knowledge, leading to limited knowledge transfer”.*

▪ **Relationship Factors**

The characteristics of BETA’s relationships with its outsourcing vendors were recognised to impact significantly on the knowledge transfer process. Figure 5.10 illustrates the key relationship-related factors which were found impact on the success (or failure) of knowledge transfer. These included, relationship quality, relationship governance, relationship duration and organisational distance.



**Figure 5.10:** BETA – relationship-related factors impacting knowledge transfer success

The quality of the relationship between BETA and its vendors was consistently cited across the participants as essential for collaboration and communication of knowledge. Most of the participants suggested that a relationship which was based on commitment and effective communication facilitated fruitful collaboration, and, therefore better and faster access to crucial knowledge. Additionally, they argued that the closer the relationship with the outsourcing vendors, the more and better quality knowledge the vendor was willing to transfer. Data obtained from the interviews suggested that a quality relationship with vendors encouraged procedural coordination such as active communication, conflict resolution, and open exchange of crucial knowledge.

It has been found also that an outsourcing relationship which was based on commitment generated willingness from the vendor side to devote extra time and invest resources to support knowledge transfer beyond what was agreed upon in the formal contract. The deputy director of IS and databases commented on this particular issue:

*“...in an environment fostered by commitment, ongoing knowledge transfer and learning can be sustained. We got the privilege to get access to extra resources and knowledge beyond the original agreements”.*

With regard to the outsourcing relationship governance, the majority of the participants pointed out that the SLA and social relationships played complementary roles in managing the outsourcing relationship. As the director general for IT explained:

*“SLA alone by no means guarantees successful knowledge transfer no matter how well-designed. We tend to clearly specify knowledge transfer clauses in our SLAs, however without building a social relationship knowledge transfer success is unreachable”.*

This indicated that in addition to establishing contractual safeguards, the establishment of a cooperative relationship with the vendor played an important role in the success of IS outsourcing generally and knowledge transfer in particular.

It was found also that the length of time which BETA and its vendors worked together had a significant impact on successful knowledge transfer. Furthermore,

from interpreting the interviews and the documentation data, it was further found that BETA and its vendors sustained their relationship over time and this enabled the IS staff to communicate and transfer knowledge more effectively. The assistant general manager for E-services commented:

*“The longer the [outsourcing] relationship duration [with the vendor], the better the knowledge transfer. Lengthy relationships facilitated familiarity and enhanced the transfer of complex knowledge that often require relatively long period of on-the-job training”.*

It has been found that longer outsourcing relationships enabled BETA’s IS staff in to better locate particular technical experts in vendor organisations who possessed specialised knowledge and expertise which were important and of unique value. The director of IS explained his teams’ experience with knowledge transfer during the educational portal project:

*“The Educational-portal implementation has been a long journey; we got various opportunities to meet various experts in different technical fields at different stages of the project, and thus capture different type of crucial technical and business knowledge from the vendor”.*

Organisational distance between BETA and some of its vendors generated some challenges to the outsourcing relationships generally and knowledge transfer in particular. Most of the participant perceived geographical distance as a major inhibitor for knowledge transfer. Whenever it was possible, BETA tended to establish outsourcing relationships with local or regional vendors in order to avoid any challenges with physical distance and different time zone. The deputy general manager for IT said:

*“Distance always matter to us. Working with vendors that they were within close proximity enabled us to have them in our sites and interact with them frequently. This is extremely important when it comes to knowledge transfer”.*

Another key challenge for BETA was organisational culture distance with its vendors. Many of the participants explained that, sometimes, knowledge transfer from vendors became a daunting process as a result of different culture and work behaviours. The director of networking and telecommunications explained the

situation and shared some stories when working with a vendor which had a dissimilar corporate culture. He stated:

*“We have worked with a vendor that got totally different management and communication styles and work behaviour... it was a horrible experience ... it certainly posed a considerable challenges for capturing knowledge”.*

Analysing the data from the interviews conducted with the junior members of IS staff, it was interesting to understand that BETA’s own corporate culture inhibited knowledge transfer. The majority of the junior IS staff were frank enough to report that some aspects of their organisation’s culture limited their opportunities to effectively acquire knowledge from vendors. For example, the software engineer, whom we interviewed, provided the following comment:

*“We are a very bureaucratic organisation and this sometimes makes it very challenging to organise knowledge transfer sessions with the vendors because of the rigid hierarchical structure and slow communication flows”.*

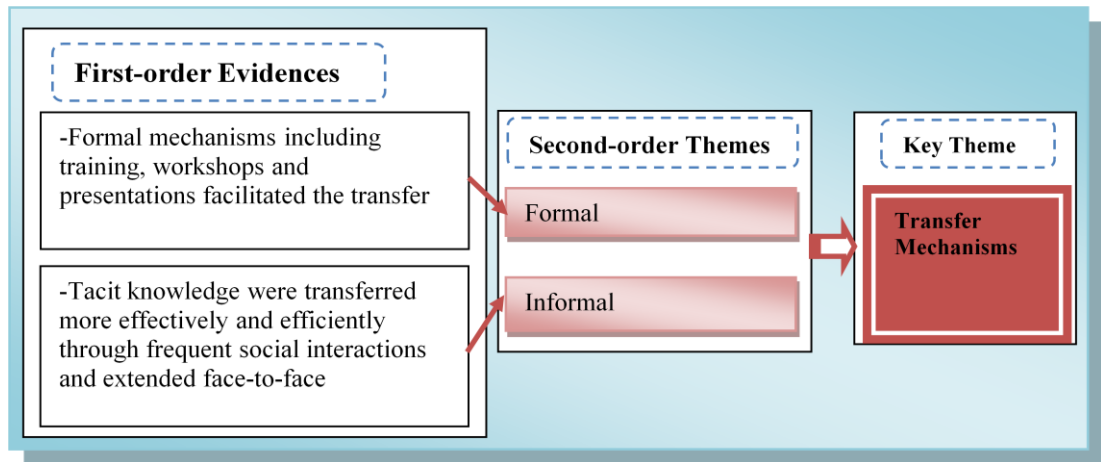
It was apparent that there were corporate cultural gaps between BETA and many of its outsourcing vendors. Consequently, different organisational cultures and business practices led to different expectations and objectives and, therefore, created complexity in knowledge transfer.

National culture distance was reported by many participants in BETA to have an impact on the outsourcing relationships. When asked about their experience of working with individuals from different cultures, many of the participants reported that, sometimes, differences in culture disrupted communication, but rarely limited knowledge transfer and learning. For example, the technical support team leader commented:

*“Many of the expatriate individuals in the vendors have different beliefs, goal priorities and behavioural norms. This leads them to sometimes define situations differently, see issues differently. However, these differences seldom impaired our ability to transfer knowledge and learn”.*

▪ **Knowledge transfer mechanisms**

From interpreting the data collected from BETA, it can be seen that the success of knowledge transfer was affected by the types of mechanisms used in the process as illustrated in Figure 5.11.



**Figure 5.11:** BETA – transfer mechanisms impacting knowledge transfer success

The participants explained that they managed to acquire explicit technical and business knowledge from vendors through various means including training, workshops, meetings, documented reports etc. However, effective transfer of tacit knowledge required close social ties and face-to-face interactions. The majority of the participants found that social ties provided dynamic channels in gaining access to vendors’ valuable knowledge and skills. As the director of networking and telecommunications stated:

*“Technical knowledge is embedded in humans and required interactions and establishment of social ties with vendors. Through social ties, we managed to transfer knowledge and skills from vendors with less cost. In fact, establishing social networking with individuals of the vendors affected their willingness and motivation to invest time and effort in sharing knowledge with us”.*

The director general for IT also shared a similar comment with regard to the importance of social capital as a dynamic vehicle for knowledge transfer which, often, involved extended discussions and sharing of individual’s ideas, viewpoints, beliefs and experience. He stated:

*“We have recognised the value of social interactions with the vendors. We often provide complementary food and drinks after meetings in an attempt to have them interact with our people and share knowledge. We also push our employees forward to socialise and interact frequently with individuals in the vendor organisations in an informal atmosphere”.*

#### **d) Case Summary**

The IS division in BETA managed to transfer various types of business and technical knowledge from vendors using different transfer mechanisms during the course of multiple IS outsourcing projects. The electronic educational portal project was a comprehensive, long-term, near-shore venture which allowed the IS staff at multiple levels to enjoy a fertile atmosphere in learning and acquiring new knowledge. However, the knowledge transfer and learning journey was challenging in most of its outsourced project. In this case, the key important factors which played a significant role on the knowledge transfer process were presented. Firstly, it was clear from the interviews conducted with various IS staff that tacit and complex knowledge were relatively difficult to transfer and acquire compared to explicit knowledge. Social ties enabled the BETA’s IS team to have better and smoother access to such knowledge from vendors. Secondly, effective knowledge transfer cannot be achieved without having clear learning intent, absorptive capacity and motivation. By interpreting the data collected from BETA, it was found that the majority of the IS staff devoted extra time and effort to utilising their prior experiences in order to learn and acquire new knowledge. Intrinsic motivation played a central role in knowledge transfer as most of the participants enjoyed what they were doing and regarded knowledge transfer as an opportunity to upgrade their knowledge base in addition to bringing new skills and insights to their organisation. BETA had established several outsourcing relationships with various vendors. It took careful steps in order to recruit capable and reliable vendors which facilitated efficient and effective knowledge transfer. All of BETA’s vendors were domestic or located in nearby countries. This facilitated more frequent face-to-face interactions, which was considered vital to transferring tacit knowledge. Additionally, BETA attempted to maintain quality relationship with most of its vendors based on commitment and effective communications. This enabled individuals in the IS division to gain access



to crucial knowledge. Furthermore, many of its vendors devoted extra time and resources to teach and support the knowledge transfer process. However, many of the participants reported organisational culture distance as one of the key challenges for knowledge transfer. Having working behaviour and a decision-making process, which was distinct from the vendors impacted negatively on the knowledge transfer process.

### 5.3.3 GAMMA

#### *a) Case Background*

GAMMA is a relatively newly established, but rapidly expanding government organisation. It is responsible for developing and implementing the national IS/IT strategy which focused on ensuring the effective and efficient delivery of e-government services to citizens and businesses. Also, it is in charge of supervising most of the IS projects within Oman's public sector. Recently, GAMMA won the first place (among Western Asian countries) in the 2011 United Nations Public Service Award for its strategy on "Transforming the Society through the E-Oman" (GulfNews, 2011).

The researcher managed to collect data from three of GAMMA's major divisions. These were the Infrastructure and e-Services, the Centre of Information Security and the National Computer Emergency Response Centre. Each of the three divisions had outsourced several IS projects to local, near-shore and offshore vendors. As shown in Table 5.4 below, the data was collected mainly through semi-structured interviews with fourteen IS professionals from three hierarchical levels. Also, other relevant documents such as organisation reports and brochures, training materials and meeting minutes were gathered and analysed. The researcher also had the opportunity to conduct several observation sessions and record the interactions and communications between GAMMA's IS staff and those of the vendors.

GAMMA	Hierarchal level	Job Title	Number of Participants
	Senior IS Managers	<ul style="list-style-type: none"> <li>▪ Chief of infrastructure and E-services</li> <li>▪ Chief of information security centre</li> </ul>	2
	Middle IS Managers	<ul style="list-style-type: none"> <li>▪ IS projects manager</li> <li>▪ National data centre manager</li> <li>▪ Acting manager for internal IT services</li> </ul>	3
	Junior IS Staff	<ul style="list-style-type: none"> <li>▪ Applications developer</li> <li>▪ Networks administrator</li> <li>▪ Senior programmer</li> <li>▪ Web contents team leader</li> <li>▪ Incident respond specialist</li> <li>▪ IS security analyst</li> <li>▪ IS security specialist</li> <li>▪ Security applications team leader</li> <li>▪ Electro-mechanical Engineer</li> </ul>	9
	<b>Total</b>		<b>14</b>

Table 5.4: Interviewees of GAMMA

### *b) IS Outsourcing*

In order to meet the increasing demands from citizens and businesses for new faster and cheaper e-services, GAMMA had invested heavily in ICTs. GAMMA had outsourced several IS projects to local, near-shore and offshore vendors. The key motivating factor for IS outsourcing was to gain access to IS expertise and a broader base of technical and business knowledge. GAMMA had also managed to gain access to cutting-edge technologies and technical talents from most of its vendors. The chief of infrastructure and E-services noted:

*“We are short of critical technical knowledge and development skills. Outsourcing enables us to get access to up-to-date technical knowledge and latest technology. Outside vendors tend to be updated with the latest technology developments”.*

In 2008, GAMMA outsourced an e-Tender project worth \$ 5.5 million (OMR 2.1 million) to two e-procurement specialised vendors; one was local and the other one was Indian (Sutton, 2008). The project’s goal was to establish a centralised procurement web-based information system. This helped in achieving higher

efficiency and also enhanced elements of transparency and accuracy in government procurement process with considerable cost savings. With e-tendering, it was possible for government entities to prepare, float, evaluate and award tenders online. It also provided suppliers with the mechanism to purchase tenders, submit offers, register and renew registration online (ESCWA, 2009).

In addition, GAMMA has realised the need for a reliable infrastructure in Oman to house critical government IS systems and data. In 2008, GAMMA signed a near-shore outsourcing contract with one of leading vendors in the United Arab Emirates (UAE) to establish a National Data Centre (NDC). The NDC enabled government organisations to utilise the site either as their main IS site or as their disaster recovery centre.

In order to expand the public services online, GAMMA decided to develop an E-government services portal. The portal project was outsourced to three IS vendors. The aim of the portal was to act as the main gateway to the electronic services offered by the government. Additionally, it had the potential to help build better relationships between the government and the public by making interaction with citizens smoother, easier and more efficient. All citizens and businesses could access government information and services online. These services were provided via the portal either by integrating with other government organisations or providing links to their websites. Now, citizens and businesses could access the portal anytime, anywhere through multiple channels such as the web and mobile devices.

GAMMA had developed a National E-payment Gateway which provided an operational component of the E-Governance infrastructure and full ecommerce facilities which allowed secure online payments. The E-payment gateway system was implemented by MasterCard and other vendors. The gateway increased the adoption of E-Services along with electronic payments, particularly internet-enabled payments which were easy and efficient. The presence of such a robust and secure E-payment Gateway enabled E-government shared services to be paid for electronically using major local and international credit and debit cards. Currently, the gateway accepts all international credit cards, debit cards including Visa, MasterCard and American Express. The Ministry of Sports Affairs, for example, utilised the E-

payment gateway to sell online tickets to football competitions (Times of Oman, 2008).

*c) Knowledge Transfer*

GAMMA recognised the importance of capacity building associated with knowledge transfer and learning through IS outsourcing. Many of its IS outsourcing projects created learning opportunities and enabled GAMMA to gain access to leading emerging technologies and technical knowledge which enhanced its IS staff expertise and competency. The chief of infrastructure and E-services reported:

*“Transferring knowledge from external constituents has become central to our organisation as we seek to develop new applications and enhance our services. Moreover, knowledge transfer has important implications for our employees and organisational performance and innovativeness”.*

In response to an inquiry about the extent to which GAMMA utilised the outsourcing relationship to gain access to important business and technical knowledge from vendors, the IS projects manager elaborated:

*“Outsourcing relationships provide an ideal platform for learning by giving us access to crucial knowledge held by vendors. In fact, outsourcing enables us to access a generation of breakthrough ideas and important skills and specialised expertise and therefore increase our stock of knowledge and develop new competencies “*

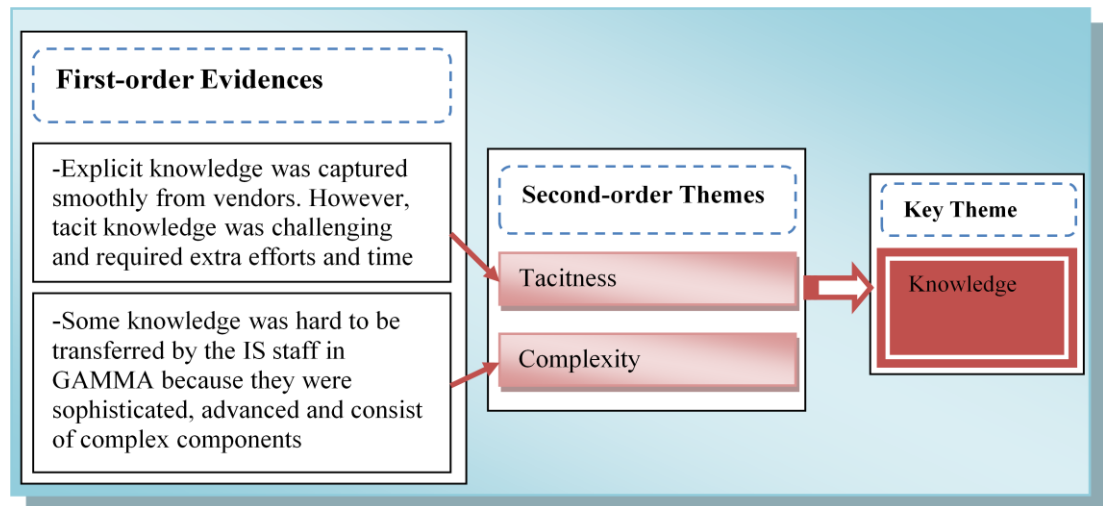
The application developer at GAMMA also shared his own experience with knowledge transfer from several vendors. He stated:

*“Despite that transferring knowledge from vendors was challenging, I have managed to acquire very important programming and database-related knowledge and competencies that was hard to learn myself or from a colleague within our division. I also gained new project management skills”*

Based on the data collected from GAMMA, the next sub-sections address the key factors which were revealed to impact on successful knowledge transfer in IS outsourcing.

### ▪ *Knowledge Factors*

As shown in Figure 5.12., the majority of GAMMA’s participants perceived that tacitness and complexity of the knowledge to be transferred from vendors were important factors that contributed to the success (or failure) of the knowledge transfer



**Figure 5.12:** GAMMA – knowledge-related factors impacting knowledge transfer success

Most of the participants explained that, despite some knowledge being codified and transferred in manuals, reports, blueprints and codes, most of the valuable technical and business knowledge possessed by vendors was experience-based tacit knowledge, which was difficult to articulate precisely. It was found that tacitness of knowledge limits the ability of individuals in GAMMA to capture effectively and assimilate the knowledge possessed by individuals in the vendors’ teams. The acting manager for internal IT services noted:

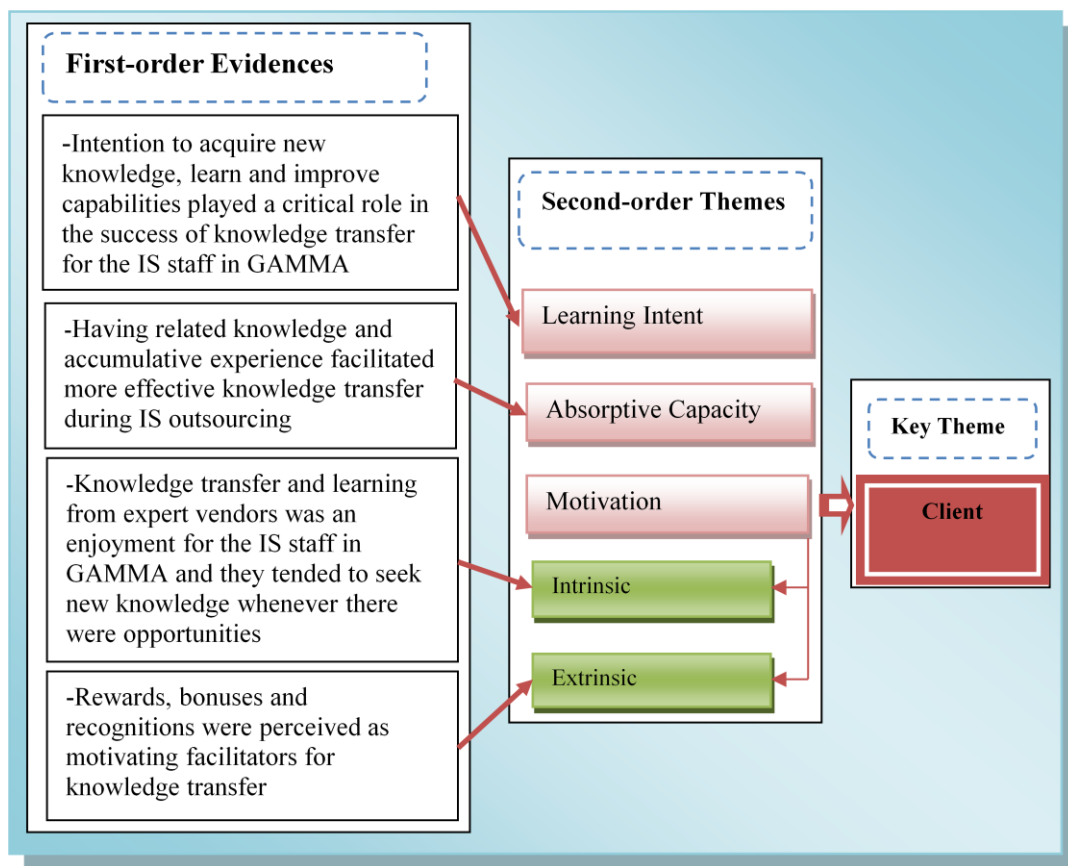
*“Explicit knowledge can be relatively easily to be stored and disseminated. Some vendors attempted to pass technical knowledge to us in schemata, diagrams and charts and therefore it is relatively easy to be understood and acquired by us. However, some knowledge is tacit in nature as it resides mainly in human minds and grounded in personal experience. Thus, it requires extensive interaction to be acquired and learned”*

A large number of the participants also noted that knowledge was difficult to be transferred because of its complexity. Interpreting the interviews conducted with the

junior members of IS staff revealed that most of them perceived some technical knowledge contained advanced and complex technological components, and this hindered their ability to capture the knowledge effectively.

▪ *Client Factors*

Despite that, during the course of IS outsourcing, most GAMMA’s IS staff have been given many opportunities to transfer knowledge from the vendors. As illustrated in Figure 5.13, the success of knowledge transfer depended on their intention to learn, their absorptive capacity and motivation.



**Figure 5.13:** GAMMA – client-related factors impacting knowledge transfer success

Learning intent had been echoed frequently by many of the participants as a key enabler for successful knowledge transfer. For example, the chief of infrastructure and e-services in GAMMA highlighted the importance of having a clear learning intent during outsourcing projects:

*“While having learning objectives are not enough to ensure that learning occurs, having explicit objectives and learning intent are important foundational elements. Without an explicit learning intent it would be much less likely to transfer new knowledge and learn from vendors”.*

Most Junior members IS staff who were directly involved in the outsourcing projects expressed that their prior related knowledge, education and accumulative experience fostered their learning and knowledge transfer capabilities. This became so important when they attempted to acquire complex technical knowledge which required concrete technical basis and prior knowledge and experience. To illustrate this point, the IS security specialist made the following comment:

*“During the E-payment gateway project, my prior knowledge and experience in information security enabled me to transfer and digest new knowledge and skills from the vendors during various stages of the project”.*

The third factor that was extensively echoed by the participants to facilitate knowledge transfer was motivation. The senior and middle IS managers perceived motivation as a key element when it came to knowledge transfer and learning.

*“Motivation is the motor for knowledge transfer. I believe that rewards and incentives are needed in order to facilitate effective knowledge transfer and boost overall performance. We promote knowledge transfer and learning by encouraging greater receptivity of our IS staff to new stimuli from vendors”*

The chief of information security centre also elaborated on the impact of motivation on knowledge transfer success in IS outsourcing. He noted:

*“They are [IS employees in GAMMA] the most valuable asset of our division and therefore we care about them, motivate them and support their learning and capability development. We constantly empower them to spot opportunities to acquire knowledge, develop capabilities and seek experience across organisational boundary”.*

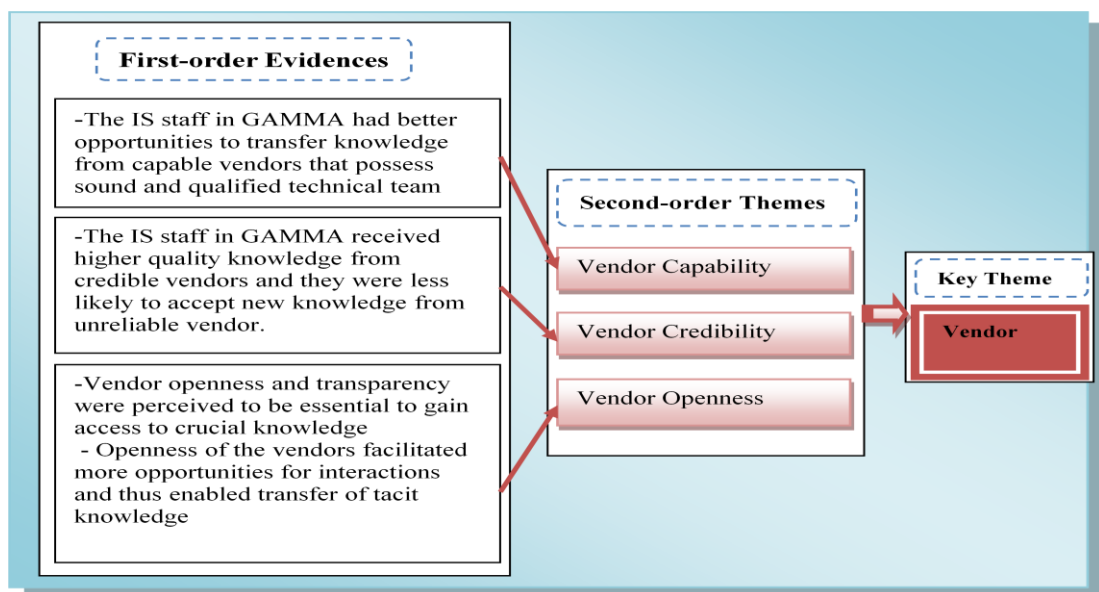
The junior members of GAMMA’s IS staff, whom were interviewed, considered that their interest in learning and capacity development was the underlying factor which

drove most of them to work harder in order to acquire new knowledge, skills and competencies from the vendors during the outsourcing projects.

Additionally, the majority of the participants emphasised the importance of having a work environment which was emotionally supportive and which rewarded acquisition of new knowledge and innovation. It was found that the IS staff were more likely to pursue personal development activities including knowledge transfer and learning during the course of outsourcing projects when they believed that transferring new knowledge would result in rewards such as raises, bonuses, recognitions and promotions.

▪ **Vendor Factors**

In investigating the impact of vendor characteristics on knowledge transfer, it was found that the participants in GAMMA perceived vendor capability, credibility and openness as the three key elements which impacted on successful knowledge transfer during outsourcing projects as illustrated in Figure 5.14.



**Figure 5.14:** GAMMA – vendor-related factors impacting knowledge transfer success

Vendor capability was considered to be a critical factor enabling successful knowledge transfer in outsourcing projects. A vendor with a greater reservoir of knowledge, skills and expertise had the potential to transfer more knowledge than a



vendor with a limited knowledge base. As the manager of the national data centre explained:

*“The success of the [knowledge] transfer depends on the capability of the vendor to devote time and resources and to articulate and communicate the required knowledge in a convenience and effective way”.*

The credibility of the vendors, in terms of trustworthiness and reliability had also been perceived to highly influence successful knowledge transfer in IS outsourcing. The vast majority of the participants emphasised the critical importance of trust in outsourcing and portrayed vendor credibility as a key factor underlying effective knowledge transfer. The chief of infrastructure and E-services noted:

*“Trust is important in outsourcing relationship...from our experience with various vendors, we found that credibility and trustworthiness of vendors were fundamental enablers of knowledge transfer. When a vendor was perceived as untrustworthy, it was more likely we considered the knowledge to be unreliable and, as a result, we were less likely to acquire and utilise it”.*

The networks administrator also shared his experience with various networking service providers and highlighted how credibility enhanced knowledge transfer. He stated:

*“Those [vendors] who were seen as trustworthy sources of knowledge tended to act with discretion, be consistent between words and deeds, ensure frequent and rich communication and engage in collaborative communication”.*

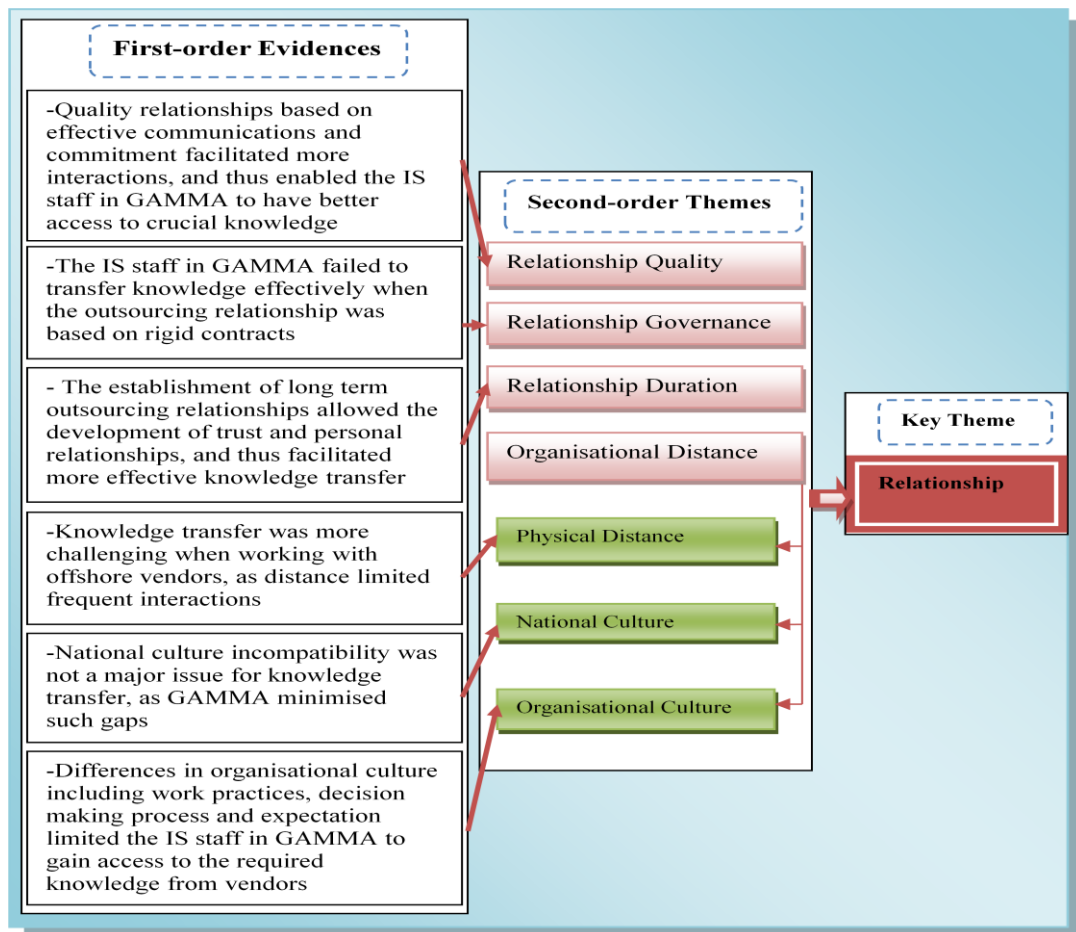
The openness of vendors was viewed by the majority of the participants as important in the transfer of technical and business knowledge in outsourcing projects. It was found that most of the participants enjoyed working with vendors which provided smooth, transparent and quick access to a pool of potential knowledge, without any hesitation. This is clear from the comment provided by the IS projects manager:

*“Vendor openness has an imperative influence on knowledge transfer. It improves the quality of dialogue and discussion, and this facilitates the acquisition of crucial knowledge”.*

Thus, the vendors’ willingness to drop their boundaries and allow for more transparency to share crucial knowledge was echoed as being critically important for successful knowledge transfer.

▪ **Relationship Factors**

The analysis of the data collected from GAMMA through interviews, observations and documents indicated that knowledge transfer was highly dependent on the relationship between GAMMA and its vendors. As shown in Figure 5.15 below, a number of factors including the relationship quality, relationship governance, relationship duration and organisational distance were perceived as central when it came to knowledge transfer in IS outsourcing.



**Figure 5.15:** GAMMA – relationship-related factors impacting knowledge transfer success

The quality of the relationships, which GAMMA had established with multiple vendors, played a vital role in the knowledge transfer process during outsourcing projects. Most of the participants from the three hierarchical levels provided strong

emphasis on the importance of effective communication on knowledge transfer. All three middle IS managers suggested that frequent communication alleviated anxiety and facilitated interaction between individuals, which in turn, assisted in the creation of a shared meaning or context within which the knowledge transfer process could be facilitated. Also, the majority of the junior members of IS staff also supported this point of view. They indicated that the vendor's commitment to the outsourcing relationship demonstrated a willingness to forgo self-interest for mutual benefit.

In addition, the participants also suggested that the governance of the outsourcing relationship was particularly important in influencing their success in gaining access to valuable technical and business knowledge held by the vendors. It was found that most of GAMMA's IS staff enjoyed more access to knowledge when the outsourcing venture was based not only on a tight formal contract, but also complemented by relational governance that is based on trust, promises, and mutual expectations. The acting manager for internal IT services in GAMMA noted:

*"Managing the outsourcing relationship through very rigid SLA [service level agreement] results in very limited knowledge transfer as vendors tend to give access to only what is agreed upon in the contract".*

More importantly, it has been found that despite knowledge transfer being highlighted clearly in the formal outsourcing contract; a successful knowledge transfer could not be achieved without establishing a highly interactive and flexible relationship. The chief of infrastructure and E-services commented:

*"Our SLAs [service level agreements] often contain clauses about training and knowledge transfer; however this does not guarantee effective knowledge transfer. Therefore, we often sought flexible relationships with our service providers based on mutual trust in order to gain better access to knowledge".*

In addition, the duration of the outsourcing relationship was perceived to impact on the effectiveness of knowledge transfer. It has been found that the establishment of long relationships with particular vendors enhanced cooperation generally and knowledge transfer in particular. The participant agreed consistently that long outsourcing relationships created certain norms, developed trust and personal

relationship which were expected to influence the effectiveness and the efficiency of knowledge transfer. The chief of information security centre noted:

*“It takes time to develop the familiarity [with the vendors] required for us to know from whom and how to transfer critically important knowledge. Also, lengthy relationships facilitate the transfer of complex knowledge that often require relatively long period of on-the-job training”.*

In the same vein, the IS projects manager elaborated:

*“As we have sustained very close relationship with our outsourcing vendors over time, we have been able to develop a joint understanding that allowed uniquely efficient communication and therefore enhanced effective knowledge transfer”.*

The majority of the participants also elaborated on the impact of organisational distance on successful knowledge transfer. With regard to physical distance, the participants indicated that knowledge transfer became more challenging and complex when vendors operated from different countries as in the case of off-shored projects. They perceived that geographical distance caused breakdowns in communication, coordination, control, and cohesion, and thus hampered knowledge transfer. Many of the participants provided some evidences that differences in geographical locations and time zones hindered knowledge transfer. For example, the national data centre manager commented:

*“We sometimes struggle to communicate with our offshore vendors as we have to follow different off-days. Our weekend is Thursday and Friday which is different than most of other countries in which our vendors are located”.*

The IS projects manager provided a similar comment with regard to the impact of time zone differences on knowledge transfer. He noted:

*“.....we also faced challenges with time zone difference with offshore vendors. Time zone differences reduced opportunities for real-time collaboration, as response time increased considerably when working hours at remote locations did not overlap”.*

On the contrary, it was found that close proximity facilitated better and efficient knowledge transfer since it allowed individuals from the two organisations to meet and interact more frequently. The network administrator, whom was interviewed,

commented about his experience when working with one of the domestic vendors on one of the outsourced projects. He noted:

*“..... meeting the person [from the vendor] face-to-face enabled us to transfer knowledge and learn more quickly, because we could really, think and feel the person and see his reaction when we were actually talking, discussing and debating”.*

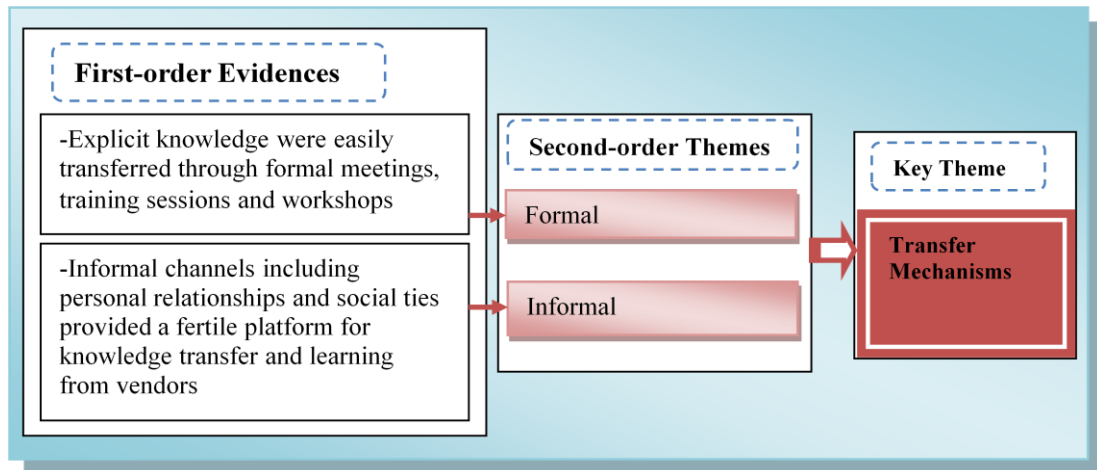
The impact of national culture difference on knowledge transfer was also examined in the interviews with all the GAMMA’s participants. When asked about any cross-cultural problems or issues which they had experienced whilst attempting to transfer knowledge and learn from their outsourcing vendors, the vast majority of the participants felt that their interaction with people from different cultures was to a certain extent challenging. However, most of them did not indicate that differences in national culture impacted on knowledge transfer and learning from vendors. The chief of infrastructure and E-services commented on his experience to minimise any cultural distance with individuals of the vendors’ teams. He said:

*“We try to minimize these [cultural] differences and break down barriers with our vendors. For example, we simply invite them [foreign experts of vendors] into our social events, so they know our lifestyle and understand our values and daily lives”.*

Nevertheless, the majority of the participants perceived organisational culture distance as a key inhibiting factor for knowledge transfer in IS outsourcing. Most of them felt that many of the vendors, especially those located offshore, defined goals differently, developed distinct work plans and they prioritised work in dissimilar way. Often, these incompatible work practices, behaviours, policies and expectations created challenges for frequent and smooth interactions, and therefore limited the opportunities to transfer knowledge and learn from the vendors.

#### ▪ ***Knowledge Transfer Mechanisms***

The effectiveness and the efficiency of knowledge transfer were also perceived to be highly affected by whether the adopted transfer methods were formal or informal as shown in Figure 5.16.



**Figure 5.16:** GAMMA – transfer mechanisms impacting knowledge transfer success

When asked the question about how different knowledge transfer mechanisms enhanced the effectiveness of knowledge transfer, a large number of the participants indicated that formal training sessions and workshops outside the work environment were likely to be effective for transferring codified and less-complex knowledge. However, knowledge of a tacit nature was difficult to transfer using such formal channels because this was mostly intuitive and embedded in a specific context. The people, whom interviewed, repeatedly indicated that knowledge transfer was a socially embedded process and required connections, face-to-face interactions and open communication. Moreover, they perceived social ties and networking as platforms for transferring critical tacit knowledge. The chief of information security centre commented:

*“Social ties are a key vehicle of acquiring important knowledge and learning from vendors. We spend half of a day or a day off-site to go through what we have done, what we have accomplished, what we had in front of us, and how we were going to address that. This created an environment for sharing opinions, previous experiences and personal insights”.*

Several junior members of IS staff emphasised that, because of their prior personal acquaintance, they were able to quickly and easily call the vendors’ experts when they needed advice about a particular technical problem. For example, the Web contents team leader highlighted the benefits of inter-personal interactions and face-

to-face meetings and their impact on transferring knowledge and learning. He commented:

*“It was important to see each other regularly after work and to have social functions where we can set together for a cup of tea or coffee. This relaxed environment enabled us to share ideas and create new knowledge and insights”.*

A similar comment was made by the Incident respond specialist:

*“Undoubtedly, communication technologies such as e-mails can enable us to work together despite geographical distance; but technology should be viewed as a complement to, not as a substitute for face-to-face meetings”.*

#### **d) Case Summary**

The story of GAMMA with knowledge transfer in IS outsourcing revealed very interesting issues and highlighted some key factors which impacted on successful knowledge transfer. The nature and the characteristics of the knowledge that was transferred from vendors had an impact on the knowledge transfer. Whilst explicit knowledge was acquired easily through reports and documentation manuals, the transfer and learning of tacit knowledge was relatively challenging. The complexity of some technical knowledge also inhibited many individuals in GAMMA from acquiring knowledge and learning from vendors. The IS staff's intentions to learn and their absorptive capacities were vital factors which facilitated effective and efficient knowledge transfer. Intrinsic and extrinsic motivations had to work simultaneously in order to produce a more successful knowledge transfer. In addition, the vendors' characteristics played a critical role in facilitating successful knowledge transfer. A vendor which was technically capable, reliable and open allowed GAMMA to gain better access to crucial knowledge. The success of knowledge transfer depended on the organisation's relationships with various vendors. GAMMA had managed to establish quality relationships with some vendors which were based on commitment and effective communication. Nevertheless, more effective and efficient knowledge transfer was achieved only when the relationship was lengthy and was managed through a relational rather than a formal contract. Managing the outsourcing relationship through tight formal contract was perceived

to be complicated and often resulted in limited knowledge transfer. Organisational distance was a key factor which was raised by the majority GAMMA's participants in and was considered to impact significantly knowledge transfer success. Physical distance was perceived to create a challenging environment for knowledge transfer. National culture distance was not a major issue for GAMMA and it seldom hampered knowledge transfer. However, organisational culture distance was considered to make the knowledge transfer process extremely problematic. Successful knowledge transfer also depended on the mechanism which was used to transfer the knowledge. Social ties and face-to-face socialisations provided a relaxed fruitful atmosphere which facilitated more effective knowledge transfer, especially when the knowledge was tacit in nature.

## 5.4 Chapter Summary

This chapter presented the analysis and descriptions of each of the three cases studies selected in the empirical fieldwork. Prior to introducing the analysis of each case study, an overview about Oman will be offered; the country from which the data was collected. The public sector of Oman was chosen as the research context due to its rapid reforms and developments in the last few decades, and in particular various IS outsourcing projects being undertaken. Furthermore, it could be considered a unique context as Oman's public organisations found IS outsourcing a fertile environment for learning and transferring complementary technical and business knowledge from vendors.

The within-case analysis was used to investigate each case study independently, and, thus attain more familiarity with each of the studied organisations and each one's experience of knowledge transfer in IS outsourcing. the data analysis was structured by linking the empirical data to the main constructs of the conceptual research framework and to the purpose of the study. Based on the with-in case analysis, presented in this chapter, the next chapter offers a 'cross-case analysis' in order to identify similarities and differences on the issues related to the factors which impact successful knowledge transfer in IS outsourcing across the three organisations. In addition, the next chapter discusses the key findings and offers a revised framework for knowledge transfer in IS outsourcing.



## CHAPTER SIX: CROSS-CASE SYNTHESIS AND DISCUSSION

### 6.1 Introduction

This research aims to gain a deeper understanding and a more holistic analysis into the key factors which facilitate or inhibit knowledge transfer from vendors to clients in information systems (IS) outsourcing.

After presenting the findings from the first stage of the analysis and producing the detailed case write-ups in the previous chapter, this chapter presents the findings of the cross-case analysis in order to develop a solid and a more comprehensive understanding of the factors which impact on the success of knowledge transfers in IS outsourcing. The cross-case synthesis brings together the key issues and insights from the three case studies. As pointed out by Miles and Huberman (1994), cross-case analysis provides deeper understanding and explanation than that derived from studying isolated cases and, therefore develops more sophisticated descriptions. Furthermore, cross-case analysis is a valuable technique in illuminating contrasts and similarities between the cases (Hartley, 2004). Yin (2009) highlights that the aim of cross-case synthesis is to build a general explanation that fits each of the individual cases, even though the details of each case differ. Under each part of the findings, theoretical discussions are provided. In doing so, the key themes which emerged from the findings are linked to existing theoretical perspectives.

This chapter consists of five sections including this introduction. Section 6.2 illustrates how IS outsourcing relationships have become an ample environment for transferring knowledge from vendors. It highlights how the three cases managed to utilise their interactions and links with multiple vendors to acquire complementary technical and business knowledge. Section 6.3 presents and discusses the five set of factors which are found to impact on successful knowledge transfer in IS outsourcing. Section 6.4 offers a revised conceptual framework for knowledge transfer success in IS outsourcing. Section 6.5 summarises this chapter.

## 6.2 Knowledge Transfer in IS Outsourcing

In the previous chapter, each case analysis presented several IS outsourcing projects undertaken by the three organisations. The outsourcing arrangements varied and included domestic, near-shore and offshore projects. It was found that the three organisations turned to IS outsourcing for reasons other than just cost saving. One of the key advantages for IS outsourcing reported by the participants in the three organisation was knowledge transfer and learning. The three organisations lacked the necessary knowledge and expertise to handle the growing IS investments, to manage increasingly more complex IS projects and to implement and maintain enterprise wide systems. Therefore, IS outsourcing has become a viable option in seeking crucial business and technical knowledge which is unavailable or difficult to develop in house. There was a substantial agreement among the three cases that IS outsourcing provided them with a promising catalyst and fruitful atmosphere in gaining access to critical knowledge and skills of the vendors as illustrated in Table 6.1.

Case	Excerpts from the interviews transcripts illustrating knowledge transfer as a key advantage of IS outsourcing
ALPHA	<p><i>“... get access to crucial knowledge possessed by skilled and qualified experts within vendor organisation during the IS outsourcing projects”.</i> [Acting director general for IS]</p> <p><i>“Outsourcing relationships enabled us to acquire new technical and business knowledge from vendors”.</i> [Head of IS projects]</p>
BETA	<p><i>“Outsourcing represents one of the most promising channels through which we can get access to important and useful knowledge and skills”.</i> [Assistant general manager for e-services]</p> <p><i>“Outsourcing provides an opportunity to transfer new knowledge that then could be diffused within our division”.</i> [Director of networking and telecommunications]</p>
GAMMA	<p><i>“Identifying and transferring critical or innovative knowledge held by the outsourcing vendors, that currently unavailable within our organisation”.</i> [Chief of information security centre]</p> <p><i>“Our frequent interactions and side-by-side work with technical teams of the vendors provided an ideal platform for learning and knowledge transfer” .</i> [IS security analyst]</p>

**Table 6.1:** Knowledge transfer as a key advantage of IS outsourcing

From the three organisations' perspective, successful knowledge transfer related significantly to the overall satisfaction of the efficiency and the effectiveness of the knowledge transfer process. However, transferring knowledge from vendors in the three organisations was not straightforward and five sets of factors were found to impact upon successful knowledge transfer. These five sets are presented and discussed in the following section.

### **6.3 Factors Impacting Knowledge Transfer Success**

The following sub-sections present and discuss the five set of factors which are found to facilitate or inhibit knowledge transfer success from vendors to clients in IS outsourcing. These factors are summarised and consolidated in Table 6.2 below.

Factors Set	Factors	ALPHA	BETA	GAMMA
<b>Knowledge</b>	Knowledge tacitness	Explicit/codified knowledge was transferred easily in document, codes, reports, etc.  Tacit knowledge was difficult and costly to be acquired from vendors	Codified knowledge was transferred smoothly from vendors. However, the IS staff were challenged in capturing tacit knowledge effectively.	Explicit knowledge was transferred in manuals, reports, blueprints and codes. Tacit knowledge, however, was difficult to be capture effectively.
	Knowledge complexity	Knowledge complexity and sophistication limited knowledge transfer.	Some technical knowledge was difficult to understand and, thus was relatively hard to capture.	Complex knowledge was seen as being more difficult to transfer.
<b>Client</b>	Learning intent	Intention to learn and search for new knowledge from vendors enhanced knowledge transfer.	Intention to explore opportunities to gain new knowledge contributed to successful knowledge transfer.	Learning intent provided a foundation for knowledge transfer.
	Absorptive capacity	Prior knowledge and experience facilitated the transfer of new knowledge	Having prior knowledge was perceived to be essential for acquiring new knowledge	Accumulated relevant knowledge and experience fostered the acquisition of new knowledge
	Motivation	<i>Intrinsic motivation:</i> doing things that the IS staff liked and enjoyed enhanced knowledge transfer success  <i>Extrinsic motivation:</i> financial incentives and recognition fostered knowledge transfer and learning	<i>Intrinsic motivation:</i> the IS staff's interest and enjoyment on the outsourcing project facilitated their knowledge transfer and learning.  <i>Extrinsic motivation:</i> financial motivation is important; however it may lead to corruption.	<i>Intrinsic motivation:</i> interest in learning and professional development was the underlying factor for knowledge transfer.  <i>Extrinsic motivation:</i> bonuses and recognitions were supportive factors for knowledge transfer
<b>Vendor</b>	Vendor capability	Highly competent vendors have a higher capability to disseminate knowledge.	A vendor with adequate resources and technical skills facilitated more effective knowledge transfer.	A vendor with an extensive reservoir of knowledge provided more effective knowledge transfer
	Vendor credibility	Credible and trustworthy vendors provided more valuable knowledge and enhanced the IS staff's acceptance of new knowledge.	Credible vendors provided quality knowledge and devoted extra time to teaching and passing on knowledge.	Trustworthy vendors provided quality and timely knowledge.
	Vendor openness	The willingness of the vendor to be open and share crucial knowledge enhanced successful knowledge transfer.	Transparent and open vendors allowed better access to crucial knowledge without any hesitation.	Vendor openness allowed smooth access to critically important knowledge.

<b>Relationship</b>	Relationship quality	Effective communication and commitment provided access to critical knowledge.	A relationship based on commitment and mutual collaboration facilitated faster and more effective knowledge transfer.	Relationship quality facilitated frequent interactions, and, thus, more effective knowledge transfer.
	Relationship governance	Formal (contract) and informal relationships (trusts) are complementary and have to be applied together in order to enhance knowledge transfer.	SLAs and social relationships played a complementary role in facilitating more effective knowledge transfer.	Having formal contract and relational governance simultaneously enhanced collaboration, and this provided more effective knowledge transfer.
	Relationship duration	Longer relationships provided more access to vendors' valuable knowledge.	Longer relationships provided opportunities to locate and transfer various crucial knowledge.	Longer relationships developed trust and interpersonal relationships that enhanced the effectiveness and efficiency of knowledge transfer.
	Organisational distance	<p><i>Physical distance:</i> close physical proximity facilitated more effective and efficient knowledge transfer.</p> <p><i>Organisational culture distance:</i> incompatible organisational culture (work behaviours, decision making process, etc.) impeded knowledge transfer.</p> <p><i>National culture distance:</i> different national culture existed but did not hinder knowledge transfer and learning</p>	<p><i>Physical distance:</i> working with local vendors avoided geographical and time zone differences, and thus facilitated more effective and faster knowledge transfer</p> <p><i>Organisational culture distance:</i> organisational culture gaps and different management and communication styles created challenges for knowledge transfer</p> <p><i>National culture distance:</i> incompatible national culture rarely impeded knowledge transfer</p>	<p><i>Physical distance:</i> knowledge transfer was relatively limited in offshore projects, since geographical and time zone difference caused breakdown in communication</p> <p><i>Organisational culture distance:</i> incompatible work practices, behaviours and expectation limited knowledge transfer from vendors</p> <p><i>National culture distance:</i> national culture incompatibility was not a major inhibitor of knowledge transfer</p>
<b>Knowledge Transfer Mechanisms</b>	Formal mechanisms	Training, workshops, presentations enabled explicit knowledge to be transferred	Formally coordinated meetings, training and workshops were more suitable to transfer codified knowledge	Formal training sessions and workshops were more effective for transferring more codified and less-complex knowledge
	Informal Mechanisms	Social ties and face-to-face interactions facilitated personal familiarity and improved communications, and thus enabled more effective and efficient knowledge transfer, particularly tacit knowledge	Social ties provided more dynamic channels in accessing crucial tacit knowledge	Socialisations and social ties provided opportunities to establish inter-personal relationships, that facilitated more efficient and effective knowledge transfer

**Table 6. 2:** Factors impacting knowledge Transfer Success

### 6.3.1 Knowledge Factors

The first set of factors is ‘knowledge factors’, or the characteristics of the knowledge to be transferred from the vendors by the three organisations. All ALPHA, BETA and GAMMA reported that the nature and the characteristics of knowledge played an important role in knowledge transfer in IS outsourcing. *Knowledge tacitness* was perceived as a vital factor that determined the effectiveness and the efficiency of knowledge transfer. Explicit knowledge was documented in reports and technical manuals, and therefore was transferred easily by IS staff in the three organisations. On the other hand, tacit knowledge was challenging to be transferred from vendors because such ‘know-how’ was embedded in individuals experiences. Therefore, the transfer of tacit knowledge often required longer face-to-face and personal contacts between the two organisations.

These findings provide further support for prior research on the impact of knowledge tacitness on successful inter-organisational knowledge transfer. Explicit technical and business knowledge can be articulated easily and then transferred and learnt by individuals on the client side, since often this type of knowledge is expressed and disseminated formally and systematically. Tacit knowledge, on the other hand, resides in the minds of individuals on the vendor side and, therefore, it is not easy to be verbalised and written. This is consistent with the findings of previous researchers such as Szulanski (2003) and Szulanski, (1996) who argue that tacit knowledge is having ‘sticky’ characteristics, which makes it difficult to be transferred from the source to the recipient. Additionally, the findings confirm the argument of Inkpen and Pien (2006) who explain that explicit knowledge can be transferred relatively easily through formal learning and written documents such as manuals and operating instructions. However, tacit knowledge is often context specific and its transfer is much slower, costly, and uncertain.

*Knowledge complexity* was another key knowledge-related factor which also the participants of the three organisations echoed as impacting upon knowledge transfer during IS outsourcing projects. Knowledge complexity was perceived to affect the comprehension of the totality of knowledge and to impair its transferability. For example, some business knowledge such as management practices was more difficult to transfer from vendors because these were deeply embedded and highly dependent

on broad contextual factors. It was found that knowledge complexity generates ambiguity, and therefore limits knowledge transfer.

Knowledge complexity has not been explored well in prior inter-organisational knowledge transfer (Minbaeva, 2007). Prior studies such as Simonin (1999) found that technical knowledge tends to be associated with various interdependent technologies, routines, individuals, and resources which make it complex to be leveraged by clients. This study also highlights that technical knowledge is sophisticated and intellectually difficult to transfer. Therefore, it could be argued that knowledge which is complex, unfamiliar and not well-understood is harder to transfer than less complex knowledge.

### 6.3.2 Client Factors

The second set of factors is 'client factors'. This set consists of key factors that describe the characteristic of the IS divisions (and the IS professionals within these divisions) of the three organisations, and how these factors impact upon successful knowledge transfer. The first factor in this set is *learning intent*. Learning intent was cited constantly across the three cases as an important factor in knowledge transfer. Individuals with higher levels of learning intent tended to be more proactive; exploiting opportunities of knowledge transfer and learning present in the outsourcing environment. It was found that the vast majority of the IS employees in the three organisation were eager to learn from vendors and develop new knowledge, skills and competencies. For example, they focused both on how the vendors' technical teams solved problems and where they looked for answers. Another example which demonstrates that learning intent is vitally important was that when IS employees in the three organisations tended to take more responsibility in the project and worked side by side with vendors' teams, they were able to transfer knowledge more effectively.

As noted in Chapter three (Section 3.3.3), multiple researchers (e.g. Tsang, 2002 Hamel, 1991) emphasise that learning intent is a critical factor that facilitates more effective inter-organisational knowledge transfer. In this study, it was also found that intention to learn and the desire and willingness to identify and acquire potentially useful knowledge is an important factor and it is a driving force that need to be maintained consistently by the IS staff of the client organisations, since outsourcing

relationships have become stimulating, novel learning opportunities. Without learning intent, an individual is unlikely to commit time and resources and make an extra effort to transfer new knowledge.

The second factor in this set which was perceived to be vital for successful knowledge transfer is *absorptive capacity*. It was clear from the cross-case analysis that the three organisations had considered absorptive capacity, or how well-equipped individuals were to take in, absorb, and apply new knowledge from vendors which were seen as essential for effective knowledge transfer. Therefore, the ability to absorb new knowledge greatly depends on the accumulation of related prior knowledge.

According to the organisational learning theory, prior knowledge and learning facilitates the learning and transfer of new related knowledge (Cohen and Levinthal, 1990). Also, the literature on knowledge transfer has been highlighting increasingly the importance of absorptive capacity and its significant impact on successful knowledge transfer (Volberda *et al.*, 2010; Zahra and George, 2002). In this study, further light was shed on how prior related knowledge enables the recipient of knowledge to recognise the value of new knowledge, and thus contributes to more effective and efficient knowledge transfer. Furthermore, the empirical evidence illustrates that simple access to complementary knowledge and skills from vendors is in no way responsible for the transfer of crucial knowledge; it is the capacity to absorb external knowledge which determines the success of the transfer.

The third factor in this set which contributes to successful knowledge transfer is *motivation*. Motivation has been considered as one of the most effective practices in fostering IS employee's level of performance generally, and knowledge transfer and learning in particular. There were two types of motivations which the three cases highlighted that as being essential when it came to knowledge transfer during the course of IS outsourcing projects, namely intrinsic and extrinsic. It was found that intrinsic and extrinsic motivations are crucial and they both are powerful twin engines in motivating IS staff to transfer knowledge, and therefore, contribute to the organisational performance. *Intrinsic motivation* has been considered as a necessary factor for effective knowledge transfer. Many of the participants in the three organisations reported that, in most cases, they were very interested, passionate,



satisfied and enjoyed acquiring new knowledge and learning during the outsourcing projects. These personal desires to learn, develop their own competencies and improve personal capabilities enabled many of the IS staff in the three organisations to exert extra efforts and time in searching for and transferring some business and technical knowledge from vendors. *Extrinsic motivations* were also perceived to be vital in knowledge transfer. Many participants from the three organisations have reported that some external contingency, which was valued and which they expect to obtain triggered their behaviour to engage and transfer knowledge from vendors during IS outsourcing projects. Two main categories of extrinsic motivations were revealed to be essential for knowledge transfer: *monetary* and *non-monetary*. Monetary motivations include bonuses, increase in salary, gifts, paid for education and training and fringe benefits. Non-monetary motivations were in a form of recognition, empowerment, flexitime and thank-you e-mails/letters.

The findings complement the work of other scholars who have stressed the roles of extrinsic and intrinsic motivations in employees' behaviours generally (e.g. Cabrera *et al.*, 2006) and in knowledge transfer particular (e.g. Ko *et al.*, 2005). The results of this study also support Argote *et al.* (2003) who found that it is critically central to provide individuals with incentives and motives to participate more actively in the knowledge transfer process. Members of IS staff, like all individuals, expect some acknowledgement of their accomplishments, including knowledge transfer. Recognising the members of IS staff's achievement in bringing new knowledge to their division during IS outsourcing projects has become essential in ensuring effective knowledge transfer

However, it was found that, in comparison to extrinsic, intrinsic motivations were more effective and had central role to the transfer of knowledge and learning from vendors. Indeed, evidence from the three cases suggests that IS staff tend to be more proactive, have higher cognitive aptitude and have a higher self-esteem when engaging in knowledge transfer and learning activities which enhance and contribute to their personal and professional development. Therefore, intrinsic motivations are deemed to have a greater impact on the success of knowledge transfer, particularly when the knowledge is tacit (Ko *et al.*, 2005; Osterloh and Frey, 2000). Thus, it is vital for client organisations to create a motivating environment which increases employees' yearning for more and better knowledge inputs in their everyday

activities through their interactions with multiple vendors during IS outsourcing ventures.

### 6.3.3 Vendor Factors

The third set of factors is “vendor factors”. This set consists of key factors that describe the characteristic of the vendor, which is the source of knowledge. The first factor in this set is *vendor capability*. Drawing from the three case studies, it has been found that vendor capability played a critical role in knowledge transfer in IS outsourcing. A vendor with high level of experience, expertise and disseminative capability allowed IS staff in the three organisations to appreciate and transfer new vital knowledge. The participants from the three organisations described a capable vendor as the one which possesses a professional, well-trained and competent personnel with a wider span of technical and business knowledge and experience, which are capable of providing accurate, up-to-date and timely knowledge.

Prior studies in IS outsourcing highlighted the importance of vendor capability in successful outsourcing generally (e.g. Goles, 2001; Saunders *et al.*, 1997). This study further extends these works and provides an in-depth examination on how vendor capability contributes to successful knowledge transfer in IS outsourcing. The findings show that the transfer of knowledge requires the vendor’s greater willingness to devote adequate time and resource in supporting the knowledge transfer process.

The second factor in this set is *vendor credibility*. Collectively, the three cases pointed out that vendor credibility and trustworthiness were essential ingredients in order to ensure effective knowledge transfer in IS outsourcing. The findings indicate that the presence of trust results in a reduction of opportunistic behaviour with regard to knowledge and this makes knowledge transfer not only possible but more effective. Furthermore, the vast majority of the participants from the three organisations reported that value of the knowledge which they acquired was tied strongly to their perception of the vendors’ credibility and trustworthiness.

The empirical evidence, here, is consistent with many IS outsourcing scholars (e.g. Barthélemy, 2003; Lee, 2001) who argue that vendor reliability plays a pivotal role in the success of outsourcing relationships. These findings also support many of the

inter-organisational knowledge transfer studies which have indicated that credibility of the source of knowledge is vital in increasing the amount of knowledge acquired by the recipient. Sié, and Yakhlef (2009), for example, argue that source credibility reduces the degree of concerns about the quality of knowledge and enhances the veracity of knowledge, thereby facilitating its acceptance by the recipient. It could be argued further that, when the client perceives the vendor organisation to be credible and trustworthy, it will be less suspicious and more receptive to the new knowledge. Furthermore, the knowledge provided to the client tends to be highly accurate, comprehensive, valuable and timely.

The third factor in this set is *vendor openness*. Successful Knowledge transfer is perceived by the participants in the three cases to be affected greatly by the openness of the vendor, or the extent to which the vendor was transparent and provided access to critical knowledge and resources. Moreover, vendor openness has been considered by the three cases as a key element in determining the amount and quality of knowledge transferred by the IS staff in the three organisations. The three cases showed that they were able to transfer new technical and business knowledge more easily when the outsourcing vendors' level of transparency and openness was high.

Prior inter-organisational knowledge transfer research such as Easterby-Smith *et al.* (2008a) and Ko *et al.* (2005) did not pay enough attention to the importance of vendor openness as a facilitator of inter-organisational knowledge transfer. This study, however, illustrates the pivotal role of vendor openness and argue that the success of knowledge transfer in IS outsourcing depends greatly on the vendor's transparency, willingness and intent to share crucial knowledge to clients. The vendor's willingness to 'open its doors' and reveal important technical and business knowledge to the clients has a major impact on successful knowledge transfer.

#### **6.3.4 Relationship Factors**

The fourth set of factors is "relationship factors". This set addresses the characteristics of the relationship between the client (the recipient of knowledge) and the vendor (the source of knowledge) from the perspectives of the three client organisations. The first factor in this set is *relationship quality*. Relationship quality was one of the main factors highlighted by most of the participants in the three organisations as being highly imperative in increasing the success of knowledge

transfer in IS outsourcing. A relationship which is based on commitment, flexibility and effective communication has been seen to facilitate more effective and efficient flow of knowledge from vendors to the client organisation. The three organisations extolled the benefits of developing lasting and mutually beneficial relationships with their vendors. Commitment to maintain a healthy relationship and intensive communications fostered cooperative behaviours that enhanced knowledge transfer.

The empirical findings, here, are in line with the many studies which highlight the impact of relationship quality on inter-organisational relationships in general (Pérez-Nordtvedt *et al.*, 2008; Reagans and McEvily, 2003) and IS outsourcing success in particular (e.g. Swar *et al.*, 2010; Lee, 2001). This study indicates that most outsourcing relationships last for several months or even several years and, therefore, there is a need for an ongoing and cooperative relationship between both parties. Additionally, the stronger and more intimate the relationship between the clients and vendors, the less transaction costs and the more the volume of quality knowledge transferred from vendors. A quality relationship encourages the vendor to assist and update the client vigorously to understand the knowledge which it is offering. In other words, this study is supportive of the notion that a quality relationship provides greater interactions and enables business partners to work more closely and effectively and, therefore, facilitates the transfer of crucial knowledge.

The second factor in this set is *relationship governance*. Substantial evidence from the three cases highlights that relationship governance plays a pivotal role in the success or failure of knowledge transfer. The three organisations indicated that the formal contracts and relationship governance worked as a complement when managing the outsourcing relationships. For example, ALPHA designed contracts in order to settle initially several cooperation principles and clarifications about the necessary plan, goals and activities. The participants mentioned that formal contracts were used occasionally in order to clarify aspects on how to deal with specific matters.

This study highlights that an appropriate governance of the outsourcing relationship is essential for knowledge transfer to take place. Although the extent of IS outsourcing research has suggested that formal service level agreements (SLAs) are vital tools in enforcing optimum performance and obviating moral hazards (e.g.

Currie, 1996; Lacity and Hirschheim 1993), this research, however, highlights that a formal contract alone is insufficient in guiding successful knowledge transfer. It was found that rigid formal contracts are often litigious in nature, encouraging a climate of mistrust between clients and vendors that further undermines the possibilities for knowledge transfer. Furthermore, the existence of certain knowledge transfer clauses in the contract by no means guarantees effective knowledge transfer. A complementary ‘carrot-and-stick’ approach which manages the relationship through legal contract and informal safeguards (i.e. trust) simultaneously enables internal IS staff in the client organisations to enjoy better access and monitor the vendors’ various knowledge, expertises and technologies. This finding is consistent with empirical results offered by Poppo and Zenger (2002) and Barthe´lemy (2003) which show that using formal contracts and relational governance function as complements ( and not as a substitute) when managing IS outsourcing ventures. Thus, it could be argued that in order to achieve success in knowledge transfer, relationship management should complement contractual arrangements.

The second factor in this set is *relationship duration*. Collectively, the three cases revealed that the duration of the outsourcing relationship had an impact on the knowledge transfer success. The majority of the participants in the three cases indicated that, as the duration of the outsourcing relationship increased, they were able to develop relation-specific routines with their vendors, and consequently, the members of their IS staff became more capable in acquiring complex knowledge.

In this study, it could be argued that long relationships breed strong familiarity which develops and builds upon the elements of social capital in the relationship. In addition, this further increases the vendor’s willingness to share critical knowledge. Furthermore, relationships which have lasted a long time are more likely to continue than younger relationships because participants have built mutual understanding and trust, and thus, through adjustment over time, have eliminated the need for detailed formal agreement. As the relationship between the client and the vendor ages, they gain deeper and richer impressions of each other, which enable them to bridge any cultural incompatibility.

The third factor in this set is *organisational distance*. The empirical findings from the three organisations establish clearly that organisational distance (including

*physical distance, organisational culture distance and national culture distance*) between the clients and their vendors has a major impact on successful knowledge transfer. These findings indicate a strong belief in the critical role played by physical proximity of the three organisations from their vendors. In outsourcing relationships conducted with offshore vendors, physical distance between clients and vendors was viewed as a key inhibitor of effective and efficient knowledge transfer. GAMMA's IS staff, for example, reported that they have struggled to effectively transfer knowledge from vendors during the off-shored projects. Geographical separation and time zone differences were perceived to cause serious misunderstanding and pose additional challenges to achieve successful knowledge transfer. The time zone gap, for example, was considered to be a major obstacle for knowledge transfer in offshore outsourcing, as it caused delays and added coordination costs during the relationships.

Organisational culture distance was also perceived by the majority of the participants in the three organisations to be a major hindrance for knowledge transfer success. According to the findings from the three organisations, incompatible organisational characteristics with the vendors were responsible particularly for the failure of many of the knowledge transfer initiatives. It was revealed that dissimilarity in business practices, communication styles, approaches toward work, degree of formality and empowerment of staff tended to delay the process of knowledge transfer and to increase transfer costs. For example, the three organisations have different business hours, organisational politics and managerial decision making than many of their vendors. In many cases, such incompatibilities in corporate culture have created various problems and lead to relationship instability, and thus reduced the opportunities of the IS staff in the three organisations to transfer knowledge effectively from vendors.

National culture distance was also considered to have some impact on the outsourcing relationships in general, but rarely hindered the knowledge transfer process. The three cases, however, varied with regard to how strong these differences were and to what extent they obstructed knowledge transfer. For example, as far as cultural background distance was concerned, some the respondents in ALPHA and BETA, acknowledged that such differences burdened communication and impacted negatively knowledge transfer and learning. On the other hand, the majority of

GAMMA's participants reported that although national cultural distance existed, it did not translate into difficulties that could inhibit knowledge transfer and learning. Additionally, GAMMA established various exercises with most of its vendors in order to bridge any cultural gaps. This provided an opportunity for GAMMA's IS staff to meet, learn about the areas of expertise of the individuals in the vendors' teams, learn about cultural differences, and create space for social interaction. Furthermore, these exercises helped to reduce the possibility of conflicts and misunderstandings.

This study emphasises, here, that physical and time zone differences can be major stumbling blocks for outsourcing relationships generally and knowledge transfer in particular. Although extant prior literature emphasised on information and communication technologies (ICT) as a facilitator for collaboration and transfer of knowledge (e.g. Numprasertchai and Igel, 2005; Goh, 2002), this study highlights that geographical distance between clients and vendors remains a key barrier for knowledge transfer in IS outsourcing. Close proximity affords a greater opportunity for individuals in the client organisations to observe and learn compared to remotely located vendors. In other words, close geographic proximity enables the client organisation's IS staff to identify who knows what in the vendors' teams, and consequently, so they know from whom and where to search for relevant knowledge.

With regard to the impact of national culture distance on knowledge transfer in IS outsourcing, the empirical evidence suggests that differences in cultural background, beliefs, norms and languages may cause relative disruption to the outsourcing relationship, but rarely inhibits knowledge transfer success. These findings contradict, to a certain extent, many outsourcing studies (e.g. Avison and Banks, 2008; Winkler *et al.*, 2008; Krishna *et al.*, 2004) which emphasise that incompatible national culture and language pose challenges and lead to miscommunications and misunderstandings in IS outsourcing relationships. This resulted in a limited knowledge transfer. The inter-organisational knowledge transfer literature (e.g. Lucas, 2006; Michailova and Hutchings, 2006) also pointed out that national culture distance between the source and the recipient is one of key obstacles for knowledge transfer success. More importantly, the study highlights the importance of alleviating the national culture distance by promoting cultural awareness on both sides of the

outsourcing relationship in order to achieve good cultural compatibility, and, therefore enhance the knowledge transfer process.

Prior research on inter-organisational knowledge transfer has not paid adequate attention to the impact of organisational culture distance on knowledge transfer success, and has focused instead primarily on the influence of national culture distance. This study examined empirically organisational culture distance and suggests that clients and vendors which have incompatible work behaviours, styles of management, working practices, legislations and technology tend to have difficulties in establishing close relationships and smooth cooperation which facilitate knowledge transfer. It was recognised that the greater the organisational cultural distance between clients and vendors, the less consistent the communication environment will be and the less likely there will be insufficient social bonding amongst individuals to facilitate effective knowledge transfer. On the contrary, the more compatible the organisational culture and business practices of the client and the vendor, the more likely the client will transfer effectively the necessary knowledge and internalise not only the codified, but, also the tacit components of the vendors' disclosed knowledge.

### **6.3.5 Knowledge Transfer Mechanisms**

The fifth set of factors is related to the "knowledge transfer mechanisms". The participants from the three organisations noted that they all had used two types of mechanisms, namely *formal* and *informal* to transfer knowledge from vendors. Formal mechanisms such as training, workshops, presentations and formal meetings facilitated the transfer of explicit knowledge. Explicit knowledge was also communicated to the three organisations through reports, instruction manuals, e-mails and other types of documentation. Tacit knowledge, however, required more informal vehicles to be acquired effectively and efficiently from vendors. There was agreement amongst the three organisations that tacit technical and business knowledge required contextually rich channels to be transferred and learnt from vendors. The majority of the participants from the three organisations have put a great deal of emphasis on the importance of establishing mutual networks and social ties with individuals in the vendor organisations in order to facilitate effective knowledge transfer during the outsourcing relationships. Furthermore, they agreed



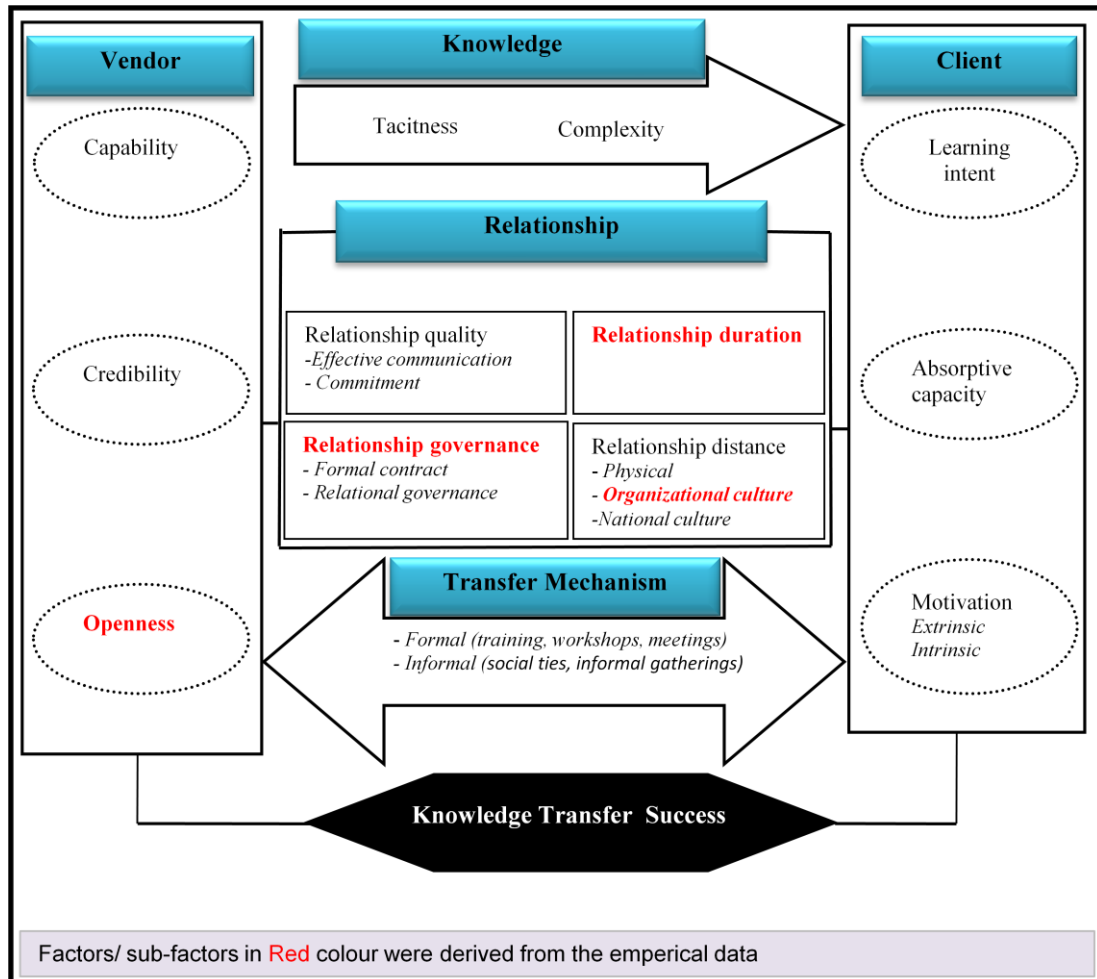
that going beyond the usual communication technologies such e-mails and instant messaging and facilitating personal contacts and face-to-face interaction was absolutely crucial for effective knowledge transfer. ALPHA and GAMMA, for example, managed to hold several social events with their vendors so that members of their IS staff could meet with individuals from the vendors' teams in an informal setting, build relationships and acquire new knowledge.

It could be argued here that in IS outsourcing, formal and informal mechanisms both play a pivotal role in transferring technical and business knowledge from vendors to clients. Nevertheless, the empirical findings suggest that it is more likely that simple and codified knowledge be transferred by formal and structured transfer approaches, whilst tacit and complicated knowledge would be more likely to be transferred through personal, unstructured and informal knowledge transfer approaches.

Perhaps, the most interesting finding which noted earlier is that the participants of this study did not highlight ICTs as a factor for successful knowledge transfer. This seems to contradict many published research papers, which highlight the role of ICTs in inter-organisational knowledge transfer. The findings emphasise the need to pay greater attention to the elements of social capital such as social ties and trust because effective knowledge transfer from vendors is possible only when there are close relationships and face-to-face interactions between them. Furthermore, it could be argued that strong inter-personal ties amongst individuals on both sides of the relationship can improve the ability to learn effectively and enhance the quality of knowledge acquired. The findings are consistent with results of Bell and Zaheer (2007) who argue that friendships between organisational members across organisational boundaries constitute a type of tie which is likely to exert an important influence on inter-organisational knowledge transfer. This is also in line with argument of Argote *et al.* (2003, p. 574) that tacit knowledge "is best transferred through rich communication media such as observation, rather than more explicit media". The researcher illustrates further that knowledge acquired through observing someone perform a task is more beneficial for subsequent performance than other types of knowledge acquired through classroom training, especially when the knowledge to be transferred is complex and sticky.

## 6.4 A Revised Conceptual Framework

On the basis of the evidence from the cross-case analysis presented and discussed above, the original conceptual framework (in Figure 3.1) has been revised as illustrated in Figure 6.1 below and discussed in detail.



**Figure 6.1:** Revised conceptual framework for knowledge transfer success in IS outsourcing

The revised conceptual framework provides a more holistic understanding of the key factors which facilitate or inhibit knowledge transfer success from vendors to clients in IS outsourcing. As shown in Figure 6.1, the framework suggests that the success of knowledge transfer is affected by five sets of factors. Firstly, the tacitness and complexity of knowledge have a negative impact on knowledge transfer success. Tacit and complex knowledge are less transferable by client organisations during the course of outsourcing projects. The transfer of such knowledge requires the establishment of social ties and face-to-face interactions with individuals in the

vendor organisations. Secondly, the learning intention of the IS staff in the client organisations and their absorptive capacity have been found to be critically essential in transferring the vendor's crucial knowledge. Additionally, two types of motivations (intrinsic and extrinsic) play a pivotal role on the success of knowledge transfer in IS outsourcing. Furthermore, it was found that despite the recognised importance of financial motivation and recognition, IS staff of the client organisations were able to acquire more crucial technical and business knowledge from vendors when they were satisfied and enjoyed working on the IS project. Thirdly, the capability and credibility of the vendors have also been considered to be important in order to enjoy a more effective and efficient knowledge transfer. IS staff of the clients gain better opportunities to learn and acquire knowledge from vendors which possess adequate technical capabilities and expertise and have a desire and willingness to make short-term sacrifices in order to provide a suitable knowledge transfer atmosphere. The empirical findings also suggest that knowledge transfer success cannot be achieved unless the vendor is open and transparent. The vendor's openness is considered to be a key factor in determining the amount and the quality of knowledge that could be transferred by the IS staff during the outsourcing project. Openness reflects the degree to which the vendors provide spontaneous and open transfer of knowledge by the IS staff of the client organisations. Fourthly, the characteristic of the relationship between the client and the vendor determines the effectiveness and the efficiency of knowledge transfer. A quality relationship that is based on commitment and effective communication provides a fruitful atmosphere for the IS staff of the client organisations to transfer knowledge and learn from the vendors. At the same time, vendors tend to devote efforts and spend extra time and resources in teaching and passing on knowledge to the clients. The empirical investigations also suggest that longer relationships provide the IS staff with opportunities to establish closer relationships and build trust with the individuals in the vendor's team, and therefore have smoother and better avenues to transfer knowledge and learn. Additionally, this study highlights that an outsourcing relationship which is governed by contract and trust simultaneously leads to a more successful knowledge transfer. Nevertheless, the organisational distance between the client and the vendor was found to create challenges and complications for knowledge transfer. Physical distance is a key inhibiting factor for knowledge transfer success. IS staff of the client organisations enjoy more effective learning and

knowledge transfer during domestic outsourcing projects in comparison to the off-shore ones, since geographical and time zone differences often delay communications. Organisational culture distance has also been considered as a key factor which hampers knowledge transfer. Despite growing interest in this factor, there has not been an in-depth examination on how they generate challenges in outsourcing relationships, generally and in knowledge transfer in particular. The study suggests that organisational culture incompatibility including different work behaviour, decision making process, and approaches to resolving conflicts limit the ability of the clients to arrange knowledge transfer sessions and learn from the vendors. Contrary to prior outsourcing studies, this research found that national culture distance does not have a great impact on the success or failure of knowledge transfer. A possible explanation is that, over time, the cultures of the people in the two organisations (client and vendor) evolve to become more tolerant or accepting of each other's culture. An alternative explanation may be that most of the IS professionals in the three organisation were educated abroad or had been educated in Oman by academic staff from various cultural backgrounds. Consequently, this enabled them to understand and be able to deal with individuals from different cultural backgrounds.

## **6.5 Chapter Summary**

This chapter presented and discussed the findings of the cross-case analysis. The three organisations focused on how to improve the capability and performance of their IS divisions through inter-organisational knowledge transfer, and IS outsourcing was seen commonly as a strategy for achieving such necessary improvements. Drawing on the data collected from the three public sector organisations in Oman, it is revealed that outsourcing was a fruitful environment in the leverage of new superior technical and business knowledge and competencies and renewing old ones from vendors. The findings elicit that knowledge transfer success is determined by five main sets of factors: knowledge factors, client factors, vendor factors, relationship factors and knowledge transfer mechanisms.

The next chapter (Chapter 7) presents a general summary of this study, discusses the contributions, acknowledges the limitation and offers suggestions for further research.

## CHAPTER SEVEN: CONCLUSION

### 7.1 Introduction

The previous chapter presented, discussed and reflected upon the findings of the cross-case analysis. It also offered a revised conceptual framework for knowledge transfer in IS outsourcing. The discussion led to the conclusion that five sets of factors impact the success of knowledge transfer from vendors to clients in IS outsourcing.

This chapter is the final part of this thesis. It provides a synopsis of the research that has culminated in this thesis. The chapter begins with an overall summary of this research and the key findings in Section 7.2. This is followed by a discussion of the study contributions and implications to theory, methodology and practice in Section 7.3. Section 7.4 acknowledges the research limitations and offers directions for future research. Finally, the summary of this chapter is presented in Section 7.5.

### 7.2 Research Overview and Key Findings

The intention of this study was to provide a more holistic understanding and analysis of the key factors which facilitate or inhibit successful knowledge transfer from vendors to clients in information systems (IS) outsourcing. The following paragraphs summarise the major points developed within the preceding six chapters.

Chapter 1 is the introductory chapter to the entire research carried out. It offered a brief research background and defined the research problem. The chapter also outlined the motivations for conducting this research and highlighted its relevance and significance. It was asserted that IS outsourcing relationships provide an ideal catalyst for client organisations to transfer potentially useful new technical and business knowledge from vendors. New knowledge can be an important stimulus for organisational improvement and innovation. Whilst prior research acknowledged the importance of client learning, and addressed some of the important considerations of knowledge transfer in IS outsourcing, what was less clear were the key factors which contribute to knowledge transfer success. Previous empirical studies were conducted

mainly through survey questionnaires that were useful in identifying some of the factors which impact knowledge transfer. However, these were inadequate in providing a holistic and in-depth understanding of such a complex phenomenon involving multiple set of factors which facilitate or inhibit knowledge transfer success. Chapter 1 also stated the aim and the objectives of the research, provided information on the research design undertaken, highlighted the research relevance and significance and offered an overview of the structure of this thesis.

Chapter 2 presented a critical review of literature on IS outsourcing, knowledge transfer and inter-organisational relationships. The extensive examinations of relevant literature revealed that IS outsourcing has grown rapidly in the past few decades, and the nature of the relationships between clients and vendors has shifted from focusing on the advantages of cost reduction towards an emphasis on strategic purposes. Recent empirical IS outsourcing studies suggested that client organisations realised that outsourcing relationships had become an appropriate platform for identifying and transferring valuable knowledge, capabilities and expertise which are unavailable or difficult to develop internally. Despite the growing research on inter-organisational knowledge transfer and how organisations utilise a multiplicity of arrangements to acquire valuable knowledge, capabilities and skills through its interactions with its partners, little attention has been paid to how client organisations gain access and transfer knowledge from vendors during IS outsourcing projects. In addition, there is a lack of a comprehensive framework which can explain the key factors facilitating or inhibiting successful knowledge transfer.

The conceptual framework of the study was established in Chapter 3. Rather than applying the grounded theory approach, in which the researcher engages the subject without pre-existing ideas or frameworks, existing theory was used to guide the research. Two different theoretical lenses (social capital theory and organisational learning theory) were used as a basis to explore the phenomenon of knowledge transfer in IS outsourcing. The proposed conceptual framework provided an opportunity to gain a better understanding of the key factors which impact knowledge transfer success.

Chapter 4 presented the methodological approach of this study and justified its suitability for this particular research. This study employed a qualitative multiple-case study approach in the interpretive paradigm. Using a triangulation of semi-structured interviews, observations and documents analysis, information regarding knowledge transfer in IS outsourcing was obtained from multiple participants with different views, perceptions and experiences. The main advantages in using semi-structured interviews in this research was that it provided us with ample opportunities to ask follow-up questions and clarify issues and check the participants' understanding of the topics until adequate answers and interpretations were gained. By using multiple sources of evidence, and being able to actually observe the participants at work, we were able to mitigate many potential sources of bias. Qualitative content analysis (with utilisation of Nvivo 8, qualitative data analysis software package) was the technique used for analysing the empirical data in this study.

In Chapter 5, some background information was firstly offered about Oman which is the research context where we collected the empirical data. Then, the findings from the analysis of the three cases were presented and highlighted the emergent patterns from each case. A case description of each individual organisation and its experience with knowledge transfer in various IS outsourcing projects enabled us to construct a separate case study report and become familiar with each entity before conducting the cross-case analysis.

Chapter 6 presented the findings from the cross-case analysis. The cross-case analysis enabled us to look for common patterns, and therefore draw a more holistic picture of the phenomenon. This chapter also offered a discussion of the key findings yielded in a revised (enhanced) conceptual framework of knowledge transfer success in IS outsourcing. The revised framework illustrate that knowledge transfer success in IS outsourcing is impacted upon by five sets of factors. These are: knowledge factors (knowledge tacitness and knowledge complexity), client factors (learning intent, absorptive capacity and motivation), vendor factors (vendor capability, vendor credibility and vendor openness), relationship factors (relationship quality, relationship duration, relationship governance and organisational distance) and knowledge transfer mechanisms (formal and informal).

### **7.3 Research Contributions and Implications**

It is said that information systems research must (1) be significantly rigorous and theoretically interesting to the academics and (2) has relevance to the business community (Rosemann and Vessey, 2008; Oates, 2006; Benbasat and Zmud, 1999; Darke *et al.*, 1998). This study explored issues in the integration of two areas of academic and managerial endeavour which are rapidly becoming ubiquitous in the field of information systems. These are outsourcing and knowledge transfer. The next sub-sections present and address the theoretical, methodological and practical contributions of this study.

#### **7.3.1 Contributions to Theory**

This research provides important contributions and novel insights into the growing body of research which has sought to examine and understand knowledge transfer in inter-organisational relationships in general and in the context of IS outsourcing in particular. The major theoretical contribution of this study is the development of a novel, holistic conceptual framework for knowledge transfer in IS outsourcing, as proposed in Figure 3.1. The framework was validated through multiple case studies, and based on the findings was revised in Figure 6.1. As noted in Section 2.9, there is a lack of research offering a holistic and thorough examination and analysis of the key factors that facilitate or inhibit knowledge transfer success. Thus, this integrative and coherent framework is particularly important in light of an increasing interest in fundamental enablers and barriers to the successful transfer of external knowledge, and it allowed for comprehensive understanding of the knowledge transfer process.

Extant studies have examined how organisations pursue knowledge transfer and learning opportunities in various inter-organisational settings. However, few studies have examined the role of social capital in facilitating inter-organisational knowledge transfer. Despite the popularity of the concept, however, there is little systematic empirical evidence about how social capital improves the efficiency and effectiveness of knowledge transfer between organisations. For example, although existing research points to the important role of social ties and informal networks for effective and efficient inter-organisational knowledge transfer (e.g. Mu *et al.*, 2008; Reagans and McEvily, 2003), the available empirical evidence on the association



between social ties and knowledge transfer success is limited. The findings of this study add new valuable insights to the IS outsourcing research and contribute to incorporating the social capital perspective into the knowledge management literature by showing empirically how social capital is effective for knowledge transfer and application. Previous researchers have called for further empirical investigation of this phenomenon. For example, Argote *et al.* (2003) states “more research is needed on how informal networks affect knowledge management process”. The current study would be considered the first of its kind to respond to such calls, and therefore this is a timely contribution.

Additionally, this study contributes to the current literature by recognising the role of the vendor’s (i.e. source of knowledge) capability in knowledge transfer. Whereas previous studies focussed largely on the recipient’s capability, principally on its absorptive capacity and the possession of relevant knowledge (e.g. Lichtenthaler, 2009; Contractor and Ra, 2002; Zahra and George, 2002; Gupta and Govindarajan, 2000), this study extends the existing literature by shedding further light and emphasising the importance of a vendor’s capability for successful knowledge transfer in IS outsourcing. Vendor capability is shown to be vital because the outflow of knowledge from the vendor to the client depends upon the expertise and the wealth of the vendor’s knowledge-base. The empirical findings illustrated that capable, credible and open vendors provide assistance to clients even in the case of unplanned inquiries, and this foster the assimilation of knowledge. Furthermore, vendor capability limits the extent to which client organisations have to collaborate and exert extra effort in transferring knowledge, therefore, saving time and cost.

Another theoretical contribution of this study is the examination of both national and organisational cultures on knowledge transfer success in one study. The majority of past studies in inter-organisational knowledge transfer failed to examine both dimensions of culture simultaneously, and fall short to investigate the possibility that different cultural dimensions may influence the knowledge transfer performance differently. In this study, national culture distance (including ethnic group’s norms, values, morals, customs and spoken language) did not appear to cause any additional significant complications to the knowledge transfer process. However, the empirical evidence showed that organisational culture distance (including business and project management practices, communication styles, approaches toward work and decision

making, degrees of formality and empowerment of staff) is a major hindrance which often increases misunderstanding and conflicts, and therefore delays the process of knowledge transfer and increases transfer cost. Additionally, the empirical evidence of this study expanded earlier findings on the impact of cultural distance on knowledge transfer. Specifically, this study examined clients' experiences with domestic, near-shore and offshore vendors.

### **7.3.2 Contributions to Methodology**

This study is one of only a very few that have employed a rigorous qualitative approach to address the issue of inter-organisational knowledge transfer in general, and it is believed to be the first to qualitatively address the phenomenon in the context of outsourcing relationships in particular. As explained in Chapter Four (Research Methodology), this study adopted an interpretive qualitative multiple case study approach to answer the research inquiry. This approach enabled us to provide a detailed investigation and understanding of the knowledge transfer phenomenon in IS outsourcing in terms of the meanings and point of views the participants bring to them. This flexible method allowed us to establish close contact with the people directly involved to an extent that was necessary to grasp what was going on in the field. The semi-structured interviews allowed for in-depth discussions and emergence of new issues not already thought of. Additionally, the multiple case study approach provided a rich and descriptive account of relevant events, as well as an in-depth analysis to get below the surface and explicate the complexities of the knowledge transfer process. In this sense, the case report is not meant, "to represent the world" of knowledge transfer in IS outsourcing, but rather to "provide an extension of the experience" from the clients' own involvement and exposure to knowledge transfer in various IS outsourcing projects (Stake, 2003, p. 156).

Gaining access to the setting for research can preoccupy a researcher in adopting a cases study approach (Fontana and Frey, 2003). However, the researcher managed to utilise his contacts and personal networks to gain access to the field and then establish trust and build deeper rapport with the participants in the three organisations. This enabled us to increase the likelihood of gaining accurate, honest and thorough responses. In addition, the researcher was able to pursue new referrals

through each participant once rapport had been established. Referrals to other potential participants are deemed critical while conducting research in developing economies such as Oman, as centralised data sources and telephone directories often become outdated due to the rapid pace of growth and development.

The time spent in the field was an additional strength of this research. The prolonged engagement in the field enabled us to learn and understand various aspects of the culture and social setting and develop relationships and rapports with the study's participants. Additionally, the observation technique afforded the researcher the opportunity to be invited into the work environment and witness the IS staff natural daily interactions with the technical teams of the vendors and understand their behaviours and actions under different circumstances. Therefore, observation was therefore a valuable tool, in that "it enjoys the advantage of drawing the observer into the phenomenological complexity of the world, where connections, correlations, and causes can be witnessed as and how they unfold" (Adler and Adler, 1998, p. 81).

In this study, the data analysis was based on the initial proposed conceptual framework. This approach allowed the researcher to conduct the analysis with certain expectations based on prior theory, while also allowing some unexpected issue and explanations to emerge from the data.

A striking feature of this study is the employment of Nvivo 8, qualitative data analysis software. The researcher followed the advice of the UK Economic and Social Research Council (ESRC) which states in their recent 'Postgraduate Training and Development Guidelines' that doctoral students "must also be able to gain direct practical experience of analysing data, using a range of tools, including appropriate computer packages" (ESRC, 2009, p. 18). Nvivo 8 enabled us to effectively and efficiently manage the complexity of coding mountains of qualitative data collected from multiple sources of evidence. Such computer-based qualitative data analysis tools have been deemed to produce more accurate, transparent and rigorous results (Eriksson and Kovalainen, 2008; Bringer *et al.*, 2004).

### 7.3.3 Contributions to Practice

The findings reported in this study lead to a number of significant contributions and valuable implications to practice in general, and to the public sector of Oman in particular. Although many public sector organisations in Oman have been increasingly investing in IS outsourcing, they traditionally lack understanding on how to manage inter-organisational knowledge transfer successfully. This study provides some useful insight for IS managers who often need to take critical decisions with regard to knowledge transfer when considering the outsourcing of specific IS functions. The conceptual framework also provides general guideline for IS practitioners in the public sector of Oman to structure effective knowledge transfer strategy when outsourcing IS. By carefully and holistically understanding the key factors which impact upon successful knowledge transfer in IS outsourcing, a more comprehensive strategy guiding intended knowledge transfer and learning might be devised.

Public sector organisations in Oman considering entering IS outsourcing relationships have to invest in their own learning capacity and should ensure that, within the organisation, there is a commitment to knowledge transfer and learning and an open mindedness to new opportunities for acquiring crucial knowledge from vendors. The empirical investigations suggest that, when learning intent is high, IS staff in the client organisations have a higher propensity to acquire potentially useful knowledge from vendors. Additionally, they need to develop their employees' absorptive capacity if they want to maximise the benefits of knowledge transfer. This study suggests that organisations, whose IS employees have accumulated related knowledge and experiences to absorb new knowledge, achieve superior knowledge transfer outcomes. A strong existing knowledge base allows an individual to more effectively appreciate access to external new knowledge. Client organisations in the public sector of Oman have also to invest in consistent motivation of IS staff in order to achieve long-term successful knowledge transfer. The empirical evidence suggest that intrinsic as well as extrinsic motivations are vital since they enable IS staff to enjoy working with various vendors, exert extra time and effort and appreciate acquiring new knowledge and skills during the IS outsourcing projects.

Additionally, this study advocates that in order to reap full benefits of knowledge transfer, public sector organisations in Oman should target potential IS outsourcing vendors based on their observed characteristics such as technical and business competency, disseminative capability, trustworthy and reliability in the market and openness. Moreover, the empirical investigations highlight that organisational culture distance between clients and vendors impact negatively on successful knowledge transfer. Therefore, by understanding the degree of compatibility in values and culture with the vendor, client organisation may be able to prevent subsequent failure of knowledge transfer. Furthermore, it facilitates the establishment of a common interest and mutual understanding to make the knowledge transfer a success. Before embarking on the outsourcing arrangement, client organisations should look for hard evidence that the vendor possesses the capabilities it claims and could conduct onsite visits, run pilot studies and use third-party consultants for careful screening of vendors. This way, organisational compatibility could be assessed carefully beforehand and ways to increase compatibility could be developed during the course of the contract. To alleviate any problems that might be caused by cultural differences, client organisations should invest in cultural training in order to create an environment of mutual understanding which will support all the activities required to complete the transfer of knowledge from vendors.

The empirical evidence illustrates that a contract is needed for IS outsourcing but it does not ensure sufficiently knowledge transfer success. It was argued that in order to achieve successful collaboration and effective and efficient knowledge transfer, client organisations need to govern their outsourcing relationship with vendors through both a formal contract and trust simultaneously. In other words, this study suggests that in addition to building contractual safeguards, the establishment of a cooperative and trustful relationship with the vendor increases the opportunities to gain access and transfer crucial knowledge. The service level agreement (SLA) must include legal clauses which illustrate clearly that the vendor has to furnish the client with the required knowledge and has to provide the necessary training. Additionally, client organisations can invest in relationship building from the beginning of the outsourcing arrangement in order to facilitate such expectations from the vendor. Some key considerations for the client might be to invest in informal discussion sessions and social meetings with the vendor. Furthermore, by extending privileges

to the vendor's personnel and treating them similarly to client team members, informal relationships can be developed.

In addition, this study highlights the importance of utilising the appropriate mechanisms which are available to IS employees in the client organisations to transfer knowledge from vendors. The options range from formal training programmes to informal social interactions. Although all of the mechanisms are potentially useful, it appears that different mechanisms are associated with certain types of knowledge and influenced by their corresponding level of knowledge embeddedness. Most importantly, it is hoped that the results of this study will encourage IS managers to pay closer attention to social capital. This study highlights that social capital is appealing and it is a valuable asset to fostering knowledge transfer. Social ties between IS staff of the clients and vendors present opportunities for knowledge transfer, as they may serve as channels for relevant knowledge flow. Also, this study emphasises that it is critical for client organisations to design a comprehensive transfer strategy which grants potential access to knowledge and maximises the duration and level of interaction and closeness of their IS staff with those of the vendors in order to facilitate more effective and efficient knowledge transfer.

#### **7.4 Limitations and Directions for Future Research**

Although this research provides novel and new important insights and draws valuable lessons with regard to knowledge transfer in IS outsourcing, there are some limitations which are worth noting as they open up fruitful avenues for future research.

Firstly, this study investigated the client's perspective which is only one side of the knowledge transfer process. A bilateral perspective of the research questions (i.e. from both sides) permits a balanced understanding and fuller examination and comparison between the perceptions of the two sides of the relationship. This represents a worthy route of inquiry for future scholars.

Secondly, the sample in this study is restricted to one country (i.e. Oman) and one sector (i.e. public sector); consequently, the findings need to be interpreted with

caution. Although the research context is quite specific, it is believed that the findings are of relevance to other sectors and other countries. Future research conducted in private sector organisations and different national environments would verify the findings of this study and may yield additional interesting and complementary insights. Conducting future study in the private sector would enable researchers to obtain an overall picture of the phenomenon or perform a comparison between the public and private organisations.

Thirdly, this research is conducted within a specific time period with a snapshot nature of research methodology and does not consider the fact that outsourcing relationship changes over time. For example, the researcher employed spot observations of the interaction between individuals of the client and vendor organisations and took detailed notes of certain behavioural events and actions. However, spot observations neither captured the streams of behaviour nor captured whole events in context. It could be argued that the observation techniques, however, captured many of the elements which made up the larger context and complemented other data collection through interviews and document analysis. Future research is recommended to consider the longitudinal type of study so that the outsourcing relationship over time can be tracked. Such future longitudinal studies may improve the robustness of the results presented in this study.

Fourthly, this research was essentially exploratory in nature and the findings were mainly inducted from the empirical evidence. Purely deductive research might be carried out, using quantitative research methods such as a questionnaire, in order to test the validity of some of the findings across the entire population of the public sector of Oman.

Finally, this study might be extended to investigate how intellectual propriety rights (IPR) may influence the flow of knowledge from vendors to clients in IS outsourcing. The issue of IPR is seldom examined by inter-organisational knowledge transfer scholars, and therefore might bring additional new interesting insights to this area of research and allow for a better understanding of the phenomenon.

## 7.5 Chapter Summary

This concluding chapter provided a conclusion to the results and discussions of the research presented in this thesis. Firstly, an overall summary of this research was presented. The contributions and implications of this research to the body of knowledge as well as to practice have also been highlighted. Finally, the research limitations were acknowledged and future research directions were identified.

As the researcher has come to the end of this thesis, this study this study can be sum up by noting that it was conducted in a relatively new IS domain, where mature empirically based studies are scarce. Thus, the researcher has taken the first step towards providing a more holistic understanding and analysis of the key factors which facilitate or inhibit knowledge transfer success in IS outsourcing. It could be argued that results of this research will be of direct practical value as well as contribute to theoretical understanding. The researcher hopes that this study provides a sound basis and encourages future fruitful work to probe more deeply into this burgeoning and interesting area of research.



---

## REFERENCES

- Abou-Zeid, E. (2002) An ontology-based approach to inter-organisational knowledge transfer. *Journal of Global Information Technology Management*, 5 (3), pp. 32-47.
- Adler, P. and Adler, P. (1998). Observational techniques. In: Denzin, N. and Lincoln, Y. (ed.). *Collecting and Interpreting Qualitative Materials*. London, Sage Publications, pp. 79-102.
- Ahmad, N. and Daghfous, A. (2010) Knowledge sharing through inter-organisational knowledge networks: challenges and opportunities in the United Arab Emirates. *European Business Review*, 22 (2), pp. 153-174.
- Ahuja, G. and Katila, R. (2001) Technological acquisitions and the innovation performance of acquiring firms: a longitudinal study. *Strategic Management Journal*, 22 (3), pp. 197-220.
- Akmanligil, M. and Palvia, P. (2004) Strategies for global information systems development. *Information & Management*, 42 (1), pp. 45-59.
- Alami, A., Wrong, B. and McBride, T. (2008) Relationship issues in global software development enterprises. *Journal of Global Information Technology Management*, 11 (1), pp. 49-68.
- Alavi, M. and Leidner, D. (2001) Knowledge management and knowledge management systems: conceptual foundations and research issues. *MIS Quarterly*, 25 (1), pp. 107-136.
- Alavi, M. and Tiwana, A. (2005) Knowledge management: the information technology dimension. In: Eeasterby-Smith, M. and Lyles, M. (ed.). *The Blackwell Handbook of Organisational Learning and Knowledge Management*. Oxford, Blackwell Publishing, pp. 104-121.
- Alborz, S., Seddon, P. and Scheepers, R. (2004) Impact of configuration on IT outsourcing relationships. *Proceedings of the 10<sup>th</sup> Americas Conference on Information Systems, August 6-8, New York, USA*.
- Al-Busaidi, K. and Olfman, L. (2005) An investigation of the determinants of knowledge management systems success in Omani organisations. *Journal of Global Information Technology Management*, 8 (3), pp. 6-27.
- Al-Hamadi, A. Budhwar, P. Shipton, H. (2007) Management of human resources in Oman. *International Journal of Human Resource Management*, 18 (1), pp. 100–113.

- Almeida, P., Dokko, G. and Rosenkopf, L. (2003) Startup size and the mechanisms of external learning: increasing opportunity and decreasing ability?. *Research Policy*, 32 (2), pp. 301-315.
- Alexander, V., Thomas, H., Cronin, A., Fielding, J. and Moran-Ellis, J. (2008) Mixed methods. In: Gilbert, N. (ed.). *Researching Social Life*. London, Sage Publications, pp. 125-144.
- Al-Gharbi, K., Al-Kindi, A. and Al-Salti, Z. (2009) IT /IS outsourcing from Omani organisations' perspective: motivations and reservations. *International Journal of Management Innovation Systems*, 1 (1), pp. 1-10.
- Al-Gharbi, K. and Ashrafi, R. (2010) Factors contribute to slow internet adoption in Omani private sector organisations. *Communications of the IBIMA*, 2010 (2010), pp. 1-10.
- Alharthy, M. (2007) *IT outsourcing in Oman: investigating opportunities, challenges and success factors*. Masters Dissertation, University of Salford, UK.
- Ali, J. (2011) *Gulf on course to excellence in ICT use*. [Internet], Gulfnews. Available from: <http://gulfnews.com/business/opinion/gulf-on-course-to-excellence-in-ict-use-1.794080> [Accessed 25 April 2011].
- Al-Lamky, A. (2007) Feminizing leadership in Arab societies: the perspectives of Omani female leaders. *Women in Management Review*, 22 (1), pp. 49-67.
- Al-Masroori, R. (2006) *Destination competitiveness: interrelationships between destination planning and development strategies and stakeholder's support in enhancing Oman's tourism industry*. Ph.D. G, Griffith University, Australia.
- Altinkemer, K., Chaturvedi, A. and Gulati, R. (1994) Information systems outsourcing: issues and evidence. *International Journal of Information Management*, 14 (4), pp 252-268.
- Al-Qirim, N. (2003) The strategic outsourcing decision of IT e-commerce: the case of small businesses in New Zealand. *Journal of Information Technology Cases and Application*, 5 (3), pp. 32-56.
- Al-Wohaibi, M., Masoud, F. and Edwards, S. (2002) Fundamental risk factors in deploying IT/IS projects in Omani government organisations. *Journal of Global Information Management*, 10 (4), pp. 1-22.
- Ambos, T. and Ambos, B. (2009) The impact of distance on knowledge transfer effectiveness in multinational corporations. *Journal of International Management*, (1), pp. 1-14.

- Anand, V., Glick, W. and Manz, C. (2002) Thriving on the knowledge of outsiders: tapping organisational social capital. *Academy of Management Executive*, 16 (1), pp. 87-101.
- Ananda M. and Francis J. (2008) Mutual adaptation in buyer-supplier relationships. *Journal of Business Research*, 61 (2), pp. 154-61.
- Andrade, A. (2009) Interpretive research aiming at theory building: adopting and adapting the case study design. *The Qualitative Report*, 14 (1), pp. 42-60.
- Andrews, R. (2010) Organisational social capital, structure and performance. *Human Relations*, 63 (5), pp. 583-608.
- Ang, S. and Inkpen, A. (2008) Cultural intelligence and offshore outsourcing success: a framework of firm-level intercultural capability. *Decision Sciences*, 39 (3), pp. 337-358.
- Anh, P., Baughn, C., Hang, N. and Neupert, K. (2006) Knowledge acquisition from foreign parents in international joint ventures: an empirical study in Vietnam. *International Business Review*, 15 (5), pp. 463-487.
- Appleyard, M. (1996) How dose knowledge flow? interfirm patterns in the semiconductor industry. *Strategic Management Journal*, 17, pp. 137-154.
- Apte, U., Sobol, M., Hanaoka, S., Shimada, T., Saarinen, T., Salmela, T., and Vepsalainen, P. (1997) IS outsourcing practices in the USA, Japan, and Finland: a comparative study. *Journal of Information Technology*, 12 (4), pp. 289-304.
- Argote, I. and Ingram, P. (2000) Knowledge transfer: a basis for competitive advantage in firms. *Organisational Behaviour and Human Decision Processes*, 82 (1), pp. 150-169.
- Argote, I. McEvily, B. and Reagans, R. (2003) Managing knowledge in organisations: an integrative framework and review of emerging themes. *Management Science*, 49 (4), pp. 571-582.
- Armstrong, C. (2011) Providing a clearer view: an examination of transparency on local government websites. *Government Information Quarterly*, 28 (1), pp. 11-16.
- Ashrafi, R. and Murtaza, M. (2008) Use and impact of ICT on SMEs in Oman, *Electronic Journal of Information Systems Evaluations*, 11 (3), pp. 125-138.
- Atesci, K., Bhagwatwar, A., Deo, T., Desouza, K. and Baloh, P. (2010) Business process outsourcing: a case study of Satyam Computers. *International Journal of Information Management*, 30 (3), pp. 277-282.

- A.T. Kearney (2011) *Offshoring opportunities amid economic turbulence: the A.T. Kearney global service location index*. [Internet], A.T. Kearney. Available from: [http://www.atkearney.com/images/global/pdf/Offshoring Opportunities Amid Economic Turbulence-GSLI\\_2011.pdf](http://www.atkearney.com/images/global/pdf/Offshoring_Opportunities_Amid_Economic_Turbulence-GSLI_2011.pdf) [Accessed 17 February 2011].
- Atsu, M., Andoh-Baidoo, F., Osatuyi, B. and Amoak, K. (2010) An exploratory study of the contextual factors that influence success of ICT projects in developing nations: a case study of a telecommunications company in Ghana. *Journal of Information Technology Case and Application Research*, 12 (3), pp. 56-81.
- Autry, C. and Griffis, S. (2008) Supply chain capital: the impact of structural and relational linkages on firm execution and innovation. *Journal of Business Logistics*, 29 (1), pp. 157-173.
- Avison, D. and Bansk, P. (2008) Cross-cultural (mis)communication in IS offshoring: understanding through conversation analysis. *Journal of Information Technology*, 23 (4), pp. 249-268.
- Avison, D. and Pries-Heje, J. (2005) *Research in Information Systems: A Handbook for Research Supervisors and Their Students*. Oxford, Elsevier Ltd.
- Bailey, C. (2007) *A Guide to Qualitative Field Research*. Thousand Oaks, Pine Forge Press.
- Baldwin, L., Irani, Z. and Love, P. (2001) Outsourcing information systems: drawing lessons from a banking case study. *European Journal of Information Systems*, 10 (1), pp. 15-24.
- Bandyopadhyay, S. and Pathak, P. (2007) Knowledge sharing and cooperation in outsourcing projects - a game theoretic analysis. *Decision Support Systems*, 43 (2), pp. 349-358.
- Barratt, M., Choi, T. and Li, M. (2010) Qualitative case studies in operations management: trends, research outcomes, and future research implications. *Journal of Operations Management*, 29 (4), pp. 329-342.
- Barthe´lemy, J. (2001) The hidden costs of IT outsourcing. *MIT Sloan Management Review*, 42 (3), pp. 60-69.
- Barthe´lemy, J. (2003) The hard and soft sides of IT outsourcing management. *European Management Journal*, 12 (5), pp. 539-548.
- Barthe´lemy, J. and Geyer, D. (2001) IT outsourcing: evidence from France and Germany. *European Management Journal*, 19 (2), pp. 195-202.

## References

---

- Bartol, K. and Srivastava, A. (2002) Encouraging knowledge sharing: the role of organisational reward systems. *Journal of Leadership and Organisational Studies*, 9 (1), pp. 64-76.
- Bassellier, G. and Benbasat, I. (2004) Business competence of information technology professionals: conceptual development and influence on IT-business partnerships. *MIS Quarterly*, 28 (4), pp. 6733-694.
- BBC (2011) Oman country profile. [Internet]. Available from: [http://news.bbc.co.uk/1/hi/world/middle\\_east/country\\_profiles/791892.stm](http://news.bbc.co.uk/1/hi/world/middle_east/country_profiles/791892.stm) [Accessed 17 March 2011].
- Beaumont, N. and Sohal, A. (2004) Outsourcing in Australia. *International Journal of Operations & Production Management*, 24 (7), pp. 688-700.
- Beaumont, N. and Costa, C. (2002) The value and incidence of information technology outsourcing in Australia. *Information Resources Management Journal*, 15 (3), pp. 14-31.
- Becerra-Fernandez, I. and Sabherwal, R. (2001). Organisational knowledge management: a contingency perspective. *Journal of Management Information Systems*, 18 (1), pp. 23-55.
- Bell, G. and Zaheer, A. (2007) Geography, networks, and knowledge flow. *Organisation Science*, 18 (6), pp. 955-972.
- Belanger, F. and Carter, L. (2008) Trust and risk in E-Government adoption. *The Journal of Strategic Information Systems*, 17 (2), pp. 165-176.
- Benbasat, I. and Zmud, R. (1999) Empirical research in information systems: the practice of relevance. *MIS Quarterly*, 23 (1), pp. 3-16.
- Benbasat, I., Goldstein, D. and Mead, M. (1987) The case research strategy in studies of information systems. *MIS Quarterly*, 11 (3), pp. 368-386.
- Berg, B. (2009) *Qualitative Research Methods for the Social Sciences*. London, Allyn & Bacon.
- Berta, W. and Baker, R. (2004) Factors that impact the transfer and retention of best practices for reducing error in hospitals. *Health Care Management Review*, 29(2), pp. 90-97.
- Beulen, E. (2004) Governance in IT outsourcing partnership. In: Grembergen, W. (ed.). *Strategies for Information Technology Governance*. London, Idea Group Publishing, pp. 310-342.
- Beveren, J. (2002) A model of knowledge acquisition that refocuses knowledge management. *Journal of Knowledge Management*, 6 (1), pp. 18-22.

- Blumberg, B., Cooper, D. and Schindler, P. (2011) *Business Research Methods*. London, McGraw-Hill.
- Blumenberg, S., Wagner, H. and Beimborn, D. (2009) Knowledge transfer processes in IT outsourcing relationships and their impact on shared knowledge and outsourcing performance. *International Journal of Information Management*, 29 (5), pp. 342–352.
- Bock, G., Zmud, R., Kim, Y. and Lee, J. (2005) Behavioral intention formation in knowledge sharing: examining the roles of extrinsic motivators, social-psychological forces, and organisational climate. *MIS Quarterly*, 29(1), pp. 87-111.
- Boeije, H. (2010) *Analysis in Qualitative Research*. London: Sage Publications.
- Bogdan, R. and Biklen, S. (2006) *Qualitative Research for Education: An Introduction to Theory and Methods*. New York, Pearson Allyn and Bacon.
- Boh, W. (2007) Mechanisms for sharing knowledge in project-based organisations. *Information and Organisation*, 17 (1), pp. 27-58.
- Bowen, G. (2008) Naturalistic inquiry and the saturation concept: a research note. *Qualitative Research*, 8 (1), pp. 137-152.
- Bringer, J., Johnston, L. and Brackenridge, C. (2004) Maximizing transparency in a doctoral thesis1: the complexities of writing about the use of QSR\*Nvivo within a grounded theory study. *Qualitative Research*, 4 (2), pp. 247-265.
- Brockmann, E. and Anthony, W. (2002) Tacit knowledge and strategic decision making. *Group and Organisation Management*, 27 (4), pp.436–55.
- Buckley, P., Glaister, K. Klij, E. and Tan, H. (2009) Knowledge accession and knowledge acquisition in strategic alliances: the impact of supplementary and complementary dimensions. *British Journal of Management*, 20 (4), pp. 598-609.
- Budhwar, P., Al Yahmadi, S., Debrah, Y. (2002) Human resource development in the Sultanate of Oman. *International Journal of Human Resource Development*, 6 (3), pp. 198-215.
- Burns, R. (2000) *Introduction to Research Methods*. London, Sage Publications.

- BusinessWeek (2004) *Shifting work offshore: outsourcer be aware*. [Internet], BusinessWeek. Available from: <[http://www.businessweek.com/magazine/content/04\\_02/b3865028.htm](http://www.businessweek.com/magazine/content/04_02/b3865028.htm)> [Accessed 18 March 2011].
- Bygstad, B. Munkvold, B. (2010) Exploring the role of informants in interpretive case study research in IS. *Journal of Information Technology*, 26 (1), pp. 32-45.
- Cabrera, A. Collins, W. Salgado, J. (2006) Determinants of individual engagement in knowledge sharing. *The International Journal of Human Resource Management*, 17 (2), pp. 245-264.
- Cabrera E. and Cabrera, A. (2005) Fostering knowledge sharing through people management practices. *International Journal of Human Resource Management*, 16 (5), pp. 720-735.
- Carlile, P. (2004) Transferring, translating, and transforming: an integrative framework for managing knowledge across boundaries. *Organisational Science*, 15 (5), pp. 555-568.
- Carmel, E. (2003) The new software exporting nations: success factors. *The Electronic Journal on Information Systems in Developing Countries*, 13 (4), pp. 1-12.
- Carmel, E., and Abbott, P. (2007) Why nearshore means that distance matters, *Communications of the ACM*, 50 (10), pp. 40-46.
- Carmel, E. and Agarwal, R. (2001) Tactical approaches for alleviating distance in global software development, *IEEE Software*, 18 (2), pp. 22-29.
- Cavaye, A. (1996) Case study research: a multifaceted research approach for IS. *Information Systems Journal*, 6 (3), pp. 227-242.
- Cavusgil, S., Calantone, R. and Zhao, Y. (2003) Tacit knowledge transfer and firm innovation capability. *Journal of Business & Industrial Marketing*, 18 (1), pp. 6-21.
- Cha, H., Pingry, D. Thatcher, M. (2008) Managing the knowledge supply chain: an organisational learning model of information technology offshore outsourcing. *MIS Quarterly*, 32 (2), pp. 281-306.
- Chadee, D. and Raman, R. (2009) International outsourcing of information technology services: review and future directions. *International Marketing Review*, 26 (4/5), pp. 411-438.
- Chakrabarty, S., Whitten, D., and Green, K. (2007). Understanding service quality and relationship quality in IS outsourcing. *Journal of Computer Information Systems*, 48 (2), pp. 1-15.

- Chaudhuri, S. and Tabrizi, B. (1999) Capturing the real value in high-tech acquisitions. *Harvard Business Review*, 77 (5), pp. 123-130.
- Chen, C. (2004) The effects of knowledge attribute, alliance characteristics and absorptive capacity on knowledge transfer performance. *R&D Management*, 34 (3), pp. 311-321.
- Chen, J. and McQueen, R. (2010) Knowledge transfer process for different experience levels of knowledge recipient at offshore technical support centre. *Information Technology & People*, 23 (1), pp. 54-79.
- Chen, L. and Soliman, K. (2002) Managing IT outsourcing: a value-driven approach to outsourcing using application service providers. *Logistics Information management*, 15 (3), pp. 180-91.
- Chen, W. and Hirschheim, R. (2004) A paradigmatic and methodological examination of information systems research from 1991 to 2001. *Information Systems Journal*, 14 (3), pp. 197-235.
- Choi, S., Kang, Y. Lee, H. (2008) The effects of socio-technical enablers on knowledge sharing: an exploratory examination. *Journal of Information Science*, 34 (5), pp. 742-754.
- Chow, C., Deng, F., and Ho, J. (2000) The openness of knowledge sharing within organisations: a comparative study of the United States and the people's republic of China. *Journal of Management Accounting Research*, 12 (1), pp. 65-95.
- Chua, A. and Pan, S. (2008) Knowledge transfer and organisational learning in is offshore sourcing. *Omega* 36 (2), pp. 267–281.
- Claver, E., Gonzalez, R., Gasco, J. and Llopis, J. (2002) Information systems outsourcing: reasons, reservations and success factors. *Logistics Information Management*, 15(4), pp. 294-308.
- Cohen, W. and Levinthal, D. (1990) Absorptive capability: a new perspective of learning and innovation. *Administrative Science Quarterly*, 35 (1), pp. 128-152.
- Collins, J. and Hitt, M. (2006) Leveraging tacit knowledge in alliances: the importance of using relational capabilities to build and leverage relational capital. *Journal of Engineering Technology and Management*, 23 (3), pp. 147–167.
- Collis, J. and Hussey, R. (2009) *Business Research: A Practical Guide for Undergraduate & Postgraduate Students*. London, Palgrave Macmillan.



- Common, R. (2011) Barriers to developing leadership in the Sultanate of Oman. *International Journal of Leadership Studies*, 6 (2), pp. 215-228.
- Contractor, F. and Ra, W. (2002) How knowledge attributes influence alliance governance choices: a theory development note. *Journal of International Management*, 8 (1), pp. 11–27.
- Corbin, J. and Strauss, A. (2008) *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory*. London, Sage Publications.
- Cordella, A. and Iannacci, F. (2010) Information systems in the public sector: the E-government enactment framework. *Journal of Strategic Information Systems*, 19 (1), pp. 52–66.
- Costa, A. and Peiró, J. (2009) Trust and social capital in teams and organisations - antecedents, dynamics, benefits and limitations. *Social Science Information*, 48 (2), pp. 131-142.
- Courtney, J. (2001) Decision making and knowledge management in inquiring organisations: toward a new decision-making paradigm for DSS. *Decision Support Systems*, 31 (1), pp. 17-38.
- Cramton, C. (2001) The mutual knowledge problem and its consequences for dispersed collaboration. *Organisation Science*, 12 (33), pp. 46-371.
- Creswell, J. (1998) *Qualitative Inquiry and Research Design: Choosing Among Five Traditions*. London, Sage Publications.
- Creswell, J. (2009) *Research Design: Qualitative, Quantitative, and Mixed Method Approaches*. London, Sage Publications.
- Cummings, J. and Teng, B. (2003) Transferring R&D knowledge: the key factors affecting knowledge transfer success. *Journal of Engineering and Technology Management*, 20 (1-2), pp. 39-68.
- Currie, W. (1996). Outsourcing in the private and public sectors: an unpredictable IT strategy. *European Journal of Information Systems*, 4 (4), pp. 226–236.
- David, M. and Sutton, C. (2004) *Social Research*. London, Sage Publications.
- Darke, P., Shanks, G. and Broadbent, M. (1998) Successfully completing case study research: combining rigour, relevance and pragmatism. *Information Systems Journal*, 8 (4), pp. 273-289.
- Darr, E. and Kurtzberg, T. (2000) An investigation of partner similarity dimensions on knowledge transfer. *Organisational Behavior and Human Decision Processes*, 82 (1), pp. 28-44.

## References

---

- Davenport, T. and Prusak, L. (1998) *Working Knowledge: How Organisations Manage What They Know*. Boston, Harvard Business School Press.
- De Cannière, M., De Pelsmacker, P. and Geuens, M. (2009) Relationship quality and the theory of planned behaviour models of behavioural intentions and purchase behaviour. *Journal of Business Research*, 62 (1), pp. 82–92.
- Dedrick, J., Carmel, E. and Kraemer, K. (2011) A dynamic model of offshore software development. *Journal of Information Technology*, 26 (1), pp. 1-15.
- Dhanaraj, C, Lyles, M. and Steensma, H. and Tihanyi, L. (2004) Managing tacit and explicit knowledge transfer in IJVs: the role of relational embeddedness and the impact on performance. *Journal of International Business Studies*, 35, pp. 456-458.
- Dhar, S. and Balakrishnan, B. (2006) Risks, benefits, and challenges in global IT outsourcing: perspectives and practices. *Journal of Global Information Management*, 14 (3), pp. 39-69.
- Dibbern, J., Goles, T., Hirschheim, R. and Jayatilaka, B. (2004) Information systems outsourcing: a survey and analysis of the literature, *The DATA BASE for Advances in Information Systems*, 35 (4), pp 6-102.
- Doherty, N. and Terry, M. (2009) The Role of IS capabilities in delivering sustainable improvements to competitive positioning. *Journal of Strategic Information Systems*, 18 (2), pp. 100-116.
- Duan, Y., Nie, W. and Coakes, E. (2010) Identifying key factors affecting transnational knowledge transfer. *Information & Management*, 47 (7-8), pp. 356-363
- Duanmu, J. and Fai, F. (2007) A processual analysis of knowledge transfer: from foreign MNCs to Chinese suppliers. *International Business Review*, 16 (1), pp.449-4.
- Dubé, L. and Paré, G. (2003) Rigor in information systems positivist case research: current practices, trends and recommendations. *MIS Quarterly*, 27 (4), pp. 597-635.
- Dutta, S. and Mia, I. (2011) *The global information technology report 2010-2011: transformations 2.0*. [Internet], World Economic Forum and INSEAD. Available from: <[http://www3.weforum.org/docs/WEF\\_GITR\\_Report\\_2011.pdf](http://www3.weforum.org/docs/WEF_GITR_Report_2011.pdf)> [Accessed 21 April 2011].
- Dyer, J. and Chu, W. (2003) The role of trustworthiness in reducing transaction costs and improving performance: empirical evidence from the United States, Japan, and Korea. *Organisation Science*, 14 (1), pp. 57-68.

## References

---

- Dyer J. and Nobeoka, K. (2000) Creating and managing a high performance knowledge sharing network: the case of Toyota. *Strategic Management Journal*, 21(3), pp. 345-368.
- Dyer, W. and Wilkins, A. (1991) Better stories, not better constructs, to generate better theory: a rejoinder to Eisenhardt. *Academy of Management Review*, 14 (4), pp. 597-635.
- Easterby-Smith, M., Lyles, M. and Tsang, E. (2008a) Inter-organisational knowledge transfer: Current themes and future prospects. *Journal of Management Studies*, 45 (4), pp. 677-690.
- Easterby-Smith, M., Thorp, R. and Jackson, P. (2008b) *Management Research*. London, Sage Publications.
- Ebrahim, Z. and Irani, Z. (2005). E-Government adoption: architecture and barriers. *Business Process Management Journal*, 11 (5), pp. 589 - 611.
- Edgar, D. (2005) Unbundling business information management research: the experiences of the division of business information management at Glasgow Caledonian University. *International Journal of Information Management*, 25 (3), pp. 271–279.
- Eriksson, P. and Kovalainen, A. (2008) *Qualitative Methods for Business Research*. London, Sage Publications.
- Eisenhardt, K. (1989) Building theories from case study research. *Academy of Management Review* 14 (4), pp. 532-550.
- Eisenhardt, K. and Graebner, M. (2007) Theory building from cases: opportunities and challenges. *Academy of Management Journal*, 50 (1), pp. 25-32.
- Eldabi, T., Irani, Z., Paul, R. and Love, P. (2002) Quantitative and qualitative decision-making methods in simulation modelling. *Management Decision*, 40 (1), pp. 64-73.
- Easton, G. (2010) Critical realism in case study research. *Industrial Marketing Management*, 39 (1), pp. 118-128.
- ESCWA [Economic and Social Commission for Western Asia] (2009) *National profile of the information society in Oman*. [Internet], United Nations. Available from: [www.escwa.un.org/wsis/reports/docs/Oman\\_2009-E.pdf](http://www.escwa.un.org/wsis/reports/docs/Oman_2009-E.pdf) [Accessed 24 March 2011].

## References

---

- ESRC [Economic and Social Research Council] (2009) *ESRC postgraduate training and development guidelines 2009*. [Internet], Available from: <[http://www.esrc.ac.uk/images/Postgraduate Training and Development Guidelins\\_tcm8-2660.pdf](http://www.esrc.ac.uk/images/Postgraduate_Training_and_Development_Guidelines_tcm8-2660.pdf)> [Accessed 12 June 2011].
- Evangelista, F. and Hau, L. (2009) Organizational context and knowledge acquisition in IJVs: an empirical study. *Journal of World Business*, 44 (1), pp. 63-73.
- Fabry, N. and Zeghni, S. (2003) FDI in CEECs: how do Western investors survive?. *Thunderbird International Business Review*, 45 (2), pp. 133-147.
- Faems, D. Janssens, M. and van Looy, B. (2007) The Initiation and Evolution of Interfirm Knowledge Transfer in R&D Relationships. *Organisation Studies*, 28 (11), pp. 1699-1728.
- Fagan, M. Neill, S. and Wooldridge, B. (2008) Exploring the intention to use computers: An empirical investigation of the role of intrinsic motivation, extrinsic motivation and perceived ease of use. *Journal of Computer Information Systems*, 48 (3), pp. 31-37.
- Fam, M. (2007) *Middle East beckons as outsourcing hot spot*. [Internet], The Wall Street Journal. Available from: <<http://online.wsj.com/article/SB118764887501203428.html>> [Accessed 11 March 2011].
- Faraj, S. and Sproull, L. (2000) Coordinating Expertise in Software Development Teams. *Management Science*, 46 (12), pp. 1554-1569.
- Feeny, D., Lacity, M. and Willcocks, L. (2005) Taking the measure of outsourcing providers, *MIT Sloan Management Review*, 46 (3), pp. 41-48.
- Fish, K. and Seydel, J. (2006) Where IT outsourcing is and where IT is going: a study across functions and department sizes. *Journal of Computer Information Systems*, 46 (3), pp. 96-103.
- Fisher, J. Hirschheim, R. and Jacobs, R. (2008) Understanding the outsourcing learning curve: a longitudinal analysis of a large Australian company. *Information Systems Frontiers*, 10 (2), pp. 165-178.
- Fjermestad, J., and Saitta, J. (2005) A strategic management framework for IT outsourcing: a review of the literature and the development of a success factors model. *Journal of Information Technology Case and Application Research*, 7 (3), pp. 42-60.
- Flick, W. (2009) *An Introduction to Qualitative Research*. London, Sage Publications.

## References

---

- Fontana, A. and Frey. J. (2003) The interview: from structured questions to negotiated text. In: Denzin, N. and Lincoln, Y. (ed.). *Collecting and Interpreting Qualitative Materials*. London, Sage Publications, pp. 61-106.
- Foos, T., Schum, J. and Rothenberg, S. (2006) Tacit knowledge transfer and the knowledge disconnect. *Journal of Knowledge Management*, 10 (1), pp. 6-18.
- Forrest, W. (2005) Analyzing the pros and cons of outsourcing to China. *Purchasing*, 134 (2), pp. 17-18.
- Foss, N. and Pedersen, T. (2002) Transferring knowledge in MNCS: the role of sources of subsidiary knowledge in organisational context. *Journal of International Management*, 8 (1), pp. 49-67.
- Fynes, B., Voss, C. and de Bu' rca, S. (2005) The impact of supply chain relationship quality on quality performance. *International Journal Production Economics*, 96 (3), pp. 339-354.
- Galbraith, C. (1990) Transferring core manufacturing technologies in high technology firms. *California Management Review*, 32 (4), pp. 56-70.
- Garud, R. and Kumaraswamy, A. (2005) Vicious and virtuous circles in the management of knowledge: the case of Infosys technologies. *MIS Quarterly*, 29 (1), pp. 9-33.
- GCC (2009) *The Gulf Corporation Council (GCC): process and achievement*. [Internet], The Gulf Corporation Council Information Centre. Available from: <http://sites.gcc-sg.org/DLibrary/index-eng.php?action=ShowBooks&SID=21> [Accessed 11 February 2011].
- Gefen, D. and Carmel, E. (2008) IS the world really flat?: a look at offshoring at an online programming marketplace. *MIS Quarterly*, 32 (2), pp. 367-384.
- Gibbs, G. (2002) *Qualitative Data Analysis: Explorations with NVivo*. London, Open University Press.
- Gibson, W. and Brown, A. (2009) *Working with Qualitative Data*. London, Sage Publications.
- Gillham, B. (2000) *Case Study Research Methods*. London, Continuum International Publishing Group.
- Gilley, K. and Rasheed, A. (2000) Making more by doing less: an analysis of outsourcing and its effects on firm performance. *Journal of Management*, 26 (4), pp. 763-790.

## References

---

- Goh, S. (2002) Managing effective knowledge transfer: an integrative framework and some practice implications. *Journal of Knowledge Management*, 6 (1), pp.23-30.
- Goles, T. and Chin, W. (2005) Information systems outsourcing relationship factors: detailed conceptualization and initial evidence. *The DATA BASE for Advances in Information Systems*, 36 (4), pp. 47-67.
- Goles, T. (2001) *The Impact of the Client-Vendor Relationship on Information Systems Outsourcing Success*. Ph.D. thesis, University of Houston, USA.
- Goles, T., Hawk, S. and Kaiser, K. (2008) Information technology workforce skills: the software and it services provider perspective. *Information System Frontier*, 10 (2), pp. 179-194.
- Gonzalez, R., Gasco, J. and Llopis, J. (2005) Information systems outsourcing success factors: a review and some results. *Information Management & Computer Security*, 13 (5), pp. 399-418.
- Gonzalez, R., Gasco, J. and Llopis, J. (2006) Information systems offshore outsourcing: a descriptive analysis. *Industrial Management & Data Systems*, 106 (9), pp. 1233-1248
- Goo, J. and Huang, C. (2008) Facilitating relational governance through service level agreements in IT outsourcing: an application of the commitment–trust theory. *Decision Support Systems*, 46 (1), pp. 216-232.
- Gooderham, P. Minbaeva, D. and Pedersen, T. (2010) Governance mechanisms for the promotion of social capital for knowledge transfer in multinational corporations. *Journal of Management Studies*, 48 (1), pp. 123-150.
- Gordon, M. and Walsh, T. (1997) Outsourcing technology in government: owned, controlled, or regulated institutions. *Journal of Government Information*, 24 (4), pp. 267-283.
- Gorla, N. and Lau, M. (2010) Will negative experiences impact future IT outsourcing?. *Journal of Computer Information Systems*, 50 (3), pp. 91-101.
- Gosain, S. (2007) Mobilizing software expertise in personal knowledge exchanges. *The Journal of Strategic Information Systems*, 16 (3), pp. 254-277.
- Goveas, S. and Aslam, N. (2011) A role and contributions of women in the Sultanate of Oman. *International Journal of Business and Management*, 6 (3), pp. 232-239.

- Grant, R. (1996) Prospering in dynamically-competitive environments: organisational capability as knowledge integration. *Organisation Science*, 7 (4), pp. 375–87.
- Gray, D. (2009) *Doing Research in the Real World*. London, Sage Publications.
- Greenhill, A. (2002) The research approach and methodology used in an interpretive study of a web information system: contextualising practice. In: Kaplan, B., Truex III, D., Wastell, D., Wood-Harper, T. and DeGross, J. (ed.). *Information Systems Research: Relevant Theory and Informed Practice*. London, Kluwer Academic Publishers, pp. 212-231.
- Gregory, R. Prifling, M. Beck, R. (2009) The role of cultural intelligence for the emergence of negotiated culture in IT offshore outsourcing projects. *Information Technology & People*, 22 (3), pp. 223-241.
- Griffith, D., Zeybek, A. and O'Brien, M. (2001) Knowledge transfer as a means for relationships development: a Kazakhstan-foreign international joint venture illustration. *Journal of International Marketing*, 9 (2), pp. 1-18.
- Grover, V., Cheon, M., and Teng, J. (1994) A descriptive study of the outsourcing of information systems functions. *Information and Management*, 27(1), pp. 33-44.
- Guba, E. and Lincoln, Y. (1994) Competing paradigms in qualitative research. In: Denzin, N. and Lincoln, Y. (ed.). *Handbook of Qualitative Research*, London, Sage Publications, pp. 105-117.
- GulfNews (2010) *Citizens of Oman to get free computers*. [Internet]. Available from: <<http://gulfnews.com/news/gulf/oman/citizens-of-oman-to-get-free-computers-1.719675>> [Accessed 16 April 2011].
- GulfNews (2011) *Oman wins four UN public service awards*. [Internet]. Available from: <<http://gulfnews.com/mobile/news/gulf/oman/oman-wins-four-un-public-service-awards-1.804239>> [Accessed 16 April 2011].
- Gummesson (2000) *Qualitative Methods in Management Research*. London, Sage Publications.
- Gupta, A. (2010) Offshoring, IS employment and the IS discipline: additional considerations. *Journal of Information Technology*, 25 (4), pp. 378–379
- Gupta, A. and Govindarajan, V. (2000) Knowledge flows within multinational corporations. *Strategic Management Journal*, 21 (4), pp. 473-96.

- Gupta, B., Dasgupta, S. and Gupta, A. (2008). Adoption of ICT in a government organisation in a developing country: an empirical study. *The Journal of Strategic Information Systems*, 17 (2), pp. 140-154.
- Gupta, M. and Jana, D. (2003). E-Government evaluation: a framework and case study. *Government Information Quarterly*, 20 (4), pp. 365-387.
- Hackney R., Desouza K. and Irani Z. (2008) Constructing and sustaining competitive inter-organisational knowledge networks: an analysis of managerial web-based facilitation. *Information Systems Management Journal*, 25 (4), pp. 56-363.
- Hackney, R., Desouza, K. and Loebbecke, C. (2005) Cooperation or competition: knowledge sharing processes in inter-organisational networks. *Proceedings of the 2<sup>nd</sup> international conference on knowledge management, 27 - 28 October, Charlotte, North Carolina, USA.*
- Hakanson, L. and Nobel, R. (2000) Technology characteristics and reverse technology transfer. *Management International Review*, 40 (1), pp. 29-48.
- Halinen, A. and Toornroos, J. (2005) Using case methods in the study of contemporary business networks. *Journal of Business Research*, 58 (9), pp. 1285-1297.
- Hamel, G. (1991) Competition for competence and interpartner learning within international strategic alliance. *Strategic Management Journal*, 12 (S1), pp. 83-103.
- Hancox, M. and Hackney R. (2000) IT outsourcing: framework for conceptualization practice and perception. *Information Systems Journal*, 10 (3), pp. 217-237.
- Hansen, M. (1999) The search-transfer problem: the role of weak ties in sharing knowledge across organisation subunits. *Administrative Science Quarterly*, 44 (1), pp. 82-111.
- Harrington, S. and Guimaraes, T (2005) Corporate culture, absorptive capacity and IT success. *Information and Organisation*, 15 (1), pp. 39-63.
- Harris, A., Giunipero, L. and Hult, G. (1998) Impact of organisational and contract flexibility on outsourcing contracts. *Industrial Marketing Management*, 27 (5), pp. 373-384.
- Hartley, J. (2004) Case study research. In: Cassell, C., Symon, G. (ed.). *Essential Guide to Qualitative Methods in Organisational Research*. London, Sage Publications, pp. 323-333.



## References

---

- Hau, L. and Evangelista, F. (2007) Acquiring tacit and explicit marketing knowledge from foreign partners in IJVs. *Journal of Business Research*, 60 (11), pp. 1152-1165.
- Hayes, N. and Walsham, G. (2005) Knowledge sharing and ICTs: a relational perspective. In: Eeasterby-Smith, M. and Lyles, M. (ed.). *The Blackwell Handbook of Organisational Learning and Knowledge Management*. Oxford, Blackwell Publishing, pp. 54-77.
- He, Q., Gallear, D. and Ghobadian, A. (2011) Knowledge transfer: the facilitating attributes in supply-chain partnership. *Information Systems Management*, 28 (1), pp. 57-70.
- He, W. and Wei, K. (2009) What drives continued knowledge sharing? an investigation of knowledge-contribution and seeking beliefs. *Decision Support Systems*, 46 (4), pp. 826-838.
- Heeks, R. (2006). *Implementing and Managing eGovernment: an International Text*, London, Sage Publications.
- Herath, T. and Kishore, R. (2009) Offshore outsourcing: risks, challenges, and potential solutions. *Information Systems Management*, 26 (4), pp. 312 - 326.
- Herbsleb, J. and Moitra, D. (2001) Global software development. *IEEE Software*, 18 (2), pp. 16-20.
- Hislop, D. (2009) *Knowledge Management in Organisations*. Oxford, Oxford University Press.
- Hoegl, M., Parboteeah, K. and Munson, C. (2003) Team-level antecedents of individuals' knowledge networks. *Decision Sciences*, 34 (4), pp. 741-770.
- Hoen, J. (2005) Nearshore, offshore and blended-shore: understanding your outsourcing options. *Customer Interaction Solutions*, 23 (11), pp. 58-61.
- Hofstede, G. (1997) *Cultures and Organisations: Software of the Mind, Intercultural Cooperation and its Importance for Survival* London, McGraw-Hill.
- Holdford, D. (2008) Content analysis methods for conducting research in social and administrative pharmacy. *Research in Social and Administrative Pharmacy*, 4 (2), pp. 173-181.
- Hong, J. and Nguyen, T. (2009) Knowledge embeddedness and the transfer mechanisms in multinational corporations. *Journal of World Business*, 44 (4), pp. 347-356.

- Hormozi, A., Hostetler E. and Middleton, C. (2003) Outsourcing information technology: assessing your options. *S.A.M. Advanced Management Journal*, 68 (4), pp. 18-23.
- Howcroft, D. and Trauth, E. (2004) The choice of critical information systems research. In: Kaplan, B., Truex III, D., Wastell, D., Wood-Harper, T. and DeGross, J. (ed.). *Information Systems Research: Relevant theory and Informed Practice*, International Federation for Information Processing (IFIP), pp. 195-211.
- Hsieh, H. and Shannon, S. (2005) Three approaches to qualitative content analysis. *Qualitative Health Research*. 15 (9), pp. 1277-1288.
- Hu, Q., Saunders, C. and Gebelt, M. (1997) Research report: diffusion of information systems outsourcing: a re-evaluation of influence sources. *Information Systems Research*, 8 (3), pp. 288-301.
- Huang, H. and Trauth, E. (2007) Cultural Influences and globally distributed information Systems development: experiences from Chinese IT professionals. *Proceedings of ACM SIGMIS-CPR Conference, April 19-21, St Louis, Missouri, USA*.
- Hung, S., Durcikova, A., Lai, H. and Lin, W. (2011) The influence of intrinsic and extrinsic motivation on individuals' knowledge sharing behaviour. *International Journal of Human-Computer Studies*, 69 (6), pp. 415-427.
- Huber, G. (1991) Organisational learning: the contributing processes and the literature. *Organisation Science*, 2 (1), pp. 88-115.
- Hughes, M. and Perrons, R. (2010) Shaping and re-shaping social capital in buyer-supplier relationships. *Journal of Business Research*, 64 (2), pp. 164-171.
- Hutzschenreuter, T. and Horstkotte, J. (2010) Knowledge transfer to partners: a firm level perspective. *Journal of Knowledge Management*, 14 (3), pp. 428-448.
- Imsland, V. and Sahay, S. (2005) Negotiating knowledge: the case of a Russian-Norwegian software outsourcing project. *Scandinavian Journal of Information Systems*, 17 (1), pp. 101-130.
- Information Technology Authority-Oman (2011a) *Sultan Qaboos Award for Excellence in eGovernment Brochure*. [Internet]. Available from: [http://www.ita.gov.om/ITAPortal/MediaCenter/Document\\_detail.aspx?NID=57](http://www.ita.gov.om/ITAPortal/MediaCenter/Document_detail.aspx?NID=57) [Accessed 20 April 2011].

## References

---

- Information Technology Authority-Oman (2011b) *National PC initiative*. [Internet]. Available from: <<http://www.ita.gov.om/ITAPortal/Pages/Page.aspx?NID=617&PID=2057&LID=104>> [Accessed 20 April 2011].
- Inkpen, A. (1998) Learning, knowledge acquisition and strategic alliances. *European Management Journal*, 16 (2), pp. 223-229.
- Inkpen, A. (2000) Learning through joint ventures: A framework of knowledge acquisition. *Journal of Management Studies*, 37 (7), pp. 1019-1043.
- Inkpen, A. and Pien, W. (2006) An examination of collaboration and knowledge transfer: China–Singapore Suzhou industrial park. *Journal of Management Studies*, 43 (4), pp. 779-811.
- Ipe, M. (2003) Knowledge sharing in organisations: A conceptual framework. *Human Resource Development Review*, 2 (4), pp. 337-359.
- Irani, Z., Ezingard J., Grieve, R. and Race, P. (1999) A case study strategy as part of an information systems research methodology: a critique. *The International Journal of Computer Applications in Technology*, 12 (2), pp. 190-198.
- Irani, Z., Love, P. and Jones, S. (2008) Learning lessons from evaluating government: reflective case experiences that support transformational government, *The Journal of Strategic Information Systems*, 17(2), pp.155-164.
- Irani, Z., Love, P. and Montazemi, A. (2007) e-Government: past, present and future. *European Journal of Information Systems*, 16 (2), pp. 103-105.
- Irani, Z., Sharif, A. and Love, P. (2005) Linking knowledge transformation to information systems evaluation. *European Journal of Information Systems*, 14 (3), pp. 213-228.
- Jashapara, A. (2004) *Knowledge Management: An Integrated Approach*. Essex, Pearson Education Limited.
- Jasimuddin, S. (2007) Exploring knowledge transfer mechanisms: the case of a UK-based group within a high-tech global corporation. *International Journal of Information Management*, 27 (4), pp. 294-300.
- Johnson, P. and Harris, D. (2002) Qualitative and quantitative issues in research design. In: Partington, D. (ed.). *Essential Skills for Management Research*. London, Sage Publications. pp. 99-116.

## References

---

- Johnston, W. Leach, M. and Liu, A. (1999) Theory testing using case studies in business-to-business research. *Industrial Marketing Management*, 28 (3), pp. 201-213.
- Jonsson, A. and Elg, U. (2006) Knowledge and knowledge sharing in retail internationalization: IKEA's entry into Russia, *The International Review of Retail, Distribution and Consumer Research*, 16 (2), pp. 239-256.
- Joshi, K. and Mudigonda, S. (2008) An analysis of India's future attractiveness as an offshore destination for IT and IT-enabled services. *Journal of Information Technology*, 23 (4), pp. 215-227
- Joshi, K., Sarker, S. and Sarker, S. (2007) Knowledge transfer within information systems development teams: examining the role of knowledge source attributes. *Decision Support Systems*, 43 (2), pp. 322-335.
- Kalling, T. (2003) Organisation-internal transfer of knowledge and the role of motivation: a qualitative case study. *Knowledge and Process Management*, 10 (2), pp. 115-126.
- Kaplan, B. and Maxwell, J. (1994) Qualitative research methods for evaluating computer information systems. In: Anderson, J., Aydin, C. and Jay, S. (ed.). *Evaluating Health Care Information Systems: Methods and Applications*, pp. 45-68.
- Kern, T., and Willcocks, L. (2002) Exploring relationships in information technology outsourcing: the interaction approach. *European Journal of Information Systems*, 11 (1), pp. 3-19.
- Khalfan, A. and Alshawaf, A. (2003) IS/IT outsourcing practices in the public health sector of Kuwait: a contingency approach. *Logistics Information Management*, 16 (3/4), pp. 215-228.
- Khalil, A. (2010) *UNDP: Oman leads top of the world's ten long-term developments*. [Internet], Global Arab Network. Available from: <http://www.english.globalarabnetwork.com/201011057945/Culture/undp-oman-leads-top-of-the-worlds-ten-long-term-developments.html>> [Accessed 11 May 2011]>
- Khan, M. (2011) Convergence, divergence or middle of the path: HRM model for Oman. *Journal of Management Policy and Practice*, 12 (1), pp. 76-87.
- Khan, M. and Al-Moharby, D. (2007) Towards enhancing entrepreneurship development in Oman. *Journal of Enterprising Culture*, 15 (4), pp. 371-392.

## References

---

- Khan, N., Currie, W., Weerakkody, V., and Desai, B. (2003) Evaluating offshore IT outsourcing in India: supplier and customer scenarios. *Proceedings of the 36th Annual Hawaii International Conference on System Sciences (HICSS'03)*, 6-9 January, Big Island, Hawaii.
- Kim, L. (1998) Crisis construction and organisational learning: capability building in catching-up at Hyundai motor. *Organisation Science*, 9 (4), pp. 506–521.
- Kim, S. and Chung, Y. (2003) Critical success factors for IS outsourcing implementation from an interorganisational relationship perspective. *Journal of Computer Information Systems*, 43 (4), pp. 81-90.
- King, W. (2005a) Outsourcing becomes more complex. *Information Systems Management Journal*, 22 (2), pp. 89-90.
- King, W. (2005b) Communications and information processing as a critical success factor in the effective knowledge organisation. *International Journal of Business Information Systems*, 1 (1/2), pp. 31-52.
- King, W. (2007) The is organisation of the future: impacts of global sourcing *Information Systems Management*, 24 (2), pp. 121-127.
- King, W. and Ko, D. (2001) Evaluating knowledge management and the learning organisation: an information/knowledge value chain approach. *Communication of the AIS*, 5 (14), pp. 1-27.
- King, W. and Torkzadeh, G. (2008) Information systems offshoring: Research status and issues. *MIS Quarterly*, 32 (2) , pp. 205-225
- Kishore, R., Rao, H., Nam, K., Rajagopalan, S. and Chaudhury, A. (2003) A relationship perspective on IT outsourcing. *Communications of the ACM*, 46 (12), pp. 87-92.
- Klein, H. and Myers, M. (1999) A set of principles for conducting and evaluating interpretive field studies in information systems. *MIS Quarterly*, 23 (1), pp. 67-94.
- Ko, D., Kirsch, L. and King, W. (2005) Antecedents of knowledge transfer from consultants to clients in enterprise systems implementation. *MIS Quarterly*, 29 (1), pp. 59-83.
- Kock Jr, N., McQueen, R. and Corner, J. (1997) The nature of data, information and knowledge exchanges in business processes: implications for process improvement and organisational learning. *The Learning Organisation*, 4 (2), pp. 70-80.

## References

---

- Kogut, B. and Zander, U. (1992) Knowledge of the firm, combinative capabilities, and the replication of technology. *Organisation Science*, 3 (3), pp. 383-397.
- Kogut, B. and Zander, U. (1996) What do firms do? Coordination, identity and learning. *Organisation Science*, 7 (4), pp. 502-518.
- KOM (2011) The knowledge mine (TKM). [Internet]. Available from: <<http://www.kom.om/index41f7.html?lang=en&sub=tkm>> [Accessed 19 May 2011].
- Kotlarsky, J. and Oshri, I. (2008) Country attractiveness for offshoring and offshore outsourcing: additional considerations. *Journal of Information Technology*, 23 (4), pp. 228-231.
- Krishna, S., Sahay S., Walsham, G. (2004) Managing cross-cultural issues in global software outsourcing. *Communications of the ACM*, 47 (4), pp. 62-66.
- Kuivanen, L. and Nahar, N. (2009) Vietnam as an emerging destination for offshore outsourcing of software development for Finnish companies: A conceptual perspective. *Proceedings of Portland International Centre for management of Engineering and Technology (PICMET 2009) Conference, 2-6 August, Portland, Oregon, USA*.
- Kumar, A. and Ganesh, L. (2009) Research on knowledge transfer in organisations: A morphology. *Journal of Knowledge Management*, 13 (4), pp. 161-174.
- Kumar, A. and Ganesh, L. (2011) Inter-individual knowledge transfer and performance in product development. *The Learning Organization*, 18 (3), pp. 224-238.
- Kumar, N., Stern, L. and Anderson, J. (1993) Conducting interorganisational research using key informants. *Academy of Management Journal*, 36 (6), pp. 1633-1651.
- Kuo, T. (2011) How to improve organizational performance through learning and knowledge?. *International Journal of Manpower*, 32 (5/6), pp. 581-603.
- Kvale, S. (2007) *Doing Interviews*. London, Sage Publications.
- Kvasny, L. and Richardson, H. (2006) Critical research in information systems: looking forward, looking back. *Information Technology & People*, 19 (3), pp. 196-202.
- Lacity, M. and Hirschheim, R. (1993) The information systems outsourcing bandwagon. *MIT Sloan Management Review*, 35 (1), pp. 73-86.

- Lacity, M. and Rottman, J. (2009) Effects of offshore outsourcing of information technology work on client project management. *Strategic Outsourcing: An International Journal*, 2 (1), pp. 4-26.
- Lacity, M. and Willcocks, L. (1998) An empirical investigation of information technology sourcing practices: lessons from experience. *MIS Quarterly*, 22 (3), pp. 363-408.
- Lacity, M., Khan, S., Yan, A. and Willcocks, L. (2010) A review of the IT outsourcing empirical literature and future research directions. *Journal of Information Technology*, 25 (4), pp. 395-433.
- Lam, A. (2000) Tacit knowledge, organisational learning and societal institutions: an integrated framework. *Organisation Studies*, 21 (3), pp. 487-513.
- Lam, W. and Chua, A. (2009) Knowledge outsourcing: an alternative strategy for knowledge management. *Journal of Knowledge Management*, 13 (3), pp. 28-43.
- Lane, P. Salk, J. and Lyles, M. (2001) Absorptive capacity, learning, and performance in international joint ventures. *Strategic Management Journal*, 22 (12), 1139–1161.
- Lau, K. and Zhang, J. (2006) Drivers and obstacles of outsourcing practices in China. *International Journal of Physical Distribution & Logistics Management* 10), pp. 776-792.
- Lee, A. (1989) A scientific methodology for MIS case studies. *MIS Quarterly*, 13 (1), pp. 33-50.
- Lee, A. and Baskerville, R. (2003) Generalising generalisability in information systems research. *Information Systems Research*, 14 (3), pp. 221-243.
- Lee, D. and Ahn, J. (2007) Reward systems for intra-organisational knowledge sharing. *European Journal of Operational Research*, 180 (2), pp. 938-956.
- Lee, D., Trauth, E., Farwell T. (1995) critical skills and knowledge requirements of IS professionals: a joint academic/industry investigation. *MIS Quarterly*, 19 (3), pp. 313-340.
- Lee, J. (2001) The impact of knowledge sharing, organisational capability and partnership quality on IS outsourcing success. *Information & Management*, 38 (5), pp. 323-335.

## References

---

- Lee, J. and Choi, B. (2011) Effects of initial and ongoing trust in IT outsourcing: a bilateral perspective. *Information & Management*, 48 (2-3), pp. 96-105.
- Lee, J., Huynh, M., and Hirschheim, R. (2008) An integrative model of trust on IT outsourcing: examining a bilateral perspective. *Information Systems Frontiers*, 10 (2), pp. 145-163.
- Lee, J., Miranda, S. and Kim, Y. (2004) IT outsourcing strategies: universalistic, contingency, and configurational explanations of success. *Information Systems Research*, 15 (2), pp. 110-131.
- Lee, N. and Lings, I. (2008) *Doing Business Research: A Guide to Theory and Practice*. London, Sage Publications.
- Lages, C., Lages, C. and Lages, L. (2005) The RELQUAL scale: a measure of relationship quality in export market ventures. *Journal of Business Research*, 58 (8), pp. 1040-1048.
- Leavy, B. (1996) Outsourcing strategy and a learning dilemma. *Production & Inventory Management Journal*, 37 (4), pp. 50-54.
- Leonard, D. and Sensiper, S. (1998) The role of tacit knowledge in group innovation. *California Management Review*, 40 (3), pp. 112-132.
- Levina, N. and Ross, J. (2003) From the vendor's perspective: exploring the value proposition in information technology outsourcing. *MIS Quarterly*, 27 (3), pp. 331-364.
- Levina, N. and Vaast, E. (2008) Innovating or doing as told? status differences and overlapping boundaries in offshore collaboration. *MIS Quarterly*, 32 (2), pp 307-332.
- Lewis, J. (2003) Design issues. In: Ritchie, J. and Lewis, J. (ed.). *Qualitative Research Practice: A Guide for Social Science Students and Researchers*. London, Sage Publications, pp. 47-76.
- Li, Y., Wei, Z. and Liu, Y. (2010) Strategic orientations, knowledge acquisition, and firm performance: the perspective of the vendor in cross-border outsourcing. *Journal of Management Studies*, 47 (8), pp. 1457-1482.
- Lichtenthaler, U. (2009) Absorptive capacity, environmental turbulence, and the complementarity of organisational learning processes. *Academy of Management Journal*, 52 (4), pp. 822-846.
- Lilleore, A. and Hansen, E. (2011) Knowledge-sharing enablers and barriers in pharmaceutical research and development. *Journal of Knowledge Management*, 15 (1), pp. 53-70.



## References

---

- Lin, C., Pervan, G., and McDermid, D. (2007). Issues and recommendations in evaluating and managing the benefits of public sector IS/IT outsourcing. *Information Technology & People*, 20 (2), pp. 161-183.
- Lin, F., Fofanah, S. and Liang, D. (2011) Assessing citizen adoption of e-Government initiatives in Gambia: a validation of the technology acceptance model in information systems success. *Government Information Quarterly*, 28 (2), pp. 271-279.
- Lin, L., Geng, X. and Whinston, A. (2005) A sender-receiver framework for knowledge transfer. *MIS Quarterly*, 29 (2), pp. 197-219.
- Lincoln, Y. and Guba, E. (1994) *Naturalistic Inquiry*. London, Sage Publications.
- Linder, J. (2004) Transformational outsourcing. *MIT Sloan Management Review*, 45 (2), pp. 52-58.
- Linder, J., Jarvenpaa, S. and Davenport, T. (2003) Toward an innovation sourcing strategy. *MIT Sloan Management Review*, 44 (4), pp. 43-49.
- Lio, M., Liu, M. and Ou, Y. (2011) Can the internet reduce corruption? a cross-country study based on dynamic panel data models. *Government Information Quarterly*, 28 (1), pp. 47-53.
- Liu, Y., Li, Y. and Zhang, L. (2010) Control mechanisms across a buyer-supplier relationship quality matrix. *Journal of Business Research*, 63 (1), pp. 3-12.
- Liyanage, C., Elhag, T., Ballal, T. and Li, Q. (2009) Knowledge communication and translation - a knowledge transfer model. *Journal of Knowledge Management*, 13 (3), pp. 118-131.
- Long, T., Johnson, M. (2000) Rigour, reliability and validity research. *Clinical Effectiveness in Nursing*, 4 (1), pp. 30-37.
- Looney, R. (2009) *The Omani and Bahraini paths to development: rare and contrasting oil-based economic success stories*. [Internet], United Nations University-World Institute for Development Economics Research. Available from: <<http://www.wider.unu.edu/stc/repec/pdfs/rp2009/RP2009-38.pdf>> [Accessed 13 April 2011].
- Lopez-Nicolas, C. and Soto-Acosta, P. (2010) Analyzing ICT adoption and use effects on knowledge creation: an empirical investigation in SMEs. *International Journal of Information Management*. 30 (6), pp. 521-528.
- Lord, M. and Ranft, A. (2000) Organisational learning about new international markets: exploring the internal transfer of local market knowledge. *Journal of International Business Studies*, 31 (4), pp. 573-589.

## References

---

- Lubbe, S. (2003) Development of a case study methodology in the information technology (IT) field in South Africa: a step-by-step approach. *South Africa Journal of Information Management*, 5 (4), pp. 1-16.
- Lucas, L. (2006) The role of culture on knowledge transfer: the case of the multinational corporation. *The Learning Organisation*, 13 (3), pp. 257-275.
- Luftman, J. and Zadeh, H. (2011) Key information technology and management issues 2010–11: an international study. *Journal of Information Technology*, 26 (3), pp. 1-12.
- Lyles, M and Salk, J. (1996) Knowledge acquisition from foreign parents in international joint ventures. *Journal of International Business Studies*, 27 (5), pp. 877- 903.
- Malhotra. A., Majchrzak. A., Carman. R., and Lott, V. (2001) Radical innovation without collocation: a case study at Boeing-Rocketdyne. *MIS Quarterly*, 25 (2), pp. 229-249.
- Mao, J., Lee, J. and Deng, C. (2008) Vendors' perspectives on trust and control in offshore information systems outsourcing. *Information & Management*, 45 (7), pp. 482-492.
- Marcolin, B. and Ross, A. (2005) Complexities in IS sourcing: equifinality and relationship management. *DATA BASE for Advances in Information Systems*, 36 (4), pp. 29-46.
- Marshall, C. and Rossman, G. (2011). *Designing qualitative research*. London, Sage Publications
- Mason, K. and Leek, S. (2008) Learning to build a supply network: an exploration of dynamic business models. *Journal of Management Studies*, 45 (4), pp. 774-799.
- Matteo, M. (2003) Sourcing in China. *The China Business Review*, 30 (5), pp. 30-33.
- Mayan, M. (2009) *Essential of Qualitative Inquiry*. Walnut Creek, CA, Left Coast Press, Inc.
- Mayring, P. (2000) *Qualitative Content Analysis*. [Internet], *Forum: Qualitative Social Research*, 1 (2). Available from: <<http://www.qualitative-research.net/index.php/fqs/article/view/1089/2385>> [Accessed 12 March 2011].
- Maylor, H. and Blackmon, K. (2005) *Researching Business and Management*. New York, Palgrave Macmillan.

## References

---

- McCutcheon, D. and Meredith, J. (1993) Conducting case study research in operation management. *Journal of Operations Management*, 11 (3), pp. 239-256.
- Mcfarlan, W. and Nolan, R. (1995). How to manage and IT outsourcing alliance. *MIT Sloan Management Review*, 36 (2), pp. 9-23.
- McGrath, K. (2005) Doing critical research in information systems: a case of theory and practice not informing each other. *Information Systems Journal*, 15 (2), pp. 85-101.
- McManus, D. and Snyder, C (2003) Knowledge Management: The Role of EPSS. *Journal of Information Technology and Information Management*, 12 (2), pp. 17-28.
- Meier, M. (2011) Knowledge management in strategic alliances: a review of empirical evidence. *International Journal of Management Reviews*, 13 (1), pp. 1-23.
- Metcalfe, B. (2007) Gender and human resource management in the Middle East. *The International Journal of Human Resource Management*, 18 (1), pp. 54-74.
- Michailova, S. and Hutchings, K. (2006) National cultural influences on knowledge sharing: a comparison of china and Russia. *Journal of Management Studies*, 43 (3), pp. 383-405.
- Miles M. and Huberman A. (1994) *Qualitative Data Analysis: An Expanded Sourcebook*. London, Sage Publications.
- Minbaeva, D. (2007) Knowledge transfer in multinational corporations. *Management International Review*, 47 (4), pp. 567-593.
- Minbaeva, D., Pedersen, T., Bjoörkman, I., Fey, C. and Park, H. (2003) MNC knowledge transfer, subsidiary absorptive capacity and HRM. *Journal of International Business Studies*, 34 (6), pp. 586-599.
- Mingers, J. (2003). The paucity of multi-method research: A review of the information systems literature. *Information Systems Journal*, 13 (3), pp. 233-249.
- Ministry of Information-Oman (2011a) *Geography*. [Internet]. Available from: <<http://www.omanet.om/english/geo/geog.asp>> [Accessed 18 May 2011].
- Ministry of Information-Oman (2011b) *Foreign Affairs*. [Internet]. Available from: <<http://www.omanet.om/english/government/foreign.asp?cat=gov>> [Accessed 18 May 2011].

## References

---

- Ministry of Information-Oman (2011c) *Basic Information*. [Internet]. Available from: <<http://www.omanet.om/english/useful/basic.asp?cat=use>>. [Accessed 18 May 2011].
- Ministry of National Economy-Oman (2011) *Monthly Statistical Bulletin April 2011*. [Internet]. Available from: <<http://www.moneoman.gov.om/viewPublication.aspx?id=773>>. [Accessed 18 May 2011].
- Ministry of Tourism-Oman (2011) *Dhofar Governorate*. [Internet]. Available from: <<http://www.omantourism.gov.om/wps/portal/mot>>. [Accessed 18 May 2011].
- Moon, J., Jung, G., Chung, M. and Choe, Y. (2007). IT outsourcing for E-government: Lesson from IT outsourcing projects initiated by agricultural organisations of the Korean government. *Proceedings of the 40th Hawaii International Conference on System Sciences (HICSS'07), January 3-6, Big Island, Hawaii, USA*.
- Morgan R. and Hunt S. (1994) The commitment–trust theory of relationship marketing. *Journal of Marketing*, 58 (3), pp. 20-39.
- Morse, J. (1999) Myth #93: Reliability and validity are not relevant to qualitative inquiry. *Qualitative Health Research*, 9 (6), pp. 717-718.
- Mu, J., Peng, G. and Love, E. (2008) Interfirm networks, social capital, and knowledge flow. *Journal of Knowledge Management*, 12 (4), pp. 86-100.
- Mu, J., Tang, F. and Maclachlan, D. (2010) Absorptive and disseminative capacity: knowledge transfer in intra-organisation network, *Expert Systems with Applications*, 37 (1), pp. 31-38.
- Mudambi, R., Mudambi, S. and Navarra, P. (2007) Global innovation in MNCs: the effects of subsidiary self-determination and teamwork. *Journal of Product Innovation Management*, 24 (5), pp. 442-455.
- Murthy, S. (2004) The impact of global IT outsourcing on IT providers. *Communications of the Association for Information Systems (AIS)*, 14 (1), pp. 543-557.
- Muthusamy, S. and White, M. (2005) Learning and knowledge transfer in strategic alliances: a social exchange view, *Organisation Studies*, 26 (3), pp. 415-441.
- Myers, M. (1997) Qualitative research in information systems. *MIS Quarterly*, 21 (2), pp. 241-242.
- Myers, M. (2009) *Qualitative Research in Business and Management*. London, Sage Publications.

- Myers, M. and Avison, D. (2002) *Qualitative Research in Information Systems: A Reader*. London, Sage Publications.
- Myers, M. and Klein, H. (2011) A set of principles for conducting critical research in information systems. *MIS Quarterly*, 35 (1), pp. 17-36.
- Nahapiet, J. and Ghoshal, S. (1998) Social capital, intellectual capital, and the organisational advantage. *Academy of Management Review*, 23 (2), pp. 242–266.
- Narteh, B. (2008) Knowledge transfer in developed-developing country interfirm collaborations: a conceptual framework. *Journal of Knowledge Management*, 12 (1), pp. 78-91.
- Naqvi, S. and Al-Shihi, H. (2009) M-government services initiatives in Oman. *Issues in Informing Science and Information Technology*, 6, pp. 817-824.
- Neal, M., Finlay, J. and Tansey, R. (2005) “My father knows the minister”: a comparative study of Arab women’s attitudes towards leadership authority. *Women in Management Review*, 20 (7), pp. 478-497.
- Neuman, W. (2003) *Social Research Methods: Qualitative and Quantitative Approaches*. London, Pearson Education.
- Nicholson, B. and Sahay, S. (2004) Embedded knowledge and offshore software development. *Information and Organisation*, 14 (4), pp. 329-365.
- Nonaka, I. (1991) The knowledge creating company. *Harvard Business Review*, 69 (6), pp. 96-104.
- Nonaka, I. and Takeuchi, H. (1995) *The Knowledge Creating Company*. Oxford: Oxford University Press.
- Nour, S. (2002) *ICT Opportunities and Challenges for Development in the Arab World*. [Internet], United Nations University-World Institute for Development Economics Research. Available from: <[http://www.wider.unu.edu/publications/working-papers/discussion-papers/2002/en\\_GB/dp2002-83/files/78091722144678623/default/dp2002-83.pdf](http://www.wider.unu.edu/publications/working-papers/discussion-papers/2002/en_GB/dp2002-83/files/78091722144678623/default/dp2002-83.pdf)> [Accessed 18 May 2011].
- Numprasertchai, S. and Igel, P. (2005) Managing knowledge through collaboration: multiple case studies of managing research in university laboratories in Thailand. *Technovation*, 25 (10), pp. 1173-1182.
- Oates, B. (2006) *Researching Information Systems and Computing*. London, Sage Publications.

## References

---

- Oerlemans, L. and Knobens, J. (2010) Configurations of knowledge transfer relations: An empirically based taxonomy and its determinants. *Journal of Engineering and Technology Management*, 27 (1-2), pp. 33-5.
- Oman Census (2011) *Official Web Portal for the Oman Census Administration*. [Internet]. Available from: <<http://www.omancensus.net/new/index.php?lang=en>> [Accessed 20 May 2011].
- Oman Daily Observer (2011) *World Bank considers Oman economic model*. [Internet]. Available from: <<http://main.omanobserver.om/node/44578>> [Accessed 21 April 2011].
- Orlikowski, W. and Baroudi, J. (1991) Studying information technology in organisations: research approaches and assumptions. *Information Systems Research*, 2 (1), pp. 1-28.
- Oshri, I. van Fenema, P. Kotlarsky, J. (2008) Knowledge transfer in globally distributed teams: the role of transactive memory. *Information Systems Journal*, 18 (6), pp. 593-616.
- Osterloh, M. and Frey, B. (2000) Motivation, knowledge transfer, and organisational forms. *Organisation Science*, 11 (5), pp. 538-550.
- Paisittanand and Olson (2006) A simulation study of IT outsourcing in the credit card business. *European Journal of Operational Research*, 175 (2), pp. 1248-1261.
- Pak, Y. and Park, Y. (2004) A framework of knowledge transfer in cross-border joint ventures: an empirical test of the Korean context. *Management International Review*, 44 (4), pp. 417-434.
- Paré, G. (2004) Investigating information systems with positivist case research. *Communications of the Association for Information Systems (AIS)*, 13 (8), pp. 233-264.
- Pardo, T., Cresswell, A., Thompson, F. and Zhang, J (2006). Knowledge Sharing in Cross-Boundary Information System Development in the Public Sector. *Information Technology and Management*, 7 (4), pp. 293-313.
- Parent, R., Roy, M. and St-Jacques, D. (2007) A systems-based dynamic knowledge transfer capacity model. *Journal of Knowledge Management*, 11 (6), pp. 81-93.
- Park, B. (2011) Knowledge transfer capacity of multinational enterprises and technology acquisition in international joint ventures. *International Business Review*, 20 (1), pp. 75-87.

## References

---

- Park, B. and Ghauri, P. (2011) Key factors affecting acquisition of technological capabilities from foreign acquiring firms by small and medium sized local firms. *Journal of Business World*, 46 (1), pp. 116-125.
- Palvia, S. (2003) Global outsourcing of IT and IT enabled services: impact on US and global economy. *Journal of Information Technology Cases and Applications*, 5 (3), pp. 1-11.
- Palvia, S. (2004) Global outsourcing of IT and IT enabled services: a framework for choosing an (outsource) country. *Journal of Information Technology Cases and Applications*, 6 (3), pp. 1-20.
- Patton, M. (2002) *Qualitative Research and Evaluation Methods*. London, Sage Publications.
- Pawlowski, S. and Robey, D. (2004) Bridging user organisations: knowledge brokering and the work of information technology professionals, *MIS Quarterly*, 26 (4), pp. 645-672.
- Payne, G. and Payne, J. (2004) *Key Concepts in Social Research*. London, Sage Publications.
- Peled, A. (2001) Outsourcing and political power: bureaucrats, consultants, vendors and public information technology. *Public Personnel Management*, 30 (4), pp. 495-514.
- Pérez-Nordtvedt, L., Kedia, B., Datta, D. and Rasheed, A. (2008) Effectiveness and efficiency of cross-border knowledge transfer: an empirical examination. *Journal of Management Studies*, 45 (4), pp. 699-729.
- Pfannenstien, L. and Tsai, R. (2004) Offshore outsourcing: current and future effects on American IT industry. *Information Systems Management*, 21 (4), pp. 72-80.
- Phillips, E. and Pugh, D. (2005) *How to Get a PhD: A Handbook for Students and their Supervisors*. England, Open University Press.
- Poppo, L., and Zenger, T. (2002) Do formal contracts and relational governance function as substitutes or complements?, *Strategic Management Journal*, 23 (8), pp. 707-725.
- Powell, W., Koput, K. and Smith-Doerr, L. (1996) Interorganisational collaboration and the locus of innovation: networks of learning in biotechnology. *Administrative Science Quarterly*, 41 (1), pp. 116-145.

- Pozzebon, M. (2004) Conducting and evaluating critical interpretive research: examining criteria as a key component in building a research tradition. In: Kaplan, B., Truex III, D., Wastell, D., Wood-Harper, T. and DeGross, J. (ed.). *Information Systems Research: Relevant theory and Informed Practice*, International Federation for Information Processing (IFIP), pp. 275-292.
- Punch, K. (2005) *Introduction to Social Research: Quantitative and Qualitative Approaches*. London, Sage Publications.
- Qu, W., Pinsonneault, A., and Oh, W. (2011) Influence of industry characteristics on information technology outsourcing. *Journal of Management Information Systems*, 27(4), pp. 99-128.
- Quelin, B. and Duhamel, F. (2003) Bringing together strategic outsourcing and corporate strategy: outsourcing motives and risks. *European Management Journal*, 21 (5), pp. 647-61.
- Quigley, N., Tesluk, P., Locke, E. and Bartol, K. (2007) A multilevel investigation of the motivational mechanisms underlying knowledge sharing and performance. *Organisation Science*, 18 (1), pp. 71-88.
- Quinn, B. (1999) Strategic outsourcing: leveraging knowledge capabilities, *Sloan Management Review* 40 (4), pp. 9-21.
- Rai, A. and Tang, X. (2010) Leveraging IT capabilities and competitive process capabilities for the management of interorganisational relationship portfolios. *Information Systems Research*, 21 (3), pp. 516-542.
- Rai, A., Maruping, L. and Venkatesh, V. (2009). Offshore information systems project success: the role of social embeddedness and cultural characteristics. *MIS Quarterly*, 33 (3), pp. 617-641.
- Ranft A. and Lord, D. (2002) Acquiring new technologies and capabilities: a grounded model of acquisition implementation. *Organisation Science*, 13(4), pp. 420-441.
- Rauyruen, P. and Miller, K. (2007) Relationship quality as a predictor of B2B customer loyalty. *Journal of Business Research*, 60 (1), pp. 21-31.
- Rashman, L., Withers, E. and Hartley, J. (2009) Organisational learning and knowledge in public service organisations: a systematic review of the literature. *International Journal of Management Review*, 11 (4), pp. 463-494.
- Reagans, R. and McEvily, B. (2003) Network structure and knowledge transfer: the effects of cohesion and range. *Administrative Science Quarterly*, 48 (2), pp. 240-67.



- Reid, V., Baloh, P. and Desouza, K. (2010) Strategic Knowledge Management. In: Grant, K., Hackney, R. and Edgar, D. (ed.). *Strategic Information Systems Management*. Hampshire, UK, Cengage Learning EMEA, pp.215-245.
- Remus, U. and Wiener, M. (2009) Critical success factors for managing offshore software development projects. *Journal of Global Information Technology Management*, 12 (1), pp. 6-29.
- Renzl, B. (2008) Trust in management and knowledge sharing: the mediating effects of fear and knowledge documentation. *Omega*, 36 (2), pp. 206-220.
- Ringberg, T. and Reihlen, M. (2008) Toward a socio-cognitive approach to knowledge transfer. *Journal of Management Studies*, 45 (5), pp. 912-935.
- Ritchie, J., Lewis, J. and Elam, G. (2003) Designing and selecting samples. In: Ritchie, J. and Lewis, J. (ed.). *Qualitative Research Practice: A Guide for Social Science Students and Researchers*. London, Sage Publications, pp. 77-108.
- Roberts, J. (2000) From know-how to show-how? questioning the role of information and communication technologies in knowledge transfer. *Technology Analysis & Strategic Management*, 12 (4), pp. 429-443.
- Robson, C. (2002) *Real World Research. A Resource for Social Scientists and Practitioner-Researchers*. MA, Boston, Blackwell Publishing.
- Romano, C. (1989) Research strategies for small business: a case study. *International Small Business Journal*, 7 (4), pp. 35-43.
- Rong, G. and Grover, V. (2009) Keeping up-to-date with information technology: testing a model of technological knowledge renewal effectiveness for IT professionals. *Information & Management*, 46 (7), pp. 376-387.
- Rosemann, M. and Vessey, I. (2008) Toward improving the relevance of information systems research to practice: the role of applicability checks, *MIS Quarterly*, 32 (1), pp. 1-22.
- Rothaermel, F. and Thursby, M. (2005) University–incubator firm knowledge flows: assessing their impact on incubator firm performance. *Research Policy*, 34 (3), pp. 305–320.
- Roulston, K. (2010) Considering quality in qualitative interviewing. *Qualitative Research*, 10 (2), pp. 199-228.

## References

---

- Rulke, D., Srilata, Z. and Anderson, M. (2000) Sources of managers' knowledge of organisational capabilities. *Organisational Behavior and Human Decision Process*, 82 (1), pp. 134-149.
- Rustagi, S. King, W. and Kirsch, L (2008) Predictors of formal control usage in IT outsourcing partnerships. *Information Systems Research*, 19 (2), pp. 126-143.
- Salmi, P. and Torkkeli, M. (2009) Success factors of interorganisational knowledge transfer: a case of a collaborative public-private R&D project. *International Journal of Business Innovation and Research*, 3 (2), pp. 109-125.
- Salomon, R. and Martin, X. (2008) Learning, knowledge transfer, and technology implementation performance: a study of time-to-build in the global semiconductor industry. *Management Science*, 54 (7), pp. 1266-1280.
- Samaddar, S. and Kadiyala, S. (2006) Information systems outsourcing: replicating an existing framework in a different cultural context. *Journal of Operations Management*, 24 (6), pp. 910-931.
- Sarantakos, S. (2005) *Social Research*. New York, Palgrave Macmillan.
- Sarker, S., Sarker, S., Nicholson, D. and Joshi, K. (2005) Knowledge transfer in virtual systems development teams: an exploratory study of four key enablers. *IEEE Transactions on Professional Communication*, 48 (2), pp. 201-218.
- Saunders, C., Gebelt, M. and Hu, Q. (1997) Achieving success in information systems outsourcing. *California Management Review*, 39 (2), pp. 63-79.
- Saunders, M., Lewis, P. and Thornhill, A. (2009) *Research Methods for Business Students*. Essex, England, Pearson Education Limited.
- Schlegelmilch, B. and Chini, T. (2003). Knowledge transfer between marketing functions in multinational companies: A conceptual model. *International Business Review*, 12 (2), pp. 215-232.
- Schultze, U. and Avital, M. (2011) Designing interviews to generate rich data for information systems research. *Information and Organization*, 21 (1), pp. 1-16.
- Schulz, M. (2001) The uncertain relevance of newness: organisational learning and knowledge flows. *Academy of Management Journal*, 44 (4), pp. 661-681.
- Schwarz, A. Jayatilaka, B, Hirschheim, R., Goles, T. (2009) A conjoint approach to understanding IT application services outsourcing. *Journal for the Association of Information Systems (AIS)*, 10 (10), pp. 748-781.

## References

---

- Sedmak, M. and Longhurst, P. (2010) Methodological choices in enterprise systems research. *Business Process Management Journal*, 16 (1), pp. 76-92.
- Senge, P. (1990) *The Fifth Discipline*. Doubleday: New York.
- Sekaran, U. (2003) *Research Methods for Business: A Skilled Building Approach*. New York, John Wiley & Sons.
- Sherif, K., Hoffman, J. and Thomas, B. (2006) Can technology build organisational social capital? the case of a global IT consulting firm. *Information & Management*, 43 (7) 795–804
- Shi, Z., Kunnathurb, A. and Ragu-Nathan, T. (2005) IS outsourcing management competence dimensions: instrument development and relationship exploration. *Information & Management*, 42 (6), 901-919.
- Sié, L. and Yakhlef, A. (2009) Passion and expertise knowledge transfer. *Journal of Knowledge Management*, 13 (4), pp.175-186.
- Silverman, D. (2010) *Doing Qualitative Research*. London, Sage Publications.
- Simeon, R. (2010) Evaluating the strategic implications of Japanese IT offshore outsourcing in Chain and India. *International Journal of Management and Information Systems*, 14 (3), pp. 25-36.
- Simonin, B. (1999) Ambiguity and the process of knowledge transfer in strategic alliances. *Strategic Management Journal*, 20 (7), pp. 595–623.
- Simonin, B. (2004) An empirical investigation of the process of knowledge transfer in international strategic alliances. *Journal of International Business Studies*, 5 (5), pp. 407-427.
- Slaughter, S. and Kirsch, L. (2006) The effectiveness of knowledge transfer portfolios in software process improvement. *Information Systems Research*, 17 (3), pp. 301–320.
- Smith, M. (2010) Limitations to building institutional trustworthiness through E-government: a comparative study of two e-services in Chile. *Journal of Information Technology*, 23 (3), pp. 1-16.
- Smith, M., Noorman, M. and Martin, A. (2010) Automating the public sector and organizing accountabilities. *Communications of the Association for Information Systems (AIS)*, 26 (1), pp. 1-16.
- Soh, C., Kien, S. and Tay-Yap, J. (2000) Cultural fits and misfits: Is ERP a universal solution?. *Communications of the ACM*, 43 (4), pp. 47-51.

## References

---

- Song, J., Almeida, P. and Wu, G. (2003) Learning-by-hiring: when is mobility more likely to facilitate interfirm knowledge transfer? *Management Science*, 49 (4), pp. 351-365.
- Sood, R. (2005) *IT, Software Services: Outsourcing & Offshoring*. Texas, USA , AiAiYo Books, LLC..
- Squire, B., Cousins P. and Brown, S. (2009) Cooperation and knowledge transfer within buyer–supplier relationships: the moderating properties of trust, relationship duration and supplier performance. *British Journal of Management*, 20 (4), pp. 461-477.
- Srivardhana, T. and Pawlowski, S. (2007) ERP systems as an enabler of sustained business process innovation: a knowledge-based view. *The Journal of Strategic Information Systems*, 16 (1), pp. 51–69.
- Stake, R. (1995) *The Art of Case Study Research*. London, Sage Publications.
- Stake, R. (2003). Case studies. In: Denzin, D. and Lincoln, Y. (ed.). *Strategies of Qualitative Inquiry*. London, Sage Publications, pp. 134-164
- Steensma, H. and Lyles, M. (2000) Explaining IJV survival in transitional economy through social exchange and knowledge-based perspectives. *Strategic Management Journal*, 21 (8), pp. 831-851.
- Strach, P. and Evert, A. (2006) Knowledge transfer within Japanese multinationals: Building a theory. *Journal of Knowledge Management*, 10 (1), pp. 55-68.
- Suhaimi, M., Hussin, H, and Mustaffa, M. (2007) Information systems outsourcing: motivations and the implementation strategy in a Malaysian bank. *Business Process Management Journal*, 13 (5), pp. 644-661.
- Sutton, M. (2008) Oman government signs \$5.5m e-tendering deal. [Internet], Arabian Business. Available from: <<http://www.arabianbusiness.com/oman-government-signs-5-5m-e-tendering-deal-43138.html>> [Accessed 14 April 2011].
- Swar, B., Moon, J., Oh, J. and Rhee, C. (2010) Determinants of relationship quality for IS/IT outsourcing success in public sector. *Information Systems Frontiers*, 12 (1), pp. 1-19.
- Szulanski, G. (1996) Exploring internal stickiness: Impediments to the transfer of best practice within the firm. *Strategic Management Journal*, 17 (1), pp. 27-43.
- Szulanski, G. (2003) *Sticky Knowledge: Barriers to Knowing in the Firm*. London, Sage Publications.

## References

---

- Szulanski, G., Cappetta, R. and Jensen, R. (2004) When and how trustworthiness matters: knowledge transfer and the moderating effect of causal ambiguity. *Organisation Science*, 15 (5), pp. 600-613.
- Tafti, M. (2005) Risks factors associated with offshore IT outsourcing. *Industrial Management & Data Systems*, 105 (5), pp. 549-560.
- Tafti, M. (2007) IT outsourcing: a knowledge-management perspective, *Issues in Information Systems VIII* (2), pp. 488-493.
- Tang, F., Mu, J and MacLachlan, D. (2010) Disseminative capacity, organisational structure and knowledge transfer. *Expert Systems with Applications*, 37 (2), pp.1586-1593.
- Tarafdar, M. and Gordon, S. (2007) Understanding the influence of information systems competencies on process innovation: a resource-based view, *The Journal of Strategic Information Systems*, 16 (4), pp. 353-392.
- Teerajetgul, W., Chareonngam, C. and Wethyavivorn, P. (2009) Key knowledge factors in Thai construction practice. *International Journal of Project Management*, 27 (8), pp. 833-839.
- Teigland, R. and Wasko, M. (2009) Knowledge transfer in MNCs: examining how intrinsic motivations and knowledge sourcing impact individual centrality and performance. *Journal of International Management* 15 (1), pp. 15–31.
- The Economist (2005) *The rise of nearshoring: ex-communist Europe is grabbing a lucrative niche in the global outsourcing business*. 377 (8455), pp. 65–67 (December 1). [Internet]. Available from: <<http://www.economist.com/node/5246203>> [Accessed 25 March 2011].
- The Economist Intelligence Unit (2010) *Oman: Summary*. [Internet]. Available from: <<http://country.eiu.com/Oman>> [Accessed 14 April 2011].
- Tilley, L. and Woodthorpe, K. (2011) Is it the end for anonymity as we know it? : a critical examination of the ethical principle of anonymity in the context of 21<sup>st</sup> century demands on the qualitative researcher. *Qualitative Research*, 11 (2), pp. 197-212.
- Timbrell, G., Andrews, N. and Gable, G. (2001) Impediments to inter-firm transfer of best practice in an enterprise systems context. *Proceedings of the of the 7th Americas Conference on Information Systems, August 3-5, Boston, Massachusetts, USA*.
- Times of Oman (2008) *ePayment Gateway launched*. [Internet]. Available from: <<http://www.timesofoman.com/echoice.asp?detail=18751&rand=LnUXpUCQSnkKEam0F4RPMW28Y>> [Accessed 22 April 2011].

## References

---

- Times of Oman (2011a) *Oman is among most peaceful countries*. [Internet]. Available from: <<http://www.timesofoman.com/echoice.asp?detail=45432>> [Accessed 28 April 2011].
- Times of Oman (2011b) *Omantel to provide free Internet to social insurance beneficiaries*. [Internet]. Available from: <<http://www.timesofoman.com/searchdetail.asp?cat=&detail=41135&rand=71mWI5hq7P3EkFPofjMuGIRLOX>> [Accessed 2 March 2011].
- Tiwana, A. and Bush, A. (2007) A comparison of transaction cost, agency, and knowledge-based predictors of IT outsourcing decisions: a U.S.–Japan cross-cultural field study. *Journal of Management Information Systems*, 24 (1), pp. 259-300.
- Tiwana, A. Bharadwaj, A. and Sambamurthy, V. (2003) The antecedents of information systems development capability in firms: a knowledge integration perspective. *Proceedings of the International Conference on Information Systems, (ICIS 2003), December 14-17, Seattle, Washington, USA*.
- Todorova, G. and Durisin, B. (2007) Absorptive capacity: valuing a reconceptualization. *Academy of Management Review*, 32 (3), pp. 774-786.
- Torkzadeh, G., Chang, J. and Hardin, A. (2011) Usage and impact of technology enabled job learning. *European Journal of Information Systems* 20 (1), pp. 69-86.
- TRA (2010) Telecommunication Regularity Authority (TRA) Annual Report 2009. [Internet]. Available from: <[http://www.tra.gov.om/newsite1/Portal/Upload/Documents/450\\_TRA\\_ANN\\_UAL\\_REPORT\\_2009\\_ENGLISH.pdf](http://www.tra.gov.om/newsite1/Portal/Upload/Documents/450_TRA_ANN_UAL_REPORT_2009_ENGLISH.pdf)> [Accessed 28 April 2011].
- Tsang, E. (2002) Acquiring knowledge by foreign partners for international joint ventures in a transition economy: learning-by-doing and learning myopia. *Strategic Management Journal*, 23 (9), pp. 835-854.
- Tseng, P., Yen, D., Hung, Y. and Wang, N. (2008). To explore managerial issues and their implications on e-Government deployment in the public sector: Lessons from Taiwan's Bureau of Foreign Trade. *Government Information Quarterly*, 25 (4), pp. 734-754.
- Tsai, W. (2001) Knowledge transfer in intraorganisational networks: effects of network position and absorptive capacity on business unit innovation and performance. *Academy of Management Journal*, 44 (5), pp. 996–1004.
- Vaara, E., Sarala, R. Stahl, G. and Björkman, I. (2010) The impact of organisational and national cultural differences on social conflict and knowledge transfer in international acquisitions. *Journal of Management Studies*, 47 (7), pp. 1-27.

- Vaishnavi, V. and Kuechler, W. (2004/5) *Design research in information systems*. [Internet], Association for information systems. Available from: <<http://desrist.org/design-research-in-information-systems/>> [Accessed 14 April 2011].
- Valorinta, M. (2010) IT alignment and the boundaries of the IT function. *Journal of Information Technology*, 25 (4), pp. 1-14.
- Van Baalen, P., Bloemhof-Ruwaard, J. and Van Heck, E. (2005) Knowledge sharing in an emerging network of practice: the role of a knowledge portal. *European Management Journal*, 23 (3), pp. 300-314.
- Van Bruggen, G., Lilien, G. and Kacker, M. (2002) Informants in organizational marketing research: why use multiple informants and how to aggregate responses. *Journal of Marketing Research*, 39 (4), pp. 469-478.
- Van den Bosch, F., Van Wijk, R. and Volberda, H. (2005) Absorptive capacity: antecedents, models and outcomes. In: Easterby-Smith, M. and Lyles, M. (ed.). *The Blackwell Handbook of Organisational Learning and Knowledge Management*. Oxford, Blackwell Publishing, pp. 278-302.
- Van den Hooff, B. and Huysman, M. (2009) Managing knowledge sharing: emergent and engineering approaches. *Information & Management*, 46 (1), pp. 1-8.
- Vannoy, S. and Salam, A. (2010) Managerial interpretations of the role of information systems in competitive actions and firm performance: a grounded theory investigation. *Information Systems Research*, 21 (3), pp. 496-515.
- Van Wijk, R., Jansen, J. and Lyles, M. (2008) Inter- and intra-organisational knowledge transfer: a meta-analytic review and assessment of its antecedents and consequences. *Journal of Management Studies*, 45 (4), pp. 830-853.
- Vlaar, P., van Fenema, P. and Tiwari, V. (2008) Cocreating understanding and value in distributed work: how members of onsite and offshore vendor teams give, make, demand, and break sense. *MIS Quarterly*, 32 (2), pp. 227-255.
- Villena, V., Revilla, E. Choi, T. (2010) The dark side of buyer–supplier relationships: a social capital perspective. *Journal of Operations Management*, 29 (6), pp. 561-576.
- Vivek, S., Richey, G. and Dalela, V. (2009) A longitudinal examination of partnership governance in offshoring: a moving target. *Journal of World Business*, 44, pp. 16-30.
- Volberda, H., Foss, N. and Lyles, M. (2010) Absorbing the concept of absorptive capacity: how to realize its potential in the organization field. *Organization Science*, 21(4), pp. 931-951.

## References

---

- Voss, C., Tsiriktsis, N. and Frohlich, M. (2002) Case research in operations management. *International Journal of Operations & Production Management*, 22 (2), pp. 195-219.
- Walsham, G. (1993) *Interpreting Information Systems in Organisations*. Chichester, Wiley.
- Walsham, G. (1995) Interpretive case studies in IS research: nature and method. *European Journal of Information Systems*, 4 (2), pp. 74-81.
- Walsham, G. (2005) Learning about being critical. *Information Systems Journal*, 15 (2), pp. 111-117.
- Walsham, G. (2006) Doing interpretive research. *European Journal of Information Systems*, 15 (3), pp. 320-330.
- Wang, E., Lin, C. Jiang, J. and Klein G. (2007) Improving enterprise resource planning (ERP) fit to organisational process through knowledge transfer. *International Journal of Information Management*, 27 (3), pp. 200-212.
- Wang, L., Gwebu, K., Wang, J. and Zhu, D. (2008) The aftermath of information technology outsourcing: an empirical study of firm performance following outsourcing decisions. *Journal of Information Systems*, 22 (1), pp. 125-159.
- Wang, S. and Noe, R. (2010) Knowledge sharing: a review and directions for future research. *Human Resource Management Review*, 20 (2), pp. 115-131.
- Weber, R. and Camerer, C. (2003) Cultural conflict and merger failure: an experimental approach. *Management Science*, 49 (4), pp. 400-415.
- Welch, D. and Welch, L. (2008) The importance of language in international knowledge transfer. *Management International Review*, 48 (3), pp. 339-360.
- Westphal, T. and Shaw, V. (2005) Knowledge transfers in acquisitions: an exploratory study and model. *Management International Review*, 45 (2), pp. 75-100.
- Weitzman, E. (2000) Software and qualitative research. In: Denzin, N. and Lincoln, Y. (ed.). *Handbook of Qualitative Research*, London, Sage Publications, pp.803-20.
- Wilkinson, S. (2011) Analysing focus group data. In: Silverman, D. (ed.). *Qualitative Research: Issues of Theory, Method and Practice*. London, Sage Publications, pp. 168-184.



- Willcocks, L., Griffiths, C. and Kotlarsky, J. (2009) *Offshoring in non-BRIC countries: Egypt- a new growth market*. [Internet], Outsourcing Unit, London School of Economics and Political Science. Available from: <[http://www2.lse.ac.uk/businessAndConsultancy/LSEConsulting/recentReports.aspx#Beyond\\_BRIC](http://www2.lse.ac.uk/businessAndConsultancy/LSEConsulting/recentReports.aspx#Beyond_BRIC)> [Accessed 4 April 2011].
- Williams, C. (2011) Client–vendor knowledge transfer in IS offshore outsourcing: insights from a survey of Indian software engineers. *Information Systems Journal*, 21(4), pp. 335-356.
- Winkler, J. Dibbern, J. Heinzl, A. (2008) The impact of cultural differences in offshore outsourcing—case study results from German–Indian application development projects. *Information Systems Frontiers*, 10 (2), pp. 243–258.
- Xu, Q. and Ma, Q. (2008) Determinants of ERP implementation knowledge transfer. *Information & Management* 45 (8), pp. 528-539.
- Yakhlef, A. (2009) Outsourcing as a mode of organisational learning. *Strategic Outsourcing: An International Journal*, 2 (1), pp. 37-53.
- Yang, C. and Huang, J. (2000) A decision model for IS outsourcing. *International Journal of Information Management*, 20 (3), pp. 225-239.
- Yang, S. and Farn, C. (2009) Social capital, behavioural control, and tacit knowledge sharing-A multi-informant design. *International Journal of Information Management*, 29 (3), pp. 210-218.
- Yeo, R. (2007) Organisational learning in representative Singapore public organisations: A study of its contribution to the understanding of management in Singapore. *International Journal of Public Sector Management*, 20 (5), pp. 345-365.
- Yeoh, P. (2009) Realised and potential absorptive capacity: understanding their antecedents. *Journal of Marketing Theory and Practice*, 17 (1), pp. 21-36.
- Yin, R. (2009) *Case Study Research: Design and Methods*. London, Sage Publications.
- Yli-Renko, H., Autio, E. and Sapienza, H. (2001) Social capital, knowledge acquisition, and knowledge exploitation in young technology-based firms. *Strategic Management Journal*, 22 (6-7), pp. 587-613.
- Zahra, S. and George, G. (2002) Absorptive capacity: a review, reconceptualization, and extension. *The Academy of Management Review*, 27 (2), pp. 185-203.

## References

---

- Zander, U. and Kogut, B. (1995) Knowledge and the speed of the transfer and imitation of organisational capabilities: an empirical test. *Organisation Science*, 6 (1), pp. 76-92.
- Zhao, Z. and Anand, J. (2009) A multilevel perspective on knowledge transfer: evidence from the Chinese automotive industry. *Strategic Management Journal*, 30 (9), pp. 959–983.

## APPENDICES

### Appendix I: Statement of Ethics Approval

Head of Brunel Business School  
Professor Zahir Irani

**Brunel**  
UNIVERSITY  
WEST LONDON

Brunel University, Uxbridge,  
Middlesex, UB8 3PH, UK  
Telephone +44 (0)1895 274000  
Web [www.brunel.ac.uk](http://www.brunel.ac.uk)

Brunel Business School  
**Research Ethics Committee**

10 August 2009

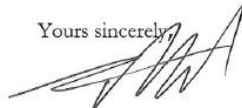
#### STATEMENT OF ETHICS APPROVAL

**Proposer:** Zahran Al-Salti

**Title:** Knowledge Transfer in IS Outsourcing

The school's research ethics committee has considered the proposal recently submitted by you. Acting under delegated authority, the committee is satisfied that there is no objection on ethical grounds to the proposed study. Approval is given on the understanding that you will adhere to the terms agreed with participants and to inform the committee of any change of plans in relations to the information provided in the application form.

Yours sincerely,



**Dr. Tillal Eldabi**  
Chair, Research Ethics Committee  
BBS

## Appendix II: Informed Consent Form



Brunel Business School

**Title of Research:** Knowledge transfer in information systems outsourcing

**Researcher:** Zahran Al-Salti  
Information Systems Evaluation and Integration Group (ISEing)  
Brunel Business School, Brunel University, UK

**Contact Information :** [zahran.al-salti@brunel.ac.uk](mailto:zahran.al-salti@brunel.ac.uk)

Many thanks for agreeing to participate in my research project. The project has to be completed in part fulfilment of my PhD programme and so your assistance is much appreciated.

**Purpose of the research:** The purpose of the research is to examine the key factors that significantly impact knowledge transfer success in IS outsourcing in the public sector of Oman

**What is involved in participating:** I will ask you to share your individual and organization's experience in IS outsourcing, particularly the factors that impact technical and business knowledge transfer from the vendor.

Your participation is voluntary and you can choose to decline to answer any question or even to withdraw at any point from the project.

The interview will be kept strictly confidential and will be available only to the researcher. Excerpts from the interview results may be made part of the final research report, but under no circumstances will your name, organization or any identifying characteristics be included in the report.

Your signature below serves to signify that you agree to participate in this study.

I permit the researcher to record the interview  YES  NO

I have read the above information and I agree to participate in this study

Participant's name and signature: \_\_\_\_\_

Organization: \_\_\_\_\_ Job title: \_\_\_\_\_

Researcher's signature: \_\_\_\_\_

Date: \_\_\_\_\_

**Appendix III:** Interview Guide

<b>CODE:</b>			
<b>INTERVIEW GUIDE</b>			
<b>Knowledge Transfer in IS Outsourcing</b>			
<b>Interviewee Name</b>		<b>E-mail/ Phone</b>	
<b>Organisation/ Department</b>		<b>Job title</b>	
<b>Date/Time</b>		<b>Place</b>	
<p><b><u>Interview Opening :</u></b></p> <ul style="list-style-type: none"> <li>▪ Thanking the interviewee for accepting to participate in the research</li> <li>▪ Explaining the purpose and the value of the research</li> <li>▪ Explaining the ethical concerns</li> <li>▪ Seeking permission for recording the interview</li> <li>▪ Placing the recorder close to the interviewee to ensure proper recording</li> </ul>			
<b>SECTION A</b>	<b>BACKGROUND</b>		
<ul style="list-style-type: none"> <li>▪ How long have you been with this organisation?</li>   <li>▪ Can you please tell us about your main roles and responsibilities within the IS division?</li> </ul>			

<b>SECTION B</b>	<b>IS OUTSOURCING</b>
------------------	-----------------------

- What are the key motives for your organisation to outsource IS?

	Cost reduction		Risks sharing
	Focus on core business		Decreased obsolescence risk
	Transfer/acquire IS/Business knowledge		Lack of IS skills
	Others:		

- What are the main IS functions that your organisation is currently outsourcing?

	Software development		Web designing
	Hardware maintenance		Security
	Networking		
	Others:		

- What type of IS outsourcing relationships has your organisation been involved in?

	Onshoring		Offshoring
	Nearshoring		

- What are the differences in establishing contract with local versus near-shore or offshore vendors?

<b>SECTION C</b>	<b>KNOWLEDGE TRANSFER</b>
------------------	---------------------------

- How important is external technical and business knowledge to your organisation and to yourself?
  
- What are the key mechanisms/activities that your organisation is using to transfer technical and business knowledge from the vendor in IS outsourcing projects?

	Document/ reports exchanges		Site visits
	Presentations		Workshops
	Problem solving meetings		On-Job training
	Knowledge Portal		E-mails
	Others:		

<b>SECTION D</b>	<b>KNOWLEDGE-RELATED</b>
------------------	--------------------------

- How hard is to document the technical and business knowledge from the vendor in written forms or transfer it in verbal terms?
  
- How much time and effort do you need to spend in order to understand and transfer technical and business knowledge from the vendor?

SECTION E	CLIENT-RELATED
<ul style="list-style-type: none"><li>▪ To what extent do you consider IS outsourcing as an opportunity to learn and acquire new technical and business knowledge?</li> <li>▪ To what extent does absorptive capacity (ability to value, assimilate and apply based on prior knowledge and experience) impact knowledge transfer success?</li> <li>▪ How important is motivation / reward? How it impacts successful knowledge transfer in IS outsourcing projects?</li></ul>	
SECTION F	VENDOR-RELATED
<ul style="list-style-type: none"><li>▪ What are the key determinants in vendor selection?</li> <li>▪ To what extent do you think that the vendors are capable, expert and have wealth of technical and business knowledge?</li> <li>▪ Dose the vendor have the willingness to devote time and resource to the transfer?</li> <li>▪ To what extent do you think that the vendor is credible and trustworthy?</li></ul>	



SECTION G	RELATIONSHIP-RELATED
<ul style="list-style-type: none"> <li>▪ How would you characterise the relationship between your organisation and the vendors? How does this impact knowledge transfer?</li>   <li>▪ How the outsourcing relationship is developed and maintained? How does this affect the success of knowledge transfer?</li>   <li>▪ To what extent is your organisation differs from the vendor in terms of physical location, organisational culture and national culture? Dose this distance impacts the knowledge transfer? If so , How? <ul style="list-style-type: none"> <li>(1) physical location</li>   <li>(2) organisational culture (policies , work patterns, practices, decision making ) <ul style="list-style-type: none"> <li>- To what extent is corporate culture, business practices and management styles of the vendor is different than yours?</li> </ul> </li>   <li>(3) national culture (language, cultural background, norms) <ul style="list-style-type: none"> <li>- Do you consider language difference as a major obstacle in communicating with and understanding your vendor?</li> </ul> </li> </ul> </li>   <li>▪ How important is the contract (service level agreement (SLA) ) to the outsourcing arrangement? How is this impact knowledge transfer?</li> </ul>	

- Do you feel that vendors fulfil their obligations with regard to knowledge transfer? to what extent?
  
- What is the impact of informal relations / social ties on knowledge transfer in IS outsourcing?
  
- Describe the nature of communications with the vendors?

<b>SECTION H</b>	<b>Knowledge Transfer Success</b>
------------------	-----------------------------------

- Would you say that outsourcing projects provided you with the expected opportunities to acquire new knowledge?
  
- To what extent were you satisfied with outsourcing relationships with regard to knowledge transfer?
  
- In your opinion, how do you describe a successful knowledge transfer in IS outsourcing?

SECTION I	OTHERS
<ul style="list-style-type: none"><li>▪ Do you have other issues you would like to share in regards to knowledge transfer in IS outsourcing?</li></ul>	
<p><b><u>Interview Closing :</u></b></p> <ul style="list-style-type: none"><li>▪ Thanking the interviewee again for participating in the research</li><li>▪ Asking for any documents that is related to what is discussed in the interview</li></ul>	