

Developing a Framework to Explain How Organisational Factors Enable Organisational Communities of Practice: Three Case Studies set in Saudi Arabia

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

صلی علیٰ آلہ و سلم

علیٰ انرجند

“In the name of Allah, the Most Gracious, the Most Merciful”

ABSTRACT

The notion of Communities of Practice (CoPs) has flourished in recent years, encouraging organisations to create them intentionally, particularly as knowledge management initiatives. However, existing research details another type of CoPs, one combining components of both traditional CoPs (TCoPs) and formal structured groups (e.g. project teams); these are intentionally established CoPs, known as Organisational CoPs (OCoPs). OCoPs play a vital role within organisations by enhancing knowledge sharing interactions, furthering organisational innovation, and supporting problem-solving and performance. However, whether organisations should openly recognise OCoPs is a subject of debate, partly due to the limited empirical evidence explaining how organisational factors, such as top management, structure, culture, enable intra-organisational OCoPs.

This research examines these three organisational factors (top management, structure, and culture) and their role in enabling OCoPs, as identified from three case studies situated in the context of Saudi Arabia. Each study includes the perspectives of managers, employees, KM leaders, OCoP leaders and members of OCoPs. The various views collated aim to provide a clearer understanding of the interconnected relationship between the three organisational factors, to explain how they enable OCoPs within organisations. Moreover, the study evaluates the opportunities and challenges encountered when establishing a new OCoP.

A qualitative case study approach was adopted to explore stakeholders' views about the status of how the three organisational factors enable OCoPs at the target companies. The researcher obtained data primarily from semi-structured interviews, but also utilised organisational documents and field notes. In total, 31 interviews were carried out at different sites belonging to the companies, with people holding diverse functional and hierarchical positions.

The findings suggest that three main characteristics inform the three organisational factors' ability to enable OCoPs activities within companies. Firstly, the middle management role in combination with top management plays a crucial part in enabling OCoPs activities within the organisation. Secondly, appreciation and recognition are seen as important forms of reward. Further, it was recognised as important to create a knowledge sharing culture as a habit at the organisational level to foster OCoPs' activities.

The findings of this research will benefit both academics and practitioners. First, it offers a theoretical framework that could assist organisations striving to establish OCoPs intentionally. Second, it assists future researchers by identifying the interconnected relationship between three key organisational factors that enable OCoPs' activities within an organisation. Finally, it also provides insights to assist existing OCoPs to improve on current practices by developing appropriate and beneficial KM strategies.

DEDICATION

This thesis is dedicated to my parents, my father Prof. Abdulrahman Aljuwaiber, and my mother Mrs Nafesah Abduljawad. Words alone cannot describe how thankful and blessed I am to have had their love, supplications, faith, and patience, despite their suffering from illnesses, and my being away and unable to take care of them, as they have provided me with encouragement for the entire duration of my PhD studies.

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TABLE OF CONTENTS

ABSTRACT	II
DEDICATION	IV
ACKNOWLEDGMENTS	V
TABLE OF CONTENTS	VI
LIST OF FIGURES	X
LIST OF TABLES	X
LIST OF ACRONYMS	XI
CHAPTER 1: INTRODUCTION	12
1.0 Introduction	12
1.1 Research background	12
1.2 Aim and objectives of the study	14
1.3 Research questions	15
1.4 Structure of the thesis.....	16
CHAPTER 2: LITERATURE REVIEW	17
2.0 Introduction	17
2.1 Knowledge and Knowledge Management	17
2.1.1 Knowledge management in the era of the knowledge economy	18
2.1.2 Knowledge sharing	19
2.1.3 The role of knowledge sharing in Communities of Practice.....	20
2.2 Communities of Practice: Historical background	22
2.2.1 Components of TCoPs	24
2.3 The evolution of the notion of OCoPs	26
2.3.1 OCoPs in organisations	27
2.3.2 OCoPs and their deliberate establishment	29
2.4 The role of organisational factors influencing OCoPs within organisations	31
2.4.1 Top management and OCoPs.....	32
2.4.2 Organisational structure and OCoPs	34
2.4.3 Organisational culture and OCoPs.....	36
2.5 OCoPs in Western and non-Western Contexts	41
2.6 Summary and gaps in the literature.....	45
CHAPTER 3: RESEARCH METHODOLOGY	48
3.0 Introduction	48
3.1 Research Philosophy	48
3.1.1 The Research paradigm.....	49
3.1.2 The philosophical position of the current research	52
3.2 Stage one: Research design.....	52
3.2.1 The choice of the qualitative research design	53
3.2.2 The case study approach.....	54
3.2.3 Justification of the selection of a multiple-case study research	55
3.2.4 Cases involved in the study.....	56
3.3 Stage two: Data collection	62

3.3.1 Initial contacts and gaining access	62
3.3.2 Data collection methods.....	62
3.3.2.1 Interviews.....	63
3.3.2.2 Document review	67
3.3.2.3 Field notes	68
3.4 Stage three: Data analysis	68
3.4.1 Data retrieval.....	68
3.4.2 MAXQDA software.....	70
3.4.3 Interpretation of the interview data: thematic analysis	70
3.5 Chapter summary	75
CHAPTER 4: CASE STUDY ONE: FINDINGS AND DISCUSSION ABOUT OCoPs	
WITHIN CO1 (OIL COMPANY).....	76
4.0 Introduction.....	76
4.1 Participants' perceptions of OCoPs within the company	77
4.1.1 Clarity of the concept enables a wide understanding of KM.....	78
4.1.2 OCoPs seen as useful in reducing replication.....	80
4.1.3 OCoPs are mainly established around the core businesses of the company.....	82
4.1.4 OCoPs emphasise the importance of people in KM	85
4.2 Enabling activities of OCoPs by top management.....	87
4.2.1 The importance of support from middle management alongside support from top management	88
4.2.2 Embedding OCoPs activities into business processes to generate attention within the company	91
4.2.3 Enablers help change top management attitudes towards OCoPs	96
4.2.4 Top management to provide leadership rather than merely cultivating OCoPs	102
4.2.5 Employment instability impacts OCoPs' sustainability	103
4.3 OCoPs work best when freely established outside the formal company structure	106
4.3.1 The dynamism of OCoPs is difficult to contain within the company structure	106
4.3.2 A less centralised approach enables OCoPs activities	108
4.3.3 Formalising a reward system for OCoPs to increase participation.....	111
4.4 Nurturing a knowledge sharing culture to sustain OCoPs	114
4.4.1 Self-motivation for knowledge sharing sustains OCoPs.....	114
4.4.2. Relationship between supervisors and subordinates enhances knowledge sharing culture.....	116
4.4.3 Impact of local background on the effectiveness of knowledge sharing	118
4.4.4 Knowledge sharing through international cooperation.....	119
4.4.5 Branding KM programmes to stimulate utilisation.....	120
4.5 Summary	121
CHAPTER 5: CASE STUDY TWO: FINDINGS AND DISCUSSIONS ABOUT OCoPs	
WITHIN CO2 (PETROCHEMICAL COMPANY).....	123
5.0 Introduction.....	123
5.1 Perspectives on OCoPs within the company.....	124
5.1.1 Diverse perspectives surrounding the notion of OCoPs within the company.....	125
5.1.2 OCoPs create the perception that they support continuous exchange of expertise, in contrast with formal structured groups	128
5.2 Top management facilitation of OCoPs activities	130

5.2.1 The importance of top management embracing OCoPs activities	130
5.2.2 OCoPs require cooperation from managers in affiliates	134
5.2.3. Ubiquitous influence of OCoP activities through leading by example.....	137
5.2.4 Engaging OCoPs in technical decision-making processes	139
5.2.5 Steering not maintaining the autonomy of experts’ membership in OCoPs.....	142
5.3 Hierarchical organisational structure restricts facilitation of OCoPs activities	148
5.3.1 Top-down approach restricts the flexibility of OCoPs activities	148
5.3.2 Formal structure restricts the disbanding of OCoPs	152
5.3.3 Virtual-based communicating companies are applicable for OCoPs’ configuration	153
5.4 Participants’ perceptions of whether the organisational culture enables OCoPs’ activities	
.....	155
5.4.1 Understating cultural diversity enhances OCoPs effectiveness	156
5.4.2 Experts in OCoPs help to enhance a culture of initiative	159
5.4.3 Creating a no-blame culture	161
5.4.4 Individual attitude towards knowledge sharing within the company would hinder	
knowledge sharing culture	163
5.4.5 Recognition and appreciation are better rewards than financial awards for OCoPs.	167
5.5 Summary	170
CHAPTER 6: CASE STUDY THREE: FINDINGS AND DISCUSSION ABOUT OCoPs	
WITHIN CO3 (FAMILY BUSINESS).....	171
6.0 Introduction	171
6.1 Nature of the work of the family business	172
6.1.1 Impact of time and work pressure on establishing OCoPs	176
6.2 Status of knowledge sharing within the company	178
6.2.1 In-work-training considered as a knowledge sharing activity	178
6.2.2 Work routine does not require knowledge sharing	181
6.2.3 Attitude impacts negatively on knowledge sharing	184
6.3. KM initiatives are not seen as important for all businesses.....	186
6.3.1 Hiring specialised people in KM to increase attention among top management.....	189
6.3.2 Convince practitioners, not top management.....	191
6.4 OCoPs to be formalised within the organisational structure.....	193
6.4.1 Centralised control of decision making inhibits establishment of OCoPs.....	194
6.5 Managers are responsible for stimulating a knowledge sharing culture within the company	
.....	197
6.5.1 Formalising the reward system can defeat the idea of a knowledge sharing culture	198
6.6 Summary	201
CHAPTER 7: GENERAL DISCUSSION AND THEORETICAL FRAMEWORK	203
7.0 Introduction	203
7.1 Reflections on the three cases studies concerning the proposed integrative framework .	203
7.2 The interconnected relationship of the three organisational factors and their enabling of	
OCoPs’ activities: an integrative framework	204
7.2.1 Establishment process	206
7.2.2 Enforcement process	211
7.2.3 Recognition process	215
7.2.4 Maintenance process	219
7.2.5 Sustainability process.....	222

7.3 Chapter summary	228
CHAPTER 8: CONCLUSIONS AND RECOMMENDATIONS	229
8.0 Introduction	229
8.1 Summary of the key research findings.....	229
8.1.1 Part One: How are OCoPs seen as a tool for knowledge sharing within organisations? 230	
8.1.2 Part Two: How do organisational factors enable OCoPs within organisations?	232
8.1.3 The interconnected relationship of the three organisational factors and their enabling of OCoP activities - Integrative framework	235
8.2 Contributions and implications of the research.....	236
8.2.1 New perceptions of OCoPs within organisations – Theoretical contributions	236
8.2.2 Enabling of OCoP activities – Implications for practice	238
8.3 Recommendations	240
8.4 Limitations and future research.....	241
8.5 Concluding remarks	242
REFERENCES	243
APPENDICES	257
APPENDIX A: INFORMATION SHEET.....	257
APPENDIX B: CONSENT FORM FOR PARTICIPANTS	259
APPENDIX C: INTERVIEW PROTOCOL FOR RESEARCH PROJECT.....	261
APPENDIX D: SAMPLE OF DOCUMENT REVIEWS	262
APPENDIX E: CHARTER AND AGREEMENT TEMPLATE FOR OIL COMPANY – CO1.....	263
APPENDIX F: SAMPLE OF FIELD NOTES	266
APPENDIX G: THEMATIC CODING FRAMEWORKS FOR CO1, CO2, AND CO3...267	
APPENDIX H: PUBLICATIONS AND CONFERENCES PAPERS ADOPTED FROM THESIS	270

LIST OF FIGURES

Figure 1: Summary of the key features of a TCoP.	26
Figure 2: Proposed framework of the evolution of OCoPs by the author.....	26
Figure 3: Proposed framework of the tripartite view of OCoPs within an organisation.	41
Figure 4: Proposed framework of the research processes.....	48
Figure 5: ShareK's interface for KM programme in Co1.	59
Figure 6: Interviewee groups.	64
Figure 7: Proposed framework of the transcribing and translation process.....	69
Figure 8: MAXQDA display illustrating the four working plan	70
Figure 9: The six steps for performing thematic analysis.....	71
Figure 10: Example of initial ideas on the transcript.....	72
Figure 11: Example of Code Matrix Browser in Co1	73
Figure 12: Example of coding process.....	74
Figure 13: The current process for the three companies in the integrative framework	203
Figure 14: The enabling and disabling factors of the interconnected relationship of the three organisational factors.	205
Figure 15: Thematic and initial code framework for Co1	267
Figure 16: Thematic and initial code framework for Co2	268
Figure 17: Thematic and initial code framework for Co3	269

LIST OF TABLES

Table 1. Key differences between OCoPs, TCoPs and formal teams.....	30
Table 2: The Middle East and North Africa countries (MENA).	42
Table 3: Examples of OCoPs in different contexts.....	43
Table 4: The profile of Co1.....	56
Table 5: The profile of Co2.....	60
Table 6: The profile of Co3.....	61
Table 7: Example of initial codes extract from the transcript.....	73
Table 8: Details of the interview participants from Co1	77
Table 9: Details of the interview participants from Co2.....	124
Table 10: Details of the interview participants from Co3.....	172

LIST OF ACRONYMS

CoPs: Communities of Practice

TCoPs: Traditional Communities of Practice

OCoPs: Organisational Communities of Practice

VCoPs: Virtual Communities of Practice

KM: Knowledge Management

KMS: Knowledge Management System

IS: Information System

IT: Information Technology

ICT: Information and Communications Technology

IC: Intellectual Capital

APQC: American Productivity and Quality Centre

HR: Human Resources

MCE: Manufacturing Centre of Excellence

ELN: Electronic Laboratory Notebook

MENA: Middle East and North Africa

CHAPTER 1: INTRODUCTION

1.0 Introduction

This introductory chapter will present a brief introduction to the primary motivations for this thesis and provide an overview of the scope of the study. The chapter begins by outlining the research background, followed by the aim, objectives, and research questions posed. It then details the structure of the thesis.

1.1 Research background

Francis Bacon's words "knowledge is power" (Brown, 1989, p. 3) have been used widely, contributing to the creation of competitive advantage, by inspiring companies to find new ways to outperform their rivals. Academia and businesses alike have conducted investigations into the role of knowledge in improving business performance, as a way to gain sustainable competitive advantage. This explains why, some of the participants in the present research used this phrase to express their opinion that knowledge is not only necessary to manufacture sophisticated products, but also that accumulated knowledge must be shared within and beyond organisations. In organisations, Knowledge Management (KM) initiatives play a vital role in enhancing the exchange of expertise and knowledge, assisting in improving the working environment. Despite the importance of KM to organisational development, Wenger (2004) argues that managing knowledge using an Information System (IS) is insufficient to effect business improvement; whereas, Communities of Practice (CoPs) could provide new ways for companies to enable people to interact socially to share knowledge and learn from each other informally.

It is important to note here that the present study uses two notions to distinguish between CoPs: Traditional CoPs (TCoPs), or CoPs (used interchangeably to imply the fundamental features of CoPs as self-managed and self-organised) based on Lave and Wenger's (1991) definition; and Organisational CoPs (OCoPs), which is a relatively new and sophisticated concept, describing CoPs intentionally established within organisations. The concept of OCoPs and how they differ from TCoPs is discussed further in Section 2.3.2. Consequently, this study follows Kirkman et al. (2011) by considering intentionally established CoPs as OCoPs.

CoPs have been widely investigated in the literature as a tool to enhance knowledge sharing within organisations, and they and TCoPs can be defined as "groups of people who share a concern or a passion for something they do and learn how to do it better as they interact

regularly” Wenger (2011, p. 1). Despite growing research interest in CoPs (Hemmasi and Csanda, 2009; Probst and Borzillo, 2008; Retna and Ng, 2011; Wenger et al., 2002; Wolf et al., 2011), recent studies have focused on the increasing tendency among organisations to intentionally create their own OCoPs (Annabi et al., 2012; Dubé et al., 2005; Harvey et al., 2013; Yamklin and Igel, 2012). Nonetheless, existing KM literature does not offer a comprehensive understanding of how organisational factors enable OCoPs capacity to promote and improve knowledge sharing and interactivity among members (Annabi et al., 2012; Kirkman et al., 2013; Li et al., 2009; Siau et al., 2010).

Research into OCoPs has revealed that successful ones often exhibit unique perceptions about their role and importance relative to the aforementioned organisational factors (Annabi et al., 2012). This is because they are a complex and multifaceted phenomenon that can be viewed from different perspectives. Although existing studies have briefly reported on intentionally formed OCoPs within large organisations (e.g. Harvey et al., 2013), their assessment of the general suitability of OCoPs has been limited. Moreover, existing studies have principally only focused on the effect of factors associated with OCoPs’ internal development (e.g. size, members’ motivation and commitment, and time allocated for participation in OCoPs) on their success.

Giving the critical role OCoPs play in promoting knowledge sharing and ensuring best KM practices in organisations, this research reviews relevant issues associated with them, to resolve the previous studies failure to examine the OCoPs set up process. Additionally, there remains an open question regarding how three key organisational factors (top management, structure, and culture) enable OCoPs within organisations, as touched on by several studies (e.g. Retna and Ng, 2011; Siau et al., 2010). To answer this question, this empirical study will explore a combination of organisational factors and their significant enablement of OCoPs’ activities within organisations, particularly concentrating on large companies. The findings of this present research will lead to the creation of a theoretical framework to explain how these three organisational factors enable OCoPs’ activities within organisations.

The formation of OCoPs in business contexts is reportedly motivated by the intention to foster KM processes. Certainly, there is a growing recognition of the effectiveness of OCoPs for facilitating the creation, transfer, and application of knowledge within and beyond the organisation's boundaries, although this recognition is largely confined to Western contexts (Li et al., 2009), due to the lack of related empirical research in non-Western contexts. Indeed, they have been approved as successful organisational tools by many Western

companies (Corso et al., 2009; Hemmasi and Csanda, 2009; Kerno, 2008; Wenger et al., 2002; Wenger, 2004). This has generated growing interest in their utility in non-Western contexts, particularly East Asia (Jeon et al., 2011; Retna and Ng, 2011; Yamazaki, 2004). However, OCoPs are relatively new in the Middle East and North Africa (MENA) region.

Thus, this study contributes to existing literature by investigating OCoPs as a tool for knowledge sharing to fulfil three main functions. First, to address the lack of studies investigating how top management, structure, and culture combine to enable OCoPs within organisations. Second, to expand the focus of research away from TCoPs to investigate the intentional establishment of OCoPs within organisations and to understand the opportunities and challenges enabling OCoPs. Third, to broaden understanding of the efficiency of OCoPs globally, by providing insight into how the three aforementioned organisational factors enable their activities in a non-western context, that of Saudi Arabia.

The research adopts a qualitative case study approach, informed by the interpretative paradigm, whereby the researcher and participants construct a multi-reality, based on their own subjectivities. The interpretative approach was considered appropriate, because the research objective is to understand how three organisational factors enable OCoPs activities. By reviewing the different impressions shared by the participants, the researcher can discover how each of the three organisational factors enable or disable OCoPs, according to the specific context and organisation. The case studies conducted for this research involved three companies: two with established OCoPs, one being an oil company (Co1) and the other a petrochemicals company (Co2); the third, a family business in the construction industry (Co3), currently has no established OCoPs. This combination of cases was chosen to assist in the provision of a holistic understanding of the influential role of the three organisational factors in enabling OCoPs activities. The researcher collected data via in-depth semi-structured interviews, organisational documents, and field notes. These methods allowed the researcher to access the participants' interpretations of the organisational context.

1.2 Aim and objectives of the study

The research aims to understand organisational factors and their impact on OCoPs' activities in the business environment, particularly in the non-Western context of large corporations in Saudi Arabia.

The objectives are as follows:

1. To understand perspectives regarding OCoPs as initiatives for knowledge sharing practices within organisations.
2. To explore whether top management perceive OCoPs as a tool that can improve business activities; and to examine whether top management can actively guide OCoPs without destroying their self-regulatory mechanisms.
3. To explore top management's attitudes (e.g. encouragement/discouragement) toward OCoP members, and to understand how significant resources and active support from top management motivates members to share their experiences and knowledge effectively.
4. To determine how different types of organisational structure, particularly formalised and centralised structures, influence OCoPs' activities, and whether OCoPs' members act more positively (as Probst and Borzillo (2008) claim) in the absence of pressure from supervisors.
5. To investigate the prevalent culture at the case study companies with regard to knowledge sharing through informal structures such as OCoPs.
6. To investigate individuals' attitudes to being involved in OCoPs. For example, are they willing participants and do they perceive associated workloads as encouraging/discouraging participation?
7. To explore the existing nature of OCoPs in Saudi Arabian business organisations and identify future challenges.

1.3 Research questions

To achieve the research aim and objectives, the present study attempts to answer the following research questions:

- 1- How are OCoPs seen as a tool for knowledge sharing within organisations?
- 2- How do organisational factors enable OCoPs within organisations?
 - a. How does top management enable OCoPs' activities within organisations?
 - b. How does organisational structure enable OCoPs' activities within organisations?
 - c. How does organisational culture enable OCoPs' activities within organisations?

1.4 Structure of the thesis

This thesis consists of eight chapters. Chapter 1, has presented an initial overview of the background to the research, stated the research aim, objectives, and research questions, and explained the methodology adopted for the research. Below, the organisation of the remainder of the thesis is explicitly outlined.

Chapter 2 reviews the literature relevant to the current study, including an overview of KM in a knowledge-based economy and the importance of knowledge sharing. It then provides a historical background and outlines the components of TCoPs, and the role of knowledge sharing in OCoPs. In addition, it presents an overview of the development of OCoPs within organisations and of the relationship between organisational factors and OCoPs. Finally, it references studies about OCoPs in Western and non-Western contexts.

Chapter 3 details the research philosophy and methodology employed in the study, justifying the selection of case studies and the process undertaken to complete the research.

Chapters 4, 5 and 6 present the empirical findings and discussions regarding the conducted case studies, relating the influential role of organisational factors on OCoPs within companies. How the findings extend the theoretical framework by enabling, disabling, operating, or establishing internal OCoPs is also described.

Chapter 7 reflects on the key findings from the research conducted at the three case study companies. The impact of the interconnected relationship between the factors influencing OCoPs' activities within organisations, and any mutually complementary consequences are illustrated. Based on empirical evidence, this chapter also presents an integrative framework of how the three organisational factors enable OCoPs.

Chapter 8 draws conclusions based on the empirical findings collected from the three companies, and the proposed theoretical framework that emerged from the findings. In addition, the chapter also discusses the theoretical contributions and practical implications of the research. Key limitations of the study and recommendations for further research are also discussed.

CHAPTER 2: LITERATURE REVIEW

2.0 Introduction

This chapter discusses existing literature and identifies the potential knowledge gap with regard to organisational factors, e.g. top management, structure, and culture, particularly considering how these factors enable OCoPs' activities within organisations. The importance of KM and the role of knowledge sharing in today's business context has led to improvements to traditional tools such as TCoPs. As will be explained, the importance of understanding the role of the aforementioned organisational factors in enabling OCoPs has been discussed since organisations first started to establish OCoPs intentionally. Finally, the chapter outlines OCoPs in Western and non-Western contexts.

2.1 Knowledge and Knowledge Management

Knowledge is a state of knowing that is acquired through experience and study (Alavi and Leidner, 2001). There are two types of knowledge: *explicit* knowledge, i.e. articulated knowledge that can be expressed in words and numbers and can be easily transferred among humans; and *tacit* knowledge, which refers to skills, wisdom and personal experiences embodied in an individual. The latter is hard to visualise, requiring interaction and effective sharing through informal learning processes (Nonaka and Krogh, 2009). Consequently, knowledge is often difficult to manage, although companies recognise it as an intangible important asset that must be systematically managed.

In the contemporary competitive business climate, KM can assure the survival of a company (Awad and Ghaziri, 2007). Darroch (2005) explains that knowledge is a unique resource and that a company's management of that resource will affect the quality of the service they provide. Furthermore, López-Nicolás and Meroño-Cerdán (2011), who studied strategic KM, claimed KM can allow companies to be more innovative, efficient and effective. This study argues that KM initiatives are important for fostering knowledge sharing, exchanging experiences, and enhancing the learning process within an organisation in order to gain a sustainable competitive advantage.

However, despite the growing interest in the concept of KM, there is no single established definition. It is perceived as a multidimensional and multidisciplinary concept and consequently defined from different perspectives, e.g. business, cognitive science, knowledge science, process, or technology. In view of the lack of an agreed definition of KM, the present study adopts that provided by Dalkir (2011):

[T]he deliberate and systematic coordination of an organization's people, technology, processes, and organizational structure in order to add value through reuse and innovation. This is achieved through the promotion of creating, sharing, and applying knowledge as well as through the feeding of valuable lessons learned and best practices into corporate memory in order to foster continued organizational learning. (Dalkir, 2011, p. 4)

Viewing KM as process led is central to this study, as it determines the application of specific techniques to achieve set objectives. This definition enables the researcher to explore OCoPs, particularly in Chapter four, where lessons learned and best practices are the most important aspects for establishing OCoPs within a company (Co1). While the term knowledge can be applied relative to experience, processes and documents are recognised as valuable assets for growing businesses, and firms can thereby understand how KM is central to their successful development and the ability to compete in a globalised economy.

2.1.1 Knowledge management in the era of the knowledge economy

In the late 20th century, Drucker (1994) argued, Western economics could no longer be explained according to factors such as land, labour, and capital. A transition had occurred toward knowledge-based services as economic drivers, making knowledge an inevitable, albeit intangible asset for many firms. The key component of this new knowledge economy is a greater dependence on intellectual capabilities, rather than on physical ability, or the availability of natural resources (Rice, 2003).

However, Wenger et al. (2002) argued that companies in the era of the knowledge economy are not just competing for market share, but also for talented people who generate innovative ideas. This was supported by Nonaka and Takeuchi's (1995) study of Japanese companies. They argue that the economic and productive power of modern organisations lies in intangible assets, such as intellectual capital and the provision of excellent customer service. One would logically expect that knowledge assets increase with use; for example, shared knowledge would give rise to a new idea in a company, whereas product assets decrease in value when used (Davenport and Prusak, 2000).

In recognition of the importance of establishing a knowledge-based economy, and its role in enhancing individual and organisational development, many studies in fields such as Information System (IS), organisational learning, and human resources management, have begun to consider how organisations create, transfer, employ, and share knowledge (Hughes

et al., 2007). Knowledge-based theory suggests that knowledge is an organisational asset, which can allow companies to maintain a competitive advantage (Grant, 1996). Evidence suggests when organisations adopt KM they experience an acceleration in growth facilitating their business activities (Alavi and Leidner, 2001). KM initiatives applied by organisations to ease the dissemination of knowledge throughout an organisation include utilising IT as a way of “learning-by-doing”, which is essential to the knowledge-based economy (OECD, 1996). Thus, the main objectives of KM are to ensure the survival of companies in today’s competitive business world (Awad and Ghaziri, 2007), and to produce long-term sustainable competitive advantage (Alavi and Leidner, 2001). However, arguably, many organisations still view KM in terms of software programmes (e.g. Knowledge Management System or KMS) rather than acknowledging the need to establish organisational characteristics (e.g. structure, culture and power) to ensure the success of KM initiatives (Zheng et al., 2010).

Given the influential role of the knowledge-based economy in organisations where companies have been encouraged to implement KM, knowledge sharing among individuals is indispensable.

2.1.2 Knowledge sharing

Knowledge sharing refers to the process that occurs at various levels, and is interpersonal, between individuals and groups, between groups, or with entities across and beyond organisational boundaries (Alavi and Leidner, 2001). Knowledge sharing arise in a culture of social interaction, in which people can exchange their skills and experiences within departments or organisations (Tuan, 2012).

Nonaka (1994) suggests knowledge within an organisation can be created through four modes of conversion: socialisation (tacit to tacit), externalisation (tacit to explicit), internalisation (explicit to tacit), and combination (explicit to explicit). Three of the four types of knowledge conversion: socialisation, combination, and internalisation, are partially compatible with certain aspects of Organisational Theory. For example, socialisation is connected with theories of organisational culture, while the combination is rooted in information processing, and internalisation has associations with organisational learning (*ibid*). As the socialisation mode is associated with shared experiences and practices, self-organised groups use socialisation as the dominant mode, as an input into the overall knowledge creation process. Socialisation can be defined as “the process of creating tacit knowledge through shared experience” (Nonaka, 1994, p. 19). Therefore, the present study

would consider a socialisation mode, whereby the sharing of knowledge and exchange of experiences within OCoPs relied substantially on social interaction between members.

While many companies adopt KM initiatives as part of their business activities, knowledge sharing remains problematic, particularly in the case of tacit knowledge. Knowledge sharing can occur face-to-face, and through technology-enhanced interactions with others via a KMS (Wang et al., 2014). However, recent studies emphasise tacit knowledge sharing processes, in which knowledge is not converted to explicit knowledge using technology (Hansen and Von Oetinger, 2001; Murillo, 2011, Brown et al., 2013, Pyrko and Dörfler, 2013). The experience of the last decade when putting knowledge into a system has led to a widespread interest among organisations when looking for ways to share the experiences of their employees. Therefore, Andriessen (2005) argues that companies developing novel KM strategies have concentrated on social interaction and interpersonal knowledge sharing. He also considers CoPs as places in which to connect groups of professionals from geographically disperse business units with a common interest, engaged in sharing knowledge on a regular basis. This opinion was supported by Wenger (2004), who argues that companies were not engaged in KM unless they actively involved people in the process. He observed, although technology is used for information flow within an organisation, people are the main sources of knowledge, decision makers must determine knowledge to be documented and that tacitly required. This places value on tacit knowledge, which is not easily obtained, because it is embedded in the individual's mind, with the result that people might avoid relying on KMS, preferring to use their own informal social networks to acquire knowledge.

2.1.3 The role of knowledge sharing in Communities of Practice

The previous section demonstrated the importance of tacit knowledge sharing within organisations. Notably, management studies literature, particularly that which discusses improvements to tacit knowledge sharing within organisations, suggests implementing CoPs to foster learning processes (e.g. Ardichvili et al., 2003; Jeon et al., 2011; Zboralski, 2009). Due to the rapid developments and changes taking place in the business world, knowledge and learning have become new strategic requirements for organisations seeking to understand the creation and transfer of knowledge through practice (Roberts, 2006). KMS often fails to achieve KM strategy objectives, and Murillo (2011) claims that to succeed, KM initiatives need to consider intra-organisational informal networks, such as CoPs. Therefore, CoPs have become an influential tool for facilitating knowledge sharing across a wide range of organisational settings. This view is supported by Wenger (2004), who argues that CoPs are

the cornerstone of KM, because they allow people to interact effectively and share knowledge. Lesser and Storck (2001) claim that CoPs generate social capital, which in turn supports community members to make connections and share knowledge. Importantly, CoPs rely on people interacting to share tacit knowledge unlike technology such as KMS.

Different studies have delivered differing results when investigating the effectiveness of CoPs as tools for knowledge sharing. However, most agree that CoPs aid and enhance knowledge sharing among members of a community. For example, in the business environment, Probst and Borzillo (2008) found that exchanging tacit knowledge through CoPs could reduce learning times for new employees. At Siemens, for instance, engineers from different divisions exchanged technical “know-how” resulting in improved automotive systems. However, Probst and Borzillo (2008) emphasise that exchanging expertise relies on members sharing a common interest in learning. Zboralski (2009) studied the role of community members’ motivation to share knowledge. She found that less motivated members do not exchange knowledge actively, due to lack of trust, cohesion and positive communication.

Knowledge sharing within CoPs can also help members resolve problems. Retna and Ng (2011) noticed that mutual engagement between community members results in shared advice, solutions, and the acquisition of new knowledge about a problem. While CoPs have attained benefits from knowledge sharing, different perceptions exist with regard to retaining knowledge within an organisation. Pyrko and Dörfler (2013) indicate that knowledge sharing is described as mutual learning, requiring social learning spaces. They also observe that CoP members can easily leak knowledge, as experts are typically more loyal to their discipline than to their employers. This was also highlighted by Brown and Duguid (2001), who stated that as CoPs develop, the ‘epistemic differences’ between communities might extend the scope of knowledge sharing beyond organisational boundaries, particularly regarding innovations. Therefore, organisations might prefer to establish CoPs intentionally, to monitor and approve their activities, while also overseeing collaboration with other external communities.

CoPs members can communicate and exchange knowledge via either face-to-face interactions or virtual ones. However, some authors (e.g. Ardichvili, 2003) argue that virtual knowledge networks cannot effectively replace ‘face-to-face communities’. His argument is based on the premise that participants will have never physically met, and may not know each other. Although this author would agree with Ardichvili regarding the

importance of face-to-face communication within CoPs to foster tacit knowledge sharing, face-to-face meetings might not always be possible for geographically dispersed organisations wishing to bring members of CoPs from different contexts together in one place, due to associated expenses (e.g. travel costs).

The term knowledge sharing is most commonly used and associated with studies on CoPs. Walsham (2005) argues that some phrases, such as knowledge sharing, knowledge repositories and knowledge transfer should not be used in CoPs, as people have identical viewpoints. His argument is that people exercise their own tacit power in interactions, but that they learn from others through them.

As discussed above, the concept of knowledge-intensive firms has compelled companies to enhance knowledge sharing opportunities, particularly for tacit knowledge sharing. CoPs therefore play a significant role in the codification of tacit knowledge; assisting people to manage their work tasks. As suggested by Wang and Noe (2010), different cultural and social contexts might influence attitudes toward knowledge sharing in CoPs; therefore, more studies are required to determine what factors encourage individuals to share knowledge through OCoPs in different contexts. Moreover, they suggest more studies are required to understand the practices of knowledge sharing within CoPs better. This study aims to respond to these calls, from the perspective of the context of Saudi Arabia.

2.2 Communities of Practice: Historical background

The concept of CoPs has grown in influence within the social sciences, becoming a new area for empirical research and investigation since the early 1990s. According to Wenger (2011, p. 1), Traditional CoPs (TCoPs) are “groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly”. Similarly, Andriessen (2005, p. 194) states they are “groups of professionals from different organisational units who have a common interest in certain work related topics and share their knowledge on a regular basis”. Despite the similarity between these two definitions, the present study prefers Andriessen’s relative to established CoPs in organisations (OCoPs).

CoPs were first adopted in educational settings as a social theory of learning (Lave and Wenger, 1991), and later as a KM approach by businesses (Wenger, 1998; Wenger et al., 2002; Wenger, 2004; Hughes et al., 2007). Orr (1990) explained how informal networks can improve workplace environments and ensure the completion of jobs, following an ethnographic study at Xerox. Brown and Duguid (1991) examined Orr’s findings, extending

their research to determine how learning and innovation improve with informal CoPs. Moreover, Brown and Duguid's (1991) work was developed for business communities, and based on Lave and Wenger's (1991) practice based theory of learning. Brown and Duguid (1991) deemed Orr's works and Lave and Wenger's work on knowledge-based-practice inseparable, in terms of both theory and practice. Lave and Wenger (1991) concluded that learning can be separated from working, and learners from workers. Orr, however, found that employees can gain knowledge by learning-in-working and not necessarily from participating in training programmes provided by a company.

Lave and Wenger (1991) are influential theorists in the area of situated learning, having spent time studying CoPs in learning contexts. They argue that learning is a process that takes place in situated contexts of practice through participatory frameworks and the activities of a group rather than by focusing on learning provided by an individual or received from a single source, such as the classroom. The framework of social learning theory concentrates on knowledge sharing and apprenticeship in informal networks, such as CoPs (Lave and Wenger, 1991). Lave and Wenger (1991, p. 29) discussed the concept of *legitimate peripheral participation*, meaning how newcomers move toward full participation in the social cultural practices of a community. Core processes in CoPs engage with five apprenticeships as a learning model; discussing how midwives, meat cutters, naval quartermasters, non-drinking alcoholics, and tailors learn by acquiring knowledge from other participants. They argue that to become full members of CoPs it is important for practitioners to participate in social interaction and mutual engagement. Over time, learning among participants becomes informal and dynamic; enabling the establishment of a community of practice (*ibid*).

However, Lave and Wenger's work did not investigate organisational dimensions, such as management and information systems (Gherardi, 2006). This is apparently because Lave and Wenger were more interested in the shared features that enabled them to describe how newcomers utilise work settings for learning, and how identity and motivation are generated as newcomers move toward full participation. Gherardi (2006) also argues that social learning theory, as used in Lave and Wenger's study opposes cognitive learning theory. Cognitive theory considers learning as a way of knowing the world, whereas social theories of learning conceive it as a process of social integration.

The notion of CoPs has been used in a variety of ways to explain the establishment of such a group. Ackerman et al. (2013) conducted a review of Computer Supported Cooperative Work

literature on knowledge sharing and expertise. They argued that the concept of CoPs was used in a different way, as the purpose of the group in question was knowledge sharing and socialisation. They also demonstrated some examples of how the term ‘CoPs’ was used. For instance, they mentioned a study by Brown and Duguid (2001), who added the concept of Networks of Practice (NoPs). Members of a NoP do not necessarily work together but work on similar issues in a comparable way. The similarities in their working practices provide common ground on which to foster better sharing of knowledge and expertise.

According to Andriessen (2005), some authors do not differentiate between CoPs, discussing them as if they are largely uniform. This is contradicted by Agrawal and Scarso (2014), who argue that the existence of different terms provides evidence that the majority of studies use implicit definitions of ‘CoPs’, which do not refer to a unique typology, but appear to be used as synonyms. This is because organisations prefer their own interpretations of this concept. Consequently, many terms are found in expanded form in the literature, such as: networks of practice (Wasko and Faraj, 2005); knowledge communities (Barrett et al., 2004; Yamazaki, 2004); community of practitioners (Gherardi, 2006); collectivities of practice (Lindkvist, 2005); communities of knowing (Boland and Tenkasi, 1995); strategic communities (Kodama, 2005); brand community practices (Schau et al., 2009); and organisational CoPs (Kirkman et al., 2011; Kirkman et al., 2013). This diversity of phraseology has obfuscated the concept of CoPs.

Notwithstanding disputes over the multiple definitions of CoPs, their popularity is evident. To overcome some of the divided perceptions of what comprises CoPs, this present study explores the possibility of unifying the concept of CoPs within organisations.

2.2.1 Components of TCoPs

It is essential to recognise the fundamental components of TCoPs that distinguish them from other formal groups or departmental teams. Wenger et al. (2002) assert that a well-developed community of practice facilitates learning and knowledge sharing. It also requires the presence of three components: (1) identification of a domain of interest; (2) the community; and (3) the practice (*ibid*).

The Domain: The area of knowledge that unites the community under a common interest, providing its identity and defining the issues that its members must address. Therefore, Wenger et al. (2002) emphasise the importance of identifying a community’s shared interests to enable members to participate actively. However, Wenger and Snyder (2000) caution that

when members feel a community is not well-defined or that it does not match their expertise and interests, they will not effectively engage in the work of that community, thereby impeding its performance in a manner counterproductive to the members' commitment. Thus, determining a domain can guide the progress of a CoP, ensuring it will develop strategically.

The Community: The group of people who share the same domain of interest and develop relationships over time through mutual respect and trust. The features that distinguish a stronger community from a less active one are that the relationship among members is based on mutual respect and trust. A recent study by Retna and Ng (2011), at a multinational company in Singapore, observed the best communities are those that offer space for expression, debate and different perspectives, as controversy is a key contributory factor to making communities effective and productive. This supports the perspective expressed by Wenger (2011), which argues that CoPs are not only websites, databases, or collections of best practice, but also comprise environments for interacting, learning together and building relationships of mutual commitment.

The Practice: Meaning how a community performs its work. Community members develop a shared repertoire of resources, including ideas, information, documents, stories, tools and experiences. According to Roberts (2006), practice is vital to the coherence of a community. For example, those nurses meeting regularly for lunch in hospitals might not recognise their lunch discussions are a source of shared knowledge about how to care for patients. They build on their stories to improve their nursing skills (Wenger, 2011). Other examples of successful practice are derived from case studies; e.g. the cases of Bearing Point and PwC, mentioned by Probst and Borzillo (2008) revealed that when community members report success, this reflects positively on their participation in CoPs, assuming there is evidence of those experiences impacting positively on each organisation's business units and daily work.

Recently, Bolisani and Scarso (2014) highlighted three components of CoPs referencing other groups. These three components can be used as design guidelines to establish and manage CoPs effectively in organisations. According to Wenger et al. (2002), when these three components come together, they create a CoP with an ideal knowledge structure. Figure 1 summarises the three components of TCoPs.

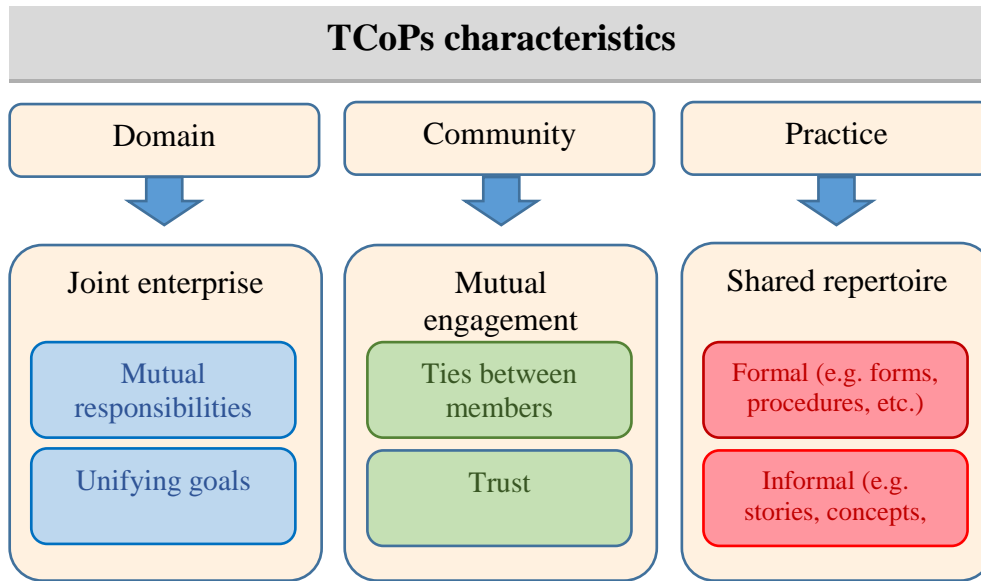


Figure 1: Summary of the key features of a TCoP.
 (Source: Adapted from Wenger, 1998 and Wenger et al. 2002).

2.3 The evolution of the notion of OCoPs

Many studies have discussed TCoPs in different contexts, including higher education (e.g. Hodgkinson-Williams et al., 2008) healthcare (e.g. Li et al., 2009), and business research (Roberts, 2006; Wenger, 2011). Recently, organisations have formed their own CoPs, herein termed OCoPs, to link themselves with other organisations and independent business units (Kirkman et al., 2011; 2013). Figure 2 illustrates the progression of TCoPs into OCoPs.

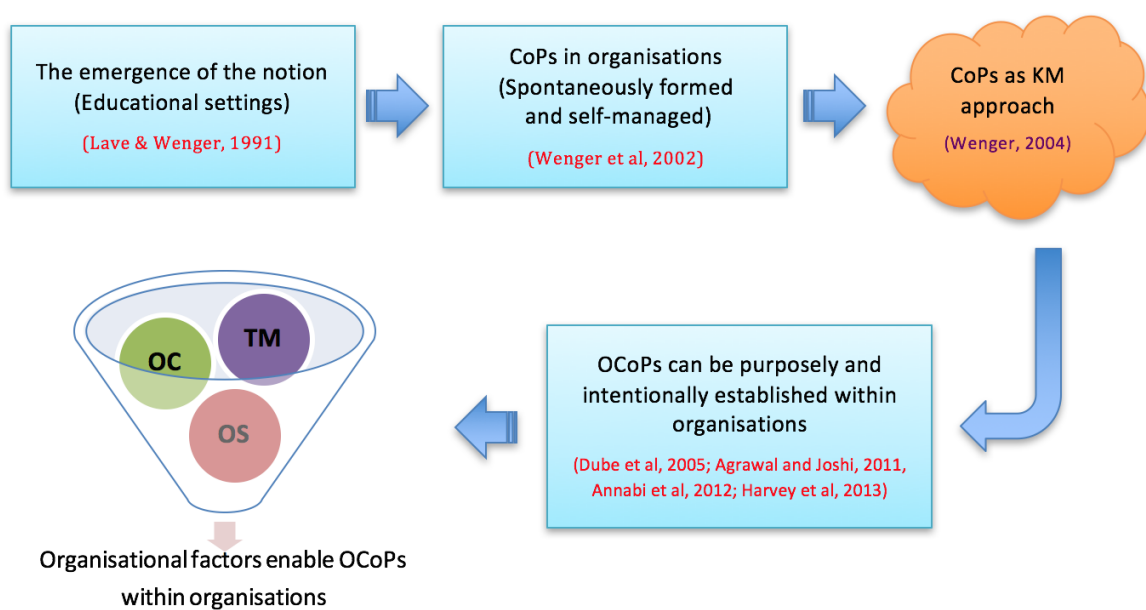


Figure 2: Proposed framework of the evolution of OCoPs by the author

This study refers to OCoPs, regarding them as key KM tools, requiring close monitoring and management (Bolisani and Scarso, 2014). Furthermore, this will assist in the analysis of the companies involved in the study. The following sections discuss in greater depth how OCoPs developed within organisations.

2.3.1 OCoPs in organisations

Since this study intends to examine OCoPs within the business environment it is important to highlight how OCoPs are seen within organisations. Many contend that OCoPs can facilitate KM practices within organisations (Wenger et al., 2002; Ardichvili et al., 2003; Wenger 2004; Annabi et al., 2012). A study by Yamklin and Igel (2012) revealed the importance to a business organisation of developing an effective KM tool through OCoPs to improve business performance by identifying shared practices. By contrast, however, Jeon et al. (2011) argue that OCoPs should not be established as a part of the KM organisational structure, but as a context for organisational learning. In addition, after conducting a case study into professional bureaucracy, Harvey et al. (2013) observed that OCoPs would not suit all types of organisations. They also argued that OCoPs should be seen as social phenomena rather than as organisational learning tools.

OCoPs can be instrumental in sharing explicit and tacit knowledge, connecting people, solving problems, fostering innovation, raising awareness, and creating new business opportunities (Wenger 2004). While many studies on OCoPs have focused on building and designing OCoPs (e.g. Corso et al., 2009; Thompson, 2005), their effectiveness (e.g. Hemmasi and Csanda, 2009), and factors informing success and failure (e.g. Zboralski, 2009), Harvey et al. (2013) argued there is insufficient evidence of how they contribute to the development of KM practices. The present study therefore examines to this aspect.

Certainly, researchers have proposed that large organisations should utilise OCoPs as a mechanism to facilitate KM initiatives (Roberts, 2006), however more research is required to maximise the benefit of OCoPs, particularly in large organisations that are globally distributed (Kirkman et al., 2013). For example, Shell Oil relies on OCoPs to protect its technical excellence across multiple business units, geographical regions and project teams (Wenger et al., 2002). Meanwhile, existing literature suggests multinational and international organisations from different sectors are increasingly interested in creating OCoPs (Thompson, 2005; Ardichvili et al., 2006; Probst and Borzillo, 2008; Corso et al., 2009; Kirkman et al., 2011; Kirkman et al., 2013) to foster knowledge exchange processes

(Ardichvili et al., 2003). Dubé et al. (2005) argued that across vast geographical distances and in view of busy schedules, virtual CoPs, assisted by Information and Communication Technology (ICT) make communication much easier and more efficient than meeting face-to-face. However, minimal attention has been devoted to examining the effectiveness of knowledge sharing mechanisms (Kirkman et al., 2011; Wang and Noe, 2010).

Indeed, Roberts (2006), concerned about the success of establishing OCoPs within business organisations, argued that the rapid pace of change complicates their development. She indicated that restructuring, downsizing and outsourcing are common occurrences in contemporary business, and that these are not congenial to the development of trusting communities, as they require time to develop. However, she argued that independent OCoPs exist in business settings, taking on a role in the creation and transfer of knowledge. Conversely, Hildreth and Kimble (2004) argued that OCoPs are suited to KM in business organisations. Their argument was based on the belief that TCoPs are self-managed and self-directed and that any contribution from them would be of uncertain value to the organisation. McDermott (2000), however, stated that TCoPs are unsustainable if not supported by business units. He identified four management challenges when cultivating OCoPs; namely: (1) focusing on themes important to business and community members; (2) appointing a well-respected community member to direct the community; (3) ensuring people allocate time and encouraging them to participate; and (4) reliance on core organisational values.

For companies, the incentives for establish OCoPs are varied. Several studies have uncovered the reasons that motivate people or organisations to form OCoPs. For example, some OCoPs emphasise the value of a company's brand (Schau et al., 2009), others generate knowledge and innovation for competitive advantage (Brown and Duguid, 1991; Kirkman et al., 2013), improve members' performance at work (Hemmasi and Csanda, 2009; Schenkel and Teigland, 2008), and lower costs and increase revenue (McDermott and Archibald, 2010; Probst and Borzillo, 2008).

The argument above accentuates the importance of conducting additional studies in the business realm, particularly in large companies, and of obtaining more evidence to improve OCoPs in the business setting. An organisation's desire to establish an OCoP is a significant method for attaining recognition. The following section discusses literature about the intentional formation of OCoPs, emphasising the difference between OCoPs and TCoPs, and considering the benefits of OCoPs to the companies studied.

2.3.2 OCoPs and their deliberate establishment

The prevailing framework for establishing TCoPs in organisations draws on the perceptions of Wenger et al. (2002), who asserted that TCoPs are self-organised configurations, which only succeed when created informally. However, other researchers have reported that intentionally formed CoPs, such as OCoPs, can also be successful (Agrawal and Joshi, 2011; Annabi et al., 2012; Dubé et al., 2005; Kirkman et al., 2011; Kirkman et al., 2013). Furthermore, for OCoPs to deliver maximum benefit, studies suggest it is necessary for organisations to first assign official sponsors and facilitators (Annabi et al., 2012), leaders (Retna and Ng, 2011), and a governance committee (Probst and Borzillo, 2008). McDermott and Archibald (2010) also argue that clear accountability and management oversight are crucial, thereby contradicting Wenger et al.'s. (2002) non-interference directive.

Reflecting on the on-going debate regarding whether OCoPs are beneficial, Dubé et al. (2005) conducted a study at 14 organisations, and found that 'CoPs' can be formed intentionally by organisations and still be successful. They argued that voluntary membership in a naturally occurring CoP is no guarantee of success. They found half of 18 virtual CoPs succeeded, while half failed. They attributed these failures to the lack of direct support. Agrawal and Joshi (2011) confirm this, emphasising the essential aspect of support to ensure their efficient functioning.

Yamklin and Igel (2012) performed three case studies of different OCoPs in the manufacturing sector in Thailand, to understand how they contribute to achieving tangible organisational performance objectives. Two of the OCoPs were created intentionally and supported by top management, whereas the third was formed spontaneously. They found assigning formal responsibility to OCoPs activities affects individual performance. Furthermore, they found allocating definite activities to OCoPs delivered tangible organisational benefits. Consequently, they advised OCoPs should receive attention from top management, as this reflects positively on how ideas and suggestions are revised and implemented within the firm. However, Yamklin and Igel (2012) suggested further case studies be conducted in organisations within different cultures in other countries, to investigate the different types of CoPs (TCoPs and OCoPs) and explore their impact on organisational performance. For example, a study by Su et al. (2012) in the aerospace industry found formalised OCoPs in business organisations provide 'quality' knowledge and assign responsibilities to specific members, so that they do not abandon OCoPs. Kirkman et al. (2011) went further, suggesting that OCoPs are more effective when responsibilities are

divided among members and when there are no formal rewards or retributions for success or failure (see Table 1 for the differences between OCoPs and TCoPs). They argued that OCoPs are more formal, purposeful and bounded than TCoPs. However, Wolf et al. (2011) argued that formally established OCoPs have an uncertain impact on a company's performance, suggesting that future research compare formal OCoPs with informal ones to clarify this affect.

Table 1. Key differences between OCoPs, TCoPs and formal teams.

(Source: Adapted from Raven, 2003 and Kirkman et al., 2011).

Factor	OCoPs	TCoPs	Formal Teams
Task mission	Knowledge sharing and codification of information	Emerging from the community	Mandated by the organisation
Membership	Existence of Membership boundaries	Voluntary	Appointed
Leadership	Facilitative	Emergent and dynamic	Defined explicitly
Task interdependence	Flexible, rather than stable	Lower	Higher
Structure	Requiring a long term to develop a body of knowledge	Emergent	Designed
Accountability	External, no formal sanctions	Internal, social sanctions	External, formal sanctions
Resources	Coming from the organisation	Coming from members	Coming from the organisation

The direct benefit extracted from the previous perception concerned the importance of exposing members to defined responsibilities to ensure quality. Offering another angle, Kirkman et al.'s (2011) study questioned whether the fact that TCoPs have fewer proponents in organisations, particularly in business firms, renders OCoPs more likely to succeed. Each of these theoretical positions makes a significant contribution to our understanding of both TCoPs and OCoPs, and will therefore help the researcher to explore how this perception is present in the companies chosen for the case study. Having demonstrated the differences between OCoPs and TCoPs and formal structured teams, the present study follows Kirkman et al. (2011) to explore OCoPs within this research.

This study extends the perspective on OCoPs in two ways. First, it argues that organisations should offer a comprehensive strategy for KM initiatives when implementing OCoPs, implying a long-term strategy. Thereby, the OCoPs' activities would then be better organised and more aligned with the organisation's business plan. Second, the present study argues that the recent new wave of OCoPs has been initiated by organisations, whereas TCoPs were begun as grassroots movements. Additionally, the role of geographically dispersed activities, particularly in the case of large organisations, requires OCoPs' activities to be more formalised than those of TCoPs. The following sections explore detailed research highlighting substantial organisational factors examined in KM literature regarding the influential roles of OCoPs within organisations.

2.4 The role of organisational factors influencing OCoPs within organisations

Although there is no a concrete definition of organisational factors, the present study adopts that offered by Okorley and Nkrumah (2012, p. 332) who defined them as, "those factors which are internal to the company, and over which the organisation has a degree of supervision as opposed to external factors (e.g. government policy) which are outside the control of the company but which can affect its operation". This definition is necessarily broad, encompassing the different interpretations some organisations give to key organisational factors. However, the previous definition would fit the current study, which investigates OCoPs and looks at organisational factors that impact activities, where companies have a degree of control and where the OCoPs were intentionally established.

Diverse organisational factors, such as organisational commitment, organisational performance, and organisational innovation are relevant here. However, the current study only focuses on examining three key organisational factors: top management, culture, and structure. To date, empirical studies have viewed each of these factors as an independent component rather than an integrated one. However, examining them together creates a potential impact on understandings of OCoPs, particularly when also discussing the implementation of selected KM strategies (Kirkman et al., 2013).

Research has increasingly demonstrated the need to change the perceptions of organisations and employees about the influence of three key organisational factors, top management, culture and structure, on OCoPs' roles (Annabi et al., 2012; McDermott, 2000). Retna and Ng (2011) argued that OCoPs' activities positively support organisational goals when the organisational culture and top management support OCoPs. Dubé et al. (2005) investigated

the impact of structural characteristics on the formation of intentionally created Virtual CoPs (VCoPs). Their study principally examined VCoPs, wherein members use only ICT as a primary mode for interactions. Although Dubé et al.'s study considered structural characteristics as a means to determine the success or failure of VCoPs at the launch stage, they provided insufficiently deep comprehension of the impact of the top management, culture, and structure of organisations. This present study addresses precisely how these three organisational factors enable OCoPs activities. The following sections will discuss the literature associated with these three organisational factors in depth.

2.4.1 Top management and OCoPs

According to Ugwu et al. (2012, p. 67) define Top management as “the individual or individuals responsible for allocating resources for KM and for specifying the KM programmes for the company”. When discussing top management this study follows Cavaness and Manoochehri's (1993) definition, which encompasses not only the president and CEO but also all managers who with the authority to establish and enforce policies and guidelines within an organisation. Lave and Wenger (1991) argue that while management can establish a team for a specific project, it cannot form a TCoP. They suggest that if management were to intervene to form a TCoP then it would lose the advantages of self-management with self-controlled membership and objective setting, which, as Lave and Wenger' perceived, are merely ratified by top management through governance committees (Fallah, 2011). Arguably, it is difficult for top management to assess the benefits of providing fundamentally informal emergent CoPs with resources (Hislop, 2013). However, early research claims that TCoPs should not be supervised and led by management but left to grow independently (Wenger et al., 2002; Wenger and Snyder, 2000). Where management choose to intervene in the creation of formal CoPs, OCoPs occur.

As explained above OCoPs are becoming a popular approach to KM initiatives, assisting in achieving project aims (Roberts, 2006). However, a study by McKeen and Smith (2007), conducted among knowledge managers from different organisations in Canada and the US, found improving the mechanisms for social networks within a company, including OCoPs, is essential. They argued that if management implies networking (e.g. OCoPs) is not valuable, by not giving people the time they need to interact with others, it is unlikely that any initiative will succeed. Since OCoPs rely on networking, they cannot succeed if top management view networking a waste of time and company resources. Thus, McKeen and Smith (2007) assert that knowledge managers need to create the right context for networking

initiatives, carefully considering how networks will reinforce desired behaviour if value needs to be realised.

Typically, the development of OCoPs needs to be constant and consistent; for instance, OCoPs leaders can bridge the formal structure of the organisation to provide official sponsorship and support (Fallah, 2011). Crucially, however, the control or support of OCoPs should not affect their activities (Borzillo et al., 2011). Some organisations attempt to support OCoPs' activities as part of their KM initiatives. Thus, Borzillo et al. (2011) conceive that top management can promote and participate in OCoPs activities, fostering their full potential, without seeking full control of them. Hislop (2013) argues that the best way in which management can support OCoPs is to provide them with the autonomy to manage themselves. However, there is no evidence yet to address how organisations can deal with autonomy and the elements of control inherent in OCoPs. Moreover, previous studies mainly discussed the role of top management support but did not consider the influence of middle-level management or low-level management, which this study will consider.

Reviews of the role of top management in OCoPs studies have explained that when top management has a positive attitude toward change, this creates a culture that supports change by looking for new and improved ways of working, discovering creative solutions, improving performance and building a vision to assist change (Martins and Terblanche, 2003). It is likely that OCoPs are encouraged by styles of management that seek out new ways and initiatives to meet the needs of employees. Smith and McKeen (2007) recognised that changing top management's attitudes concerning how their organisations work is critical to gaining their support for social networking initiatives, and therefore to delivering value. Reflecting on the specific context of this study, and motivated by a recent report by the World Bank (2013) encouraging policy makers in Arab countries to reform the business environment to foster creativity, this study investigates how far top management attitudes toward OCoPs are flexible and aligned to accruing a sustainable competitive advantage in the modern knowledge economy. It will also reflect on Annabi et al.'s (2012, p. 3877) suggestion that there is a need for further research to investigate top management's and employees' perceptions of the role of OCoPs and their importance.

Alsereihy et al. (2012) investigated the KM solutions implemented by Saudi Arabian firms, and advised changes to management processes. They opined that changes to procedure could help overcome a number of barriers and cultural issues associated with KM implementations. Moreover, they found that top management's lack of experience with KM practice and lack

of collaboration in KM projects crucially affects KM networks within companies. It is likely that this finding will prove relevant to investigations into the role of top management for this study.

A very recent study by Bardon and Borzillo (2016), investigating aspects of autonomy and control in OCoPs at international airports in Western Europe, identified both positive and negative factors. For instance, they found that autonomy can enable members to develop knowledge and work freely without gaining permission from top management, readily assigning the roles and responsibilities of each OCoP. However, negatively, autonomy affects levels of engagement and members' freedom to choose areas of knowledge associated with OCoPs, regardless of their competencies. On the subject of control, Bardon and Borzillo (2016) found that gaining control over OCoPs activities could assist in planning and structuring OCoPs' activities. Whereas control can be negative when there is extensive pressure from upper managers to deliver tasks faster. In addition, steering committees led by senior managers could function as a form of censorship, affecting members' capacity to develop new knowledge. Although Bardon and Borzillo (2016) sought to investigate the control and autonomy aspects at work in OCoPs, their study is ongoing and has not afforded in depth understanding but rather broad examples instead. Thus, the present study examines these two elements offering some ideas about how top management can enable OCoPs within an organisation.

From previous studies, it appears that the aim to address the control and autonomy framework inherent in OCoPs remains unresolved in the literature, there have been increased calls to examine how top management can support OCoPs (Borzillo et al., 2011; Annabi et al., 2012). These studies suggest further research to verify how top management can actively guide OCoPs, without destroying their self-regulating processes; therefore, this will be explored in the present study.

2.4.2 Organisational structure and OCoPs

Yahya and Goh 2002, p.459) define organisational structure as “the way employees are organised into teams (informal and formal), and interact within teams; the set of roles and goals of each team, and how it is being related to organisational strategy”. For the purpose of this research, organisational structure is considered to consist of *formalisation* and *centralisation*. Several studies have examined these two critical components of organisational structure and their impact on KM initiatives and social interaction within firms (Bennett and

Gabriel, 1999; Tsai, 2002). The present study follows how Lee and Choi (2003, p. 192) define formalisation; that is, as “the degree to which decisions and working relationship are governed by formal rules, standard policies and procedures”, and centralisation refers to “the locus of decision authority and control within an organisational entity”. Thus, centralisation is measured by how far the chief executive involves others in major decision making, while formalisation is measured by the chief executive’s perception of whether an organisation has an informal structure or a function based one, according to either products or markets (Cosh et al., 2010). According to Chen and Huang (2007), the two components of organisational structure are considered key influencers of the implementation of KM initiatives within large companies that consider OCoPs KM practices. They argue that when the structure of a company is less centralised and less formalised, the social interaction among organisational members is relatively more favourable and the levels of KM are enhanced.

This study investigates the role of organisational structure on OCoPs. As discussed earlier, TCoPs are informal social learning constructs, in which shared experience and knowledge flows via informal interactions. However, the structure of organisations may support or prevent the creation of such communities within an organisation (Kerno, 2008). In the KM literature, a number of studies have discussed the structural characteristics of organisations and their roles in supporting KM methods, such as OCoPs (Walczak, 2005). It has been found that the creation of loose organisational structures enables OCoPs activities that interact efficiently within an organisation (Thompson, 2005). Furthermore, it is argued that lack of hierarchy, flexibility, freedom and a decentralised structure will promote knowledge sharing within organisations (Lippert, 2013; Probst and Borzillo, 2008), whereas organisational structures characterised by rigidity, order, and control will result in the demise of OCoPs (Roberts, 2006).

2.4.2.1 The impact of organisational structure on OCoPs’ activities

This section addresses the issue of how far the traditional structure of organisations is relevant to OCoP activities in the age of knowledge economy. Recent research claims that modern companies require a less centralised organisational configuration (Lippert, 2013) involving working with open environmental structures (Baker and Sonnenburg, 2013) encouraging communications between departments in informal meetings (Wang and Noe, 2010). Probst and Borzillo (2008, p. 342) note that when OCoPs’ members are free from hierarchy-related pressures (i.e. subject to ‘zero sanction’ and ‘risk free’ assessments), they are more willing to criticise the practices in their departments and in other organisational

units, and therefore more likely to suggest solutions to overcome challenges and improve practices. Thus, Probst and Borzillo (2008) also emphasise the role of OCoP leaders in encouraging suggestions to benefit organisational performance. Similarly, Retna and Ng (2011), who conducted a qualitative case study in a multinational company in Singapore to explore the dynamics and key success factors informing the development of OCoPs, found that free communication, effective interaction and collaboration across all levels of the organisation assisted the activities of OCoPs by influencing the organisation's people-performance and achievements.

When reviewing the process of the legitimisation of OCoPs by organisations, Corso et al. (2009) argued that OCoPs that want to be recognised by the firm should demonstrate that they are active, functional and structure entities already. This suggestion was supported by Annabi et al. (2012) who found that to promote the power of OCoPs, firms have to align them with appropriate organisational entities and resources, and to orient them to specific business objectives. Yamklin and Igel (2012) suggest OCoPs should be integrated into formal organisational structures, to encourage employees to consider OCoP activities as part of their duties, participating without hesitation. Elsewhere, Borzillo (2009) argues that only top management can determine whether an OCoP is formally located within an organisation's structural hierarchy. While Annabi et al. (2012) explains that determining an explicit role for OCoPs within the existing organisational structure is the only way in which it can contribute to business objectives. However, they failed to determine whether OCoPs would be more efficient within a formal dimension that emphasises written rules or procedures, or a centralised dimension that concentrates on decision making processes.

While there is acknowledged ambiguity concerning whether OCoPs reside within the structure of a company (Annabi et al., 2012), either in formalised or centralised structural forms, this study attempts to discover how far OCoP activities are enabled and encouraged by companies, as they become more sophisticated and efficient.

2.4.3 Organisational culture and OCoPs

It is important to introduce the implications of cultural research, for understanding OCoPs, including how culture is measured and defined (Leidner and Kayworth, 2006). Culture possesses a degree of ambiguity, particularly when assessing organisational effectiveness and performance (Alvesson, 2013). For example, Davison and Martinsons (2003, p. 3) noted, "culture is difficult to study, partly because it is not an easy concept to define". However, this

thesis does not intend to review or provide a comprehensive list of definitions of culture. Since this thesis considered organisational culture from a business perspective, it is understood here as “a complex set of values beliefs, assumptions, and symbols that define the way in which a firm conducts its business” (Barney, 1986, p. 657).

Culture plays a vital role in creating an organisational climate that can assist a company to enhance learning and innovation, respond to competition, and gain new opportunities (Daft, 2010). Therefore, many strategic studies assert that organisational culture is an important element of competitive advantage (Carmeli and Tishler, 2004).

2.4.3.1 The role of organisational culture in OCoPs' activities

While KM initiatives endeavour to foster knowledge sharing within organisations, culture can be a major barrier, inhibiting the effectiveness of knowledge sharing (McDermott and O'Dell, 2001). Dubé et al. (2005) examined the intentional formation of VCoPs within organisations, and found organisational cultural and national culture are of central importance to defining OCoP characteristics leading to success in the launch phase.

The aforementioned study by Retna and Ng (2011), found that a positive organisational culture can support and strengthen the activities of OCoPs. Moreover, they established that a strong company vision could encourage OCoPs' development. Although Retna and Ng's study indicated culture to be one of three key factors for success (leadership, organisational culture and individual motivation to learn), they did not link the role of organisational culture with its impact on OCoPs' activities, or on the performance of the organisation in general. However, the current study seeks to investigate the relationship between organisational culture and OCoPs' activities in particular.

Few studies have addressed the impact of organisational cultural factors on OCoPs, although many have focused on factors associated with specific national cultures and their impact on OCoPs. For example, an exploratory qualitative study by Ardichvili et al. (2006) investigated the national cultural factors that influence knowledge sharing strategies in VCoPs. Their study was conducted in Russia, China and Brazil, and at the US headquarters of Caterpillar, a multinational company. In total, 36 managers and employees participated in the study, and one of the important findings that emerged from Ardichvili et al.'s study was that saving face, modesty, and lack of confidence with language proficiency were the main cultural factors to affect knowledge sharing in the study context. Although the scope of the present study did not aim to investigate the effect of national culture, some participants from Co2 (case study

two) expanded their views and linked national culture and its impact on organisational culture within the company.

Also considering national culture, Siau et al. (2010) examined its effects on types of knowledge sharing between Chinese and American virtual communities, highlighting knowledge dissemination and acquisition. The study drew on Hofstede's cultural dimensions to examine national culture factors differentiating between the two selected countries. The study investigated 18 virtual communities hosted by Yahoo and using messages as a means of communication. Their findings revealed that power, distance and individualism-collectivism dynamics are the major national cultural factors affecting knowledge sharing in virtual communities. Hofstede's cultural dimensions are a popular tool, as they were designed based on a large-scale survey including data collected from 16,000 multinational companies. Siau et al. (2010) concluded their study by suggesting the importance of further investigations into the effects of organisational culture on knowledge sharing and KM in OCoPs, as these are gaining importance in companies and in the wider business environment. This present study includes such an investigation.

It can be seen from the above that there is a lack of studies regarding the role of organisational culture in enabling OCoPs. Furthermore, it is evident that every organisation has its own cultural rhythms, which affect OCoPs differently. Thus, it can be concluded that organisational culture will indeed have a significant impact on the formation and effectiveness of OCoPs.

2.4.3.2 Reward system for OCoPs

Several previous researchers have discussed how reward systems, as an aspect of organisational culture, effect OCoPs (e.g. Seba et al., 2012; Walter et al., 2013). Some consider the formalisation of the reward system as an organisational aspect of OCoPs themselves (e.g. West et al., 2014). This study, considers reward systems from the both perspectives of overall organisational culture and formalisation of OCoPs. The rationale is that this study will investigate OCoPs initiated and encouraged by their company, therefore, it is important to understand how having a reward system for OCoPs activities is conceived within the organisation and if OCoPs are more efficient when there is a reward system.

Rewards can range from extrinsic rewards, which are tangible, for instance bonuses, to intrinsic rewards, for instance plaques or certificates, to recognise an employee's contribution and to provide employees with a sense of accomplishment with no equivalent monetary value

(Bartol and Srivastava, 2002). Some studies argue that OCoPs rely on reciprocity to stimulate a willingness to share knowledge and thereby increase participation and performance through continuity. For instance, a study by Zboralski (2009) found rewards do not merely take the form of financial rewards; participants might also be motivated by the benefits to their work tasks and improvements in their relationships with colleagues. Schenkel and Teigland (2008) found community memory is reciprocal, as members can add their experiences to the memory bank. This, in turn, increases their performance when resolving each new challenge, as long as they activate the community memory. Jeon et al. (2011) conducted a study to identify perceived consequences and key individual, social and organisational factors that affect knowledge sharing among OCoP members, and confirmed that when the anticipated reciprocal relationship is greatest, knowledge sharing activities are also higher.

In contrast, Bartol and Srivastava (2002) claim that it is difficult for an organisation to reward knowledge sharing behaviour in OCoP settings because they are based on informal arrangements among members; although they acknowledge OCoPs may be cultivated and supported by an organisation in different ways. They also argue that monetary rewards may be less useful in OCoPs; whereas, the intrinsic motivation of the individual and the desire to help members of OCoPs build expertise and provide recognition might constitute added encouragement. Arguably knowledge sharing might not be measurable within OCoPs as a substantial aim when establishing OCoPs is to facilitate the exchange of knowledge and expertise across a company. Therefore, rewarding OCoP members financially might not generate greater motivation among members. Thus, as Walter et al. (2013) observed; reciprocity does not always increase knowledge sharing. Their case study of OCoPs in a United Nations Development Programme found rewards did not play a significant role in the virtual communities investigated. Walter et al. (2013) went on to suggest a further study to scrutinise the link between organisational culture and perceptions of rewards as an incentive to increase participation within OCoPs. This suggestion was incorporated into the investigations conducted for this study from a business organisation perspective.

2.4.3.3 Knowledge sharing culture within the organisation

The creation of a culture of knowledge sharing is an essential objective when applying KM activities in organisations (McDermott and O'Dell, 2001). The three main components, which assist successful KM initiatives, involve people, technology and processes, and the overlap between them (Liebowitz et al., 2010; Awad and Ghaziri, 2007). However, people are the most important component when building and promoting a knowledge sharing culture

(Liebowitz et al., 2010). There is a demand for a paradigm shift to a knowledge sharing culture, which accepts that knowledge sharing is rooted in a culture's power (Liebowitz et al., 2010).

According to Davenport and Prusak (2000), one of the objectives of KM projects is to develop a knowledge-intensive culture by encouraging and aggregating behaviours, such as knowledge sharing, to proactively seek and offer knowledge. Zheng et al. (2010) support a knowledge-based view of firms in which KM is not merely an independent managerial practice but also a primary method supporting organisational culture's influence on organisational effectiveness. However, McDermott (1999) asserts that organisational culture is hard to change. He argues that while it is important to align measurements, policies, and rewards to support knowledge sharing, OCoPs are the most appropriate vehicle to support a thriving culture of knowledge sharing. Arguably, when OCoPs' members believe in their OCoPs and value the outcomes of knowledge sharing, they can create a culture of sharing to spread across the company.

McDermott and O'Dell (2001) claim that the culture of an organisation is not homogeneous. There are always subcultures, sometimes very different from the organisation culture of the company as a whole, and sometimes in opposition to it. Even organisations that strongly support knowledge sharing include pockets of individuals who are less supportive. Moreover, McDermott and O'Dell (2001) argue that organisations should make any knowledge sharing culture visible, as it is a practical way to connect to evaluate business goals, problems and results. In contrast, they claim that while hierarchical and paternalistic organisational culture influences knowledge sharing negatively, some people share ideas and insights as it is natural for them to do so.

A recent survey of qualitative insights by Michailova and Minbaeva (2012) investigated organisational values and knowledge sharing within multinational corporations. They found that organisational values were affected by the organisational culture. When a company constructs its own values this can reinforce desired knowledge sharing behaviour. Moreover, their findings revealed the valuing of dialogue among employees by their own departments and across departments positively influences knowledge sharing.

An additional study conducted in the public and private sectors in Bahrain, by Al-Alawi et al. (2007), examined six main categories

of organisational culture derived from Gupta and Govindarajan (2000): Information Systems, processes, people, leadership, reward systems and organisation structure. Gupta and Govindarajan (2000) included culture as a determinant of social ecology alongside the previous categories. Al-Alawi et al.'s (2007) study aimed to help businesses understand the primary role of organisational culture, to utilise their understanding effectively within prescribed boundaries. They found that not sharing knowledge might not be a consequence of personal but of organisational culture, resulting in co-workers unwillingness. Alsereihy et al. (2012), examined the power of KM networks in various industrial and business organisations in Saudi Arabia, and found that the absence of proper organisational communications and culture led to the absence of a knowledge sharing culture.

Generally, despite possessing some virtues, these studies are usually ad hoc and do not investigate the influence of a combination of organisational factors (structure, culture and top management) on OCoPs' activities within businesses, although that is the remit of this study, as demonstrated in Figure 3.



Figure 3: Proposed framework of the tripartite view of OCoPs within an organisation.

2.5 OCoPs in Western and non-Western Contexts

Since this study explores OCoPs in companies based in Saudi Arabia, this leads to an exploration of how studies in the West differ from those in non-Western contexts. The majority of studies investigating non-Western cultural influences concerning knowledge sharing were conducted in Chinese cultures. This led Wang and Noe (2010) to comment on the importance of producing additional studies encompassing how cultural differences affect knowledge sharing in emerging economies, in countries such as Africa, the Middle East and South America. Corso et al. (2009, p.87) state, “case studies and best practice examples reported in the articles are all based on the experiences of Western companies”. They also observe that studies conducted in Western organisations in relation to aspects such as management and individual perception might not be applicable in non-Western companies; therefore, the aim here is that the case studies discussed in this research will add value to the literature by investigating OCoPs in business organisations in Saudi Arabia.

Although KM-oriented OCoPs formed in business contexts have succeeded in many Western companies (Corso et al, 2009; Hemmasi and Csanda, 2009; Li et al., 2009; Kerno, 2008; Wenger et al., 2002; Wenger, 2004) and have attracted growing interest in a variety of non-Western contexts, particularly in East Asian countries such as Japan (Yamazaki, 2004), Singapore (Retna and Ng, 2011), Korea (Jeon et al., 2011) and China (Zhang and Watts, 2008), OCoPs are a relatively new innovation in the Middle East and North Africa (MENA) area (Idris, 2007). Marouf and Al-Attabi (2010) who conducted a study of the health sector in Kuwait claimed that the OCoP is a relatively new approach to KM in MENA. This observation was supported by Johnson and Khalidi (2005, p. 106) who stated: “CoPs and regional networks in the MENA region are still in the early stages of development”. Table 2 demonstrates the Arab countries involved in MENA, which share similar culture, values, language, and geographic location. Saudi Arabia is one of these countries.

Table 2: The Middle East and North Africa countries (MENA).
(Source: Adopted from the World Bank Data, 2016).

The Arab Middle East and North Africa countries (MENA)	
Arab Countries	Gulf States
Algeria, Djibouti, Egypt, Iraq, Jordan, Lebanon, Libya, Malta, Morocco, Syria, Tunisia, West Bank and Gaza (Palestine), Yemen.	Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, United Arab Emirates

Although the literature indicates that it is important to study OCoPs within MENA generally, the Gulf States seem to be of particular interest. They are home to large oil and petrochemicals companies, which have business relationships and affiliates across the world. Therefore, this part of the world must be investigated to uncover the differences and similarities in OCoPs in different countries worldwide.

Li et al. (2009) claim that the majority (77.8%) of the previous studies about OCoPs were conducted in the US. Many organisations, particularly in Europe and the US, have established very successful OCoPs, achieving notably positive results from them (e.g. reducing software development costs and time, reported at Xerox-Eureka, and increasing effectiveness in employees’ job performance, reported at State Farm Insurance Companies in the US) (Corso et al., 2009). However, Kerno (2008) argues that OCoPs are firstly social configurations, hence it is important to identify distinctive cultural characteristics along the

dimensions of East and West. His belief is that both cultures differ in their practices regarding practical knowledge, following different styles of social interaction and invoking different social roles and behaviour.

Even though the number of studies carried out differs according to region, the incentive for studying OCoPs in most cases, if not all, was to improve their effectiveness by investigating the OCoP itself and the influence of its activities. Therefore, thus far, it is difficult to probe whether there is a distinction between OCoPs implemented in Western and non-Western contexts. Despite this, Table 3 represents an attempt to outline some features of OCoPs in different contexts.

Table 3: Examples of OCoPs in different contexts

Authors	Context		Type of Organisation			Findings associated with organisational factors		
	West	Non-West	S	M	L	TM	OS	OC
Ardichvili et al., 2006	US (HQ)	Russia, China and Brazil	-	-		-	-	
Borzillo et al., 2011	Europe and US (HQ)	-	-	-			-	-
Grugulis and Stoyanova 2011	UK	-		-	-	-	-	-
Harvey et al., 2013	Canada	-	-	-				-
Hemmasi and Csannada 2009	US	-	-		-		-	
Jeon et al., 2011	-	Korea	-	-		-	-	
Kirkman et al., 2011	US	-	-	-			-	-
Siau et al., 2010	US	China	-	-		-	-	
Schenkel and Teigland 2008	Denmark and Sweden	-	-	-		-	-	

From the examples in the above table, it can be inferred that OCoP studies in the Western context converge somehow with the aspects of top management and organisational culture, which appear to enhance OCoPs mechanisms, benefitting both individuals and organisations. Meanwhile, in non-Western contexts, studies typically concentrate the organisational culture and the role of OCoPs in enhancing social bonds in companies, to improve the work environment.

Nevertheless, several studies assume that OCoPs are likely to be more effective and functional in some societies than in others. For example, Roberts (2006) argues that societies with a very strong social structure are more likely to have effective OCoPs in their business settings. She argues that a nation characterised by collectivism is more likely to found OCoPs implementing effective KM and knowledge creation strategies than nations characterised by individualism. This argument is further supported by Rice (2003, p. 471) who indicates that “in contrast to the American individualistic culture, the Arabs are an extremely collectivistic people and there is ease in social interactions and formation of groups”. Roberts (2006) also argue that informal groups choosing to voluntarily establish OCoPs more closely fit the Arab work culture, than structured, more formal teams. Although Rice (2003) and Roberts (2006) assert that societies that prefer collectivism to individualism are likely to result in OCoPs that have a positive impact on work performance, there is little direct evidence offered to verify these claims.

The context of this study is Saudi Arabia, a part of the Middle Eastern Arab world. In some research, the Arab world is treated as one, but it is important to take into consideration the marked differences between the Arab countries. According to Dulayami and Robinson (2015), different Arab countries are characterised by different aspects, which emerge in the domain of business; for example the adoption of, and approach to, ICT. This research investigates whether OCoPs are a proper tool for knowledge sharing and transfer within Saudi organisations, presenting the case of Saudi Arabia as an example of a non-Western country.

Alsereihy et al. (2012), examined the role of KM strategies in improving the performance of industrial and business organisations in Saudi Arabia, and found that KM as a practice is yet to be widely accepted and implemented. Moreover, they indicate that when introducing KM initiatives in organisations, it is important to form OCoPs for different areas of knowledge.

A previous study by Idris (2007) investigated cultural barriers that adversely affect the improvement of organisational performance among five leading companies in Saudi Arabia. The scope of his study concerned the extent to which OCoPs were utilised to improve organisational performance. It found that lack of encouragement from managers affects levels of participation in OCoPs events, and resulted in low awareness of OCoPs among the participants from the five companies. Nevertheless, the study assumed the participants were aware of the importance of OCoPs for knowledge sharing. Other aspects of the study were also problematic; for example, the use of OCoPs within the organisations was unclear, and how managers encouraged employees to use the OCoPs was not explained. Despite the study not reporting clear results regarding the feasibility of the use of OCoPs and not examining the impact of organisational culture on the selected companies, there was an indication that the OCoPs within companies required more investigation.

2.6 Summary and gaps in the literature

To conclude this review of the literature about OCoPs and the role of the three organisational factors, *top management, structure and culture*, this section briefly reiterates the several gaps identified that relate to key aspects of this research, and which will subsequently be addressed in this study. It has been underlined in the literature that OCoPs constitute an important tool for organisations prioritising KM initiatives. However, the concept of TCoPs has been variously perceived in both the research domain and the business setting. This created confusion, thereby rendering the concept ambiguous. However, the disagreement about TCoPs made way for the emergence of a new concept; i.e. OCoPs, which appear to be better understood and well-suited to companies, as they combine the advantages of TCoPs and formal groups (e.g. teamwork).

This chapter has revealed, there is a need for a closer examination of the development of OCoPs' and a clearer definition that can assist future scholars in producing consistent studies when researching the characteristics of OCoPs within organisations (Bolisani and Scarso, 2014; Harvey et al., 2013). Greater consistency of understanding would also improve the implementation of OCoPs at the organisational level, as companies prefer to adopt KM initiatives with clear application procedures (Wolf et al., 2011). That is, researchers have not yet reached a consensus about whether OCoPs are effective as a tools for knowledge sharing in different organisations located in different contexts. There certainly remains a need to illustrate herein, precisely how, OCoPs can be implemented more effectively within an organisation as tools for knowledge sharing at the organisational level. This gap relates to the

first research question: How are OCoPs seen as a tool for knowledge sharing within organisations?

Agrawal and Scarso (2014, p. 378) pointed out that it is important to initially restrict investigations to a particular category; in this case OCoPs that have been intentionally created within a business organisation. The researcher argues that OCoPs that have been intentionally established by management seem to be especially demanding of advanced research exploration.

As mentioned above, the present study focuses on the influence of three organisational factors: top management, organisational structure and organisational culture, as enablers of OCoPs activities within companies. This chapter has revealed the importance of these three factors, demonstrating their ability directly affect employees' knowledge sharing behaviour, which is the main element when establishing OCoPs (Kirkman et al., 2013). However, in the available literature, these three organisational factors as they inform professional OCoPs have been largely investigated separately (e.g. Borzillo, 2009 for top management; Ardichvili et al., 2006 for cultural influences; Thompson, 2005 for organisational structure). Consequently, there continues to exist a need to resolve: the control versus autonomy dilemma inherent in OCoPs (Borzillo et al., 2011), the ambiguity that resides within OCoPs that are formal organisational structures possibly subject to centralisation (Annabi's et al., 2012), the formalising reward systems for OCoPs (Walter et al., 2013), and the effect of organisational culture on knowledge sharing in OCoPs (Siau et al., 2010). By addressing these issues, this research makes a contribution to the current literature. By understanding these three organisational factors collectively at the organisational level it is hoped to improve the effectiveness of knowledge sharing via OCoPs, thereby advancing KM practices in organisations. This gap relates to the second research question: How do organisational factors enable OCoPs within organisations? And associated sub-research questions:

- a. How does top management enable OCoPs' activities within an organisation?
- b. How does organisational structure enable OCoPs' activities within an organisation?
- c. How does organisational culture enable OCoPs' activities within an organisation?

Furthermore, this literature review has highlighted another gap; i.e. the lack of studies on this topic in Saudi Arabia, the context of the research. Studies carried out on OCoPs have generally focused on Western contexts, although there has been increasing interest in non-Western contexts, particularly East-Asian contexts. However, to date, studies of OCoPs in

MENA are lacking. This justifies the need to conduct this research in this area (Idris, 2007), particularly reviewing the assumptions that OCoPs should align closely with Arab collectivist culture (Roberts, 2006). Therefore, this study also aims to test the assumption that OCoPs are more suitable to Arab contexts, which prefer social interaction and the natural formation of groups within the workplace to formal structured groups such as project teams (Rice, 2003; Roberts, 2006). To investigate this element particularly, the current study investigates three business organisations to maximise the possibility of attaining a comprehensive understanding of OCoPs within these contexts. It is anticipated that this research will make a lasting and vital contribution to the understanding of OCoPs within the Saudi Arabian context.

CHAPTER 3: RESEARCH METHODOLOGY

3.0 Introduction

This chapter will discuss the three main practical stages when conducting this research: (1) research design; (2) data collection; and (3) data analysis. Firstly, it will justify the philosophical position of the researcher; secondly, the rationale for the research methodology will be established; thirdly, the stages of the research will be identified; and finally, there will be a discussion of the research approach and the data collection methods devised by the researcher. The research processes are presented in Figure 4.

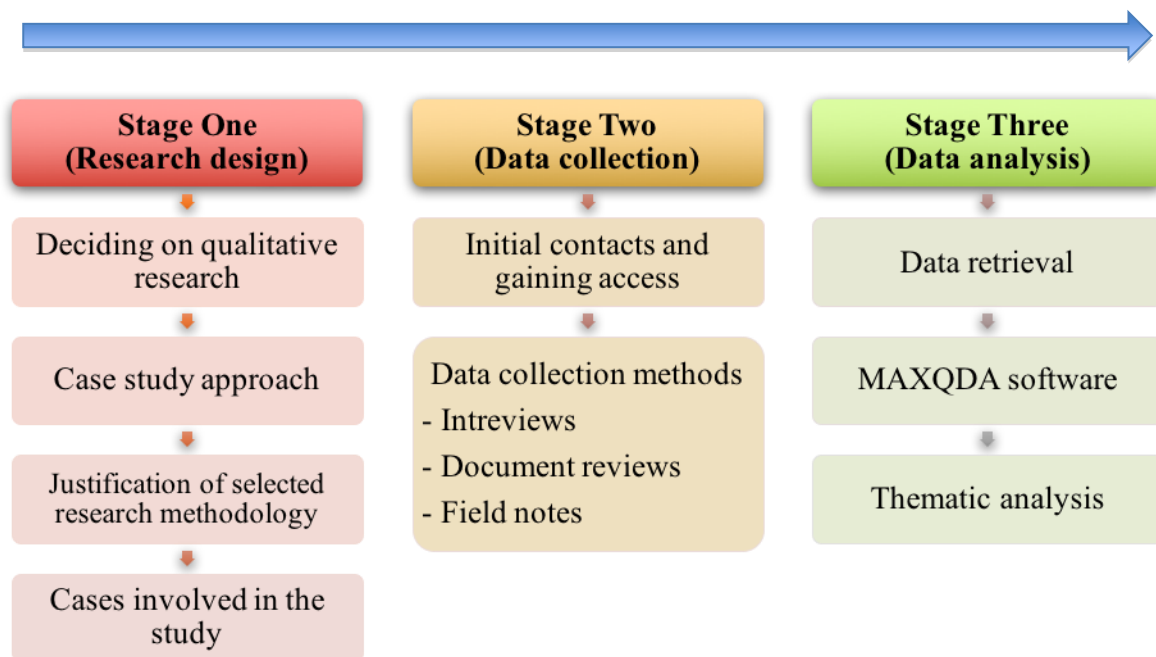


Figure 4: Proposed framework of the research processes

3.1 Research Philosophy

This section will detail a number of philosophical approaches, in order to establish the rationale for the approach employed in the current study. Clarity is required concerning the philosophical assumption underlying a research methodology (Easterby-Smith et al., 2015). Thus, positioning a piece of research within a specific paradigm is crucial, as it significantly influences the manner in which the researcher embarks on the study, including the framing of the understanding of phenomena under investigation (Wahyuni, 2012); i.e. it clarifies the design of the research. The following section will therefore discuss the philosophical stance underpinning the current study.

3.1.1 The Research paradigm

Wahyuni (2012, p. 69) defines a research paradigm as: “a set of fundamental assumptions and beliefs as to how the world is perceived, which then serves as a thinking framework that guides the behaviour of the research”. The two fundamental philosophical dimensions defining a research paradigm consist of the following components: (1) ontology and (2) epistemology. Easterby-Smith et al. (2015, p. 46) state that *ontology* refers to the nature of reality and existence, while *epistemology* focuses on the theory of knowledge, i.e. the ways in which individuals gain knowledge.

Ontological assumptions can be objectivist, i.e. focussed on the existence of reality as external and independent of social actors, including their interpretations. Ontological assumptions can also be subjectivist, i.e. viewing reality as reliant on social actors, and assuming that individuals are able to contribute to social phenomena. Thus, researchers need to take a position in relation to their perceptions.

Epistemological assumptions, on the other hand, are concerned with the ways in which knowledge can be created, acquired and communicated, and whether it is subjective, or based on personal experience and perception. A further aspect is *Methodology*, which refers to “a model to conduct research within the context of a particular paradigm” (Wahyuni, 2012, p.72), and focuses on issues of why, what, from where, when and how data is collected and analysed.

Blumberg et al. (2014) view positivism and interpretivism as the two most distinguished research paradigms in relation to business and management research. However, considerable disagreement exists as to whether these research paradigms are necessarily opposed, or whether they can be accommodated within one study. The differences between positivism and interpretivism in social science research manifest themselves in their approach to knowledge, the nature of reality and social entities (Nonaka and Peltokorpi, 2006).

Positivism is a research philosophy adopted from natural sciences (Blumberg et al., 2014). Positivist ontology views reality as external, and that objective facts are not necessarily dependant on the interpretation (or even the presence) of any human observer (Myers, 2013; Nonaka and Peltokorpi, 2006). Positivist epistemology assumes that knowledge is significant only if it is based on observations of external reality, and that it remains the result of empirical verification (Blumberg et al., 2014), i.e. the researcher and the researched remain independent entities. Studies grounded in positivism test theories by means of hypothesising

fundamentals laws and deducing the nature of observations that either support or reject these predictions (Easterby-Smith et al., 2015). They therefore assume the existence of a universal truth capable of being implemented across a number of contexts (Wahyuni, 2012). This position considers a methodology that selects quantitative research strategies. It therefore leads positivists to adopt specific research methods, including surveys and questionnaires, which answer questions capable of being manipulated statistically for the purposes of prediction and generalisation (Cameron and Price, 2009).

Unlike positivists, interpretivists argue that the social world cannot be understood by approaches employed in natural sciences, and therefore suggest that social sciences require alternative research procedures (Blumberg et al., 2014). The ontological position of interpretivists is known as relativism (Cameron and Price, 2009), in which knowledge and theory are built through developing ideas inducted from the observed and interpreted social phenomena (Blumberg et al., 2014). Interpretive research views reality as subjective, and therefore described according to each individual's unique viewpoint. As views and experiences are subjective, it is possible for social reality to change and be viewed through multiple perspectives (Hennink et al., 2011). Thus, interpretivism recognises that the varied backgrounds, assumptions and experiences of individuals, contribute to social interaction and the constant construction of reality existing in their broader social context (Wahyuni, 2012), thus reflecting their motives and beliefs (Blumberg et al., 2014). Interpretative epistemology is therefore based on subjectivism, due to the involvement of researchers with the research context and participants, and interpretivists prefer to interact with participants. Interpretive methodology focuses on: (1) understanding phenomena from an individual point of view; (2) investigating interaction between individuals; and (3) considering their place of work, along with cultural contexts and countries (Easterby-Smith et al., 2015). Therefore, the findings of interpretative research do not aim to achieve generalisability, due to the constant flux of change, including in specific management studies, i.e. concepts acceptable at one point in time may not continue to be applicable over the following years (Blumberg et al., 2014). Thus, there is no single reality that can be discovered, and many perspectives exist concerning a single issue (*ibid*). Examples of interpretative methodology include case studies, ethnography and hermeneutics (Myers, 2013, p. 73, 92, 183). Interpretative methods include in-depth interviews, focus groups and observations. These methods attempt to generate qualitative data providing a rich description of social constructs (Cameron and Price, 2009).

Nonaka and Krogh (2009) have distinguished two types of knowledge (i.e. tacit and explicit) as the basis for research in the field of KM, i.e. the focus of the current study. Furthermore, Nonaka (1994) has linked these with a number of epistemological dimensions for the creation of organisational knowledge (e.g. socialisation; externalisation; internalisation; and combination), as previously elucidated in Section 2.1.2. Linkages between these two taxonomies (i.e. tacit and explicit) have been widely investigated in KM research. Chiva and Alegre (2005) have expanded the concept of organisational knowledge, stating that knowledge can be codified, stored and transmitted in positivistic research. Thus, explicit knowledge can be considered a commodity (i.e. in documents), or tacit knowledge located in the mind of an individual. This view implies that knowledge is pre-existing and independent from the knowing subject, who does not create knowledge in the act of appropriation.

A further perspective posits that knowledge is produced through connections, thus leading to reality being generated through networks and relationships rather than individuals. Thereby, knowledge is formed through the link between experts and organisation. Nonaka and Peltokorpi (2006) argue that, in considering the role of social interaction within the organisation assisting in the creation of knowledge, meaning emerges from subjective experiences, thus emphasising tacit knowledge over explicit knowledge. They claim that knowledge remaining within the subjective world is unable to expand, due to the limitations experienced.

However, Nonaka and Peltokorpi (2006, p. 80) argue that KM studies can be formed of both positivism and interpretivism, due to its evolution from a number of disciplines (e.g. computer science and economics). They suggest that, when it comes to idealistic theories lacking a coherent theoretical base, KM needs to integrate the subjective aspect of management in a more efficient manner. This articulation is due to knowledge in KM research being created and held in a collective manner, i.e. participants learn and share knowledge through continuous social interaction. Nonaka and Peltokorpi (2006, p. 79) state: “publications drawing from interpretative philosophies describe organisations as the processual organism in which communities-of-practice type arrangements are used to combine and create knowledge”. As this current research investigates OCoPs within business organisations, the results are relevant to both organisational contexts and the development of theory.

3.1.2 The philosophical position of the current research

This study adopts an interpretive position to conduct multiple case studies. This implies an epistemological and ontological stance in which reality is socially constructed. An interpretive paradigm is considered appropriate to deepen the understanding of the ways in which the three organisational factors (i.e. top management, structure and culture) enable OCoPs activities within the organisation and to establish the ways in which knowledge sharing and exchange of expertise are catalysed through OCoPs. Consequently, this research focuses on the interpretation of the social world of individuals. Different individuals perceive the impact of the three organisational factors on OCoPs activities within the organisation in a different way, i.e. they construct meaningful realities, and live within those realities.

Each company studied in this research has produced different perspectives regarding the impact of the three organisational factors on OCoPs within their boundaries. This study therefore aims to understand the ways in which these three organisational factors can enable OCoPs within each context, since it is context that defines and establishes a situation.

In general, the researcher considers an interpretive philosophy as being appropriate for the purposes of this study, as access to reality is only possible through social construction (e.g. language and shared meanings). This stance focuses on the interpretation of individual participants, including an understanding of their related experience and social actions, and requires the researcher to play a part in the interpretation process. The interpretative approach affords the researcher greater scope to address issues of influence and impact, and to pose questions such as ‘why’ and ‘how’ (Deetz, 1996).

As discussed in detail in the following sections, underlining the philosophical assumptions has enabled the researcher to select an appropriate methodology, and to establish the logic of the research and design strategies for collecting and analysing the relevant data.

3.2 Stage one: Research design

Research design can be defined as “the logic that links the data to be collected and the conclusions to be drawn to the initial questions of study” (Yin, 2014, p.26). Research design enables the researcher to establish the ways in which the study will proceed (Braun and Clarke, 2013). An effective qualitative research design is: “one in which the method of data analysis is appropriate to the research question, and where the method of data collection generates data that is appropriate to the method of analysis” (Braun and Clarke, 2013, p.43).

The purpose of the study, and the research questions, both form the starting point for the development of the research design (Wahyuni, 2012).

3.2.1 The choice of the qualitative research design

This qualitative study initially aims to explore the influential role of *top management, organisational structure and organisational culture* in enabling OCoPs within organisations, and seeks to understand the participants' perception of OCoPs. The originality of qualitative research questions lies in generating new knowledge from a completely unexplored area or a context (Braun and Clarke, 2013). Thus, this current study provides rich information concerning OCoPs within business companies within the context of Saudi Arabia.

There are four primary motives for adopting a qualitative approach to this study. Firstly, the primary motivation for conducting this research is to explore the nature of OCoPs within organisations. Previous studies have considered the internal factors of OCoPs (e.g. size, members' commitments, level of participation) to be sufficient, leading to a lack of any clear understanding of the ways in which the three organisational factors (i.e. top management, structure and culture) enable OCoPs' activities within organisations. This has therefore led the current researcher to select a qualitative approach, as studies within a number of different firms can improve understanding of OCoPs. This current research therefore forms an exploratory study employing qualitative research. A qualitative approach is appropriate for exploratory research when the subject is limited and there is little related published research, and therefore this approach establishes an effective understanding of the social, cultural and political aspects of both individuals and organisations (Myers, 2013).

Secondly, qualitative research is appropriate when the purpose is to develop a model, concept or theory through an inductive strategy, rather than the deductive strategy preferred by quantitative studies. This present study contributes to current knowledge through the introduction of an integrative framework of five processes that establish the ways in which organisational factors enable the activities of OCoPs within an organisation.

Thirdly, the nature of the research, and its approach, has assisted the researcher in engaging more freely with participants, in particular, the semi-structured nature of the interviews has ensured conversations were not rigidly governed by a list of questions. Moreover, the qualitative approach assisted the researcher in understanding constructed meanings. Therefore, the researcher has employed a qualitative approach to improve understanding of the impact of these three organisational factors on OCoPs. Myers (2013) notes that

qualitative research is the most effective means of achieving in-depth understanding of individuals' motivation, actions and the context for their beliefs.

Finally, Dulayami and Robinson (2015) suggest that additional qualitative data collection is required in the Saudi Arabian context, in order to deliver a richer picture of the issues associated with knowledge sharing.

3.2.2 The case study approach

Due to the complexity of the process, this current study employs multi-case studies (Stake, 2006). Employing a case study approach has assisted in gaining a holistic understanding of three differing perceptions of OCoPs, and the ways in which three different organisational factors enable OCoPs. Furthermore, multiple case studies enabled a stronger base for the development of theory and developing constructs around the empirical work, thus enhancing the researcher's comprehension of the phenomenon studied (Eisenhardt and Graebner, 2007). Each case forms a complex entity located within a specific context (Stake, 2006), thus enabling both comparison and contrast between cases, as well as a deeper and richer examination of each case (Yin, 2014).

In a business discipline, the case study approach employs empirical evidence from those employed in contemporary organisations (Myers, 2013). Benbasat et al. (1987, p. 370) state that a case study is "a phenomenon in its natural setting, employing multiple methods of data collection to gather information from one or a few entities (people, groups, or organisations)". Yeung (1995) notes that case studies are a popular research tool in organisational studies, particularly in business and management literature, while Yin (2014, p. 14-17) considers they are effective in: (1) studying a phenomenon in its real-world context; (2) allowing 'how' and 'why' questions exploring the nature and complexity of processes; (3) conducting research in an area for which there are few, if any, previous studies; and (4) relying on multiple sources of evidence for data for triangulation.

The case study is, by its nature, a triangulated research strategy. Thus, the current study includes multi-site, and multiple methods, to analyse the collected data (Wahyuni, 2012). Moreover, it accords with a number of studies focussing on OCoPs using an empirical study approach, and thus will contribute to the development of more appropriate KM practices, (Harvey et al., 2013; Kirkman et al., 2011; Kirkman et al., 2013; Retna and Ng, 2011). This research is exploratory, allowing the researcher to understand "a real-life context," and to investigate in depth the OCoPs within the business organisations (Yin, 2014).

The above clarifies that a case study strategy is the most appropriate for the study of business networks, including OCoPs (Halinen and Tornroos, 2005).

3.2.3 Justification of the selection of a multiple-case study research

Stake (2006, p. 23) considers that “an important reason for doing multiple case study is to examine how the programme or phenomenon performs in different environments”. The current researcher has chosen to select the companies for a case study due to this research focussing on OCoPs within companies in Saudi Arabia. There are four reasons for employing multiple case studies in this research, as outlined below.

Firstly, the companies are large, with affiliates distributed locally and globally and, as demonstrated by recent studies, are therefore highly likely to employ OCoPs (Thompson, 2005; Corso et al., 2009; Kirkman et al., 2011; Kirkman et al., 2013). Additionally, significant opportunities and challenges are associated with KM initiatives in companies that are large and geographically dispersed (Alavi et al., 2005). Implementing multiple case studies explains is necessary to demonstrate that not all large organisations have a desire to establish OCoPs, such as Co3.

Secondly, Co1 and Co2 have OCoPs in different stages of development, and were thus considered separate cases, enabling the researcher to understand the process of the development of OCoPs in these companies.

Thirdly, each company has its own culture, structure and management style, with differing impacts on OCoPs. The findings of this present study reveal the differences between the companies. Easterby-Smith et al. (2015, p. 99) argue that local knowledge is important for management and organisational research as: (1) managers’ practical knowledge is contextually bound, and thus the research will have a theoretical value; (2) managerial behavioural is culturally relative (i.e. national and organisational). This variation in a firm’s features ensures that each company adopts different strategies and structures (Nonaka and Toyama, 2005). For this reason, by using three case studies it is possible to reveal different perspectives about OCoPs by providing a deep understanding of how the three organisational factors inform the development of OCoPs based on a company’s context.

Fourthly, multiple case studies have enabled the researcher to explore the holistic nature of OCoPs within each company, enabling an effective study of organisational factors and the way in which these shape OCoPs, i.e. top management, structure and culture. Interviews formed the primary data collection method, as outlined in Section 3.3.2, below.

3.2.4 Cases involved in the study

The selection process for this study is theoretical sampling. Eisenhardt and Graebner (2007, p. 27) state: “theoretical sampling means that cases are selected because they are particularly suitable for illuminating and extending relationships and logic among constructs”. Theoretical sampling is therefore employed to ensure a diversity of responses and qualify the collected data.

The researcher has employed company websites to establish whether knowledge sharing initiatives have been implemented (i.e. Oil Company: Co1).

The researcher focussed on interpreting the organisation and OCoP members, and, in particular, in understanding the role of OCoPs in facilitating knowledge sharing within the organisation. In order to maintain confidentiality, pseudonyms (i.e. Co1, Co2 and Co3) are substituted for the company names. The companies’ profiles are:

Case 1: Co1 (Oil Company)

This case study exhibits a clear example of the mature implementation of OCoPs within a company. The company had clear guidelines (known as the CoP charter) to enable employees to understand the objectives, roles and responsibilities of establishing OCoPs. This clarity assisted participants in understanding the concept of OCoPs, and enabled the researcher to explore the nature of OCoPs within the company. Table 4 demonstrates the brief idea about the company.

Table 4: The profile of Co1

Co1’s profile	
Industry	Oil
Location	HQ – Dhahran, KSA; offices throughout KSA; subsidiary offices in North America, Europe and Asia.
Foundation	1933
Company’s size and workforce	One of the world’s top exporter of crude oil and natural gas liquids, with a total workforce of 61,907, of which 51,653 are Saudis and 10,254 expatriates (company website, 2016)
OCoPs	Well-established; called e-Way and ShareK.

The development of OCoPs within Co1

Co1 is effectively implementing KM initiatives, such as OCoPs. The company has been implementing KM programmes for approximately ten years, aiming to achieve best practice, and lessons learned through six business lines within the company. The company recognises that some processes take place concurrently, but in different locations, without contact between the workforce, thus incurring unnecessary expenditure. Consequently, the two main incentives for establishing any KM programme are: firstly, reducing repetition; and secondly, filling the gap of competency and knowledge between new employees and experts.

Since KM implementation has become a trend for many companies in the last decade (López-Nicolás and Meroño-Cerdán, 2011), the data shows Co1 endeavours to employ best practices through beneficial collaborations with other organisations that provide several studies of best practices in companies. Co1 is a relatively new means of implementing KM initiatives, and therefore, the company collaborates with an American company, delivering consultations in KM. For example, Co1 works with APQC (American Productivity and Quality Centre), which is a non-profit organisation based in the US, delivering many studies in the field of KM. Although Co1 conducted some internal studies to recognise failure and success factors associated with its programmes, it also performs benchmarking to compare its initiatives with those of other companies, through cooperation with APQC.

The importance of KM is unquestionable within the company. Co1 considers OCoPs as beneficial in converting tacit knowledge into explicit knowledge, i.e. employees can learn from one another through the sharing of issues, ideas, lessons learned, problems and solutions.

The company has established two KM programmes. The first is 'e-Way', designated for Upstream business operations, and the second 'ShareK', designed for Engineering Services. Their aim is to bring together employees with a common interest, or who work within the same field. Members of OCoPs are able to share knowledge and experience virtually or face-to-face, enabling them to update their knowledge of new technology and share their own experience.

The programme e-Way has been designed for employees engaged in oil exploration and drilling, and is therefore known as Upstream. A subsequent initiative, known as ShareK facilitates knowledge sharing for engineering services.

e-Way for upstream business line

Over the previous decade, the company has undertaken major investment in KM programmes. This has played a key role in supporting e-Way and ShareK as OCoPs. The first OCoP was e-Way, which the company viewed as an in-house application and a beneficial method of convert tacit knowledge into explicit knowledge. However, the application of e-Way is a mixture of: (1) TCoPs based on Wenger's (2011) definition (i.e. membership in e-Way is a voluntary and self-organised); and (2) OCoPs established for a specific objective. Co1 commenced by forming e-Way at the level of upstream operations, aiming for it to be a virtual OCoP to promote best practice and skills.

Despite e-Way being established as a result of the trend for businesses to use KM, the management does seek to improve the learning approach within the organisation through KM initiatives. E-Way has the TCoPs feature enabling members to establish an informal group, and has proved beneficial in resolving business problems. It has therefore proved successful, despite now having been overtaken by a new KM programme known as ShareK.

The company hired an external consulting company to undertake the design of a new KM programme for Engineering Services, i.e. Streamlining Engineering Resources. They established that 56% of engineering works are repeated, leading to ShareK being established to enable ready access to the organisation's document based facts, information and solutions. The new programme is outlined in the following section.

ShareK for Engineering Services

ShareK is the company's customised implementation of Microsoft SharePoint, and acts as the portal of knowledge for the company. The key function of ShareK is to act as a virtual OCoP, formed after e-Way, to enable each employee to navigate internal and external information. As stated above, ShareK is designed for engineers, whereas e-Way was primarily intended for Upstream employees. ShareK is more organised and based on specialisations. As discussed earlier in the literature review, TCoPs should emerge organically, however ShareK was designed and launched with premeditated planning, enabling OCoPs activities to be maintained within organisational boundaries.

The Journal of Technology (Khursani et al., 2011), issued by the company, notes that ShareK has been established to avoid repeated and redundant work, along with reducing training time for new employees and (if the knowledge is codified) enable retention of intellectual capital (IC) after employees leave. This in-house developed software was successful in increasing

the company's IC. Therefore, ShareK is seen as a comprehensive programme addressing organisational knowledge sharing IC components, e.g. talent, teams, technology and processes.

The term 'ShareK' is not simply a combination word (i.e. between 'share' and 'knowledge'), it also coincides with the Arabic word (written as شارك 'ʃ æ r e k'), meaning to become a member of, or take part with others, in an activity, i.e. "to share someone's opinion or view" (Baalbaki, 1995, p. 657). Figure 5 illustrates the interface for ShareK.

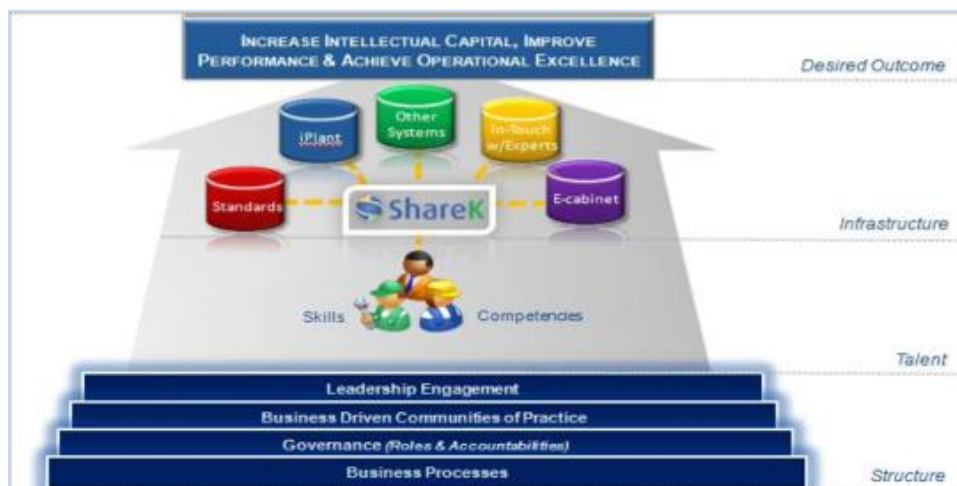


Figure 5: ShareK's interface for KM programme in Co1. (Source: Khursani et al., 2011).

Moreover, key features of ShareK based OCoPs include the following:

Each employee can connect to OCoPs; the champion or moderator of each community will be in charge of validating the data existing within the community; employees have access to technologies, innovation and engineering/scientific reports, best practices and lessons learned within the organisations; Management can post challenges to the employees on issues important to the company; Employees can explore the knowledge of the company's partners, customers, suppliers and any external sources available; and, all elements can be integrated into a total KM solution. (Khursani et al., 2011, p.8&9).

Given these clear objectives regarding implementation of OCoPs, ShareK has enabled employees to have ready access to the organisation's document based facts, information and solutions. In this case study OCoPs are well-established within the company, making it a useful context for identifying ways in which the three organisational factors enable OCoPs.

Case 2: Co2 (Petrochemical Company):

This case study focuses on the implementation of OCoPs following a change in a company's strategy, as a result of the globalisation of its operations. This case study reveals a more limited understanding of OCoPs (which are still in their development stage) and the academic term was not well known, with the use 'Expert Groups' being used instead. A different title ensured those taking part in the study expressed different views and understandings, due to the practice of setting up knowledge sharing networks within the company with alternative titles. The 'Expert Groups' share the characteristics of OCoPs, as demonstrated in Table 1 on page 30. Wenger (2011, p. 3) points out that "Communities of practice are not called that in all organizations. They are known under various names, such as learning networks, thematic groups or tech clubs". Tech Club, for instance, is a title for 'CoPs' used within the Chrysler Corporation (Corso et al., 2009); whereas, Expert Groups is the title applied within Co2 and will be referred to as OCoPs in this discussion.

In Co2, the researcher primarily interviewed managers and supervisors and some leaders of OCoPs to understand the perception of OCoPs. See Table 5 exhibits the basic information about the company.

Table 5: The profile of Co2

Co2's profile	
Industry	Petrochemicals
Location	HQ – Riyadh; With global operations in over 50 countries.
Foundation	1976
Company's size and workforce	One of the world's largest petrochemical companies, with a global workforce of over 40,000 individuals (company website, 2016)
OCoPs	Established, but known as 'Expert Groups'.

Expert Groups are formally organised under the Manufacturing Centre of Excellence (MCE), and are considered to be technical experts. MCE brings together individuals experienced in a specific field for the overall benefit the company, and includes a number of disciplines, e.g. corrosion; rotating equipment; and electric groups. Thus, Expert Groups are established according to disciplines existing within the manufacturing sites. The company's 2014 Annual Report reveals that MCE was established to enable the company to actively network between

experts and the manufacturing sites, in order to capture, retain and disseminate knowledge, and develop manufacturing standards and best practices.

Expert Groups form consulting bodies for the company’s affiliates, and experts capable of assisting affiliates to overcome any issue they may face in their operations. Expert Group members are specialists in their field, and are formally assigned to their groups by management. Expert Groups have three main activities: firstly, they deal with critical problems within their scope; secondly, they establish manufacturing standards, best practices and guidelines to assist the company’s clients or affiliates in addressing issues or improving current practice; thirdly, they are a forum for acquiring new knowledge through organising meetings with individuals from the plants, in order to enhance their knowledge and enable them to be updated with information relating to their work.

To illustrate the process, employees working in Rotating Equipment are generally specialists, and are recruited from the company’s affiliates, thus enabling the company to call on their expertise whenever there is an issue with Rotating Equipment.

Case 3: Co3 (Family construction business)

This is a large, family–run construction company. The company’s brochure states that its operating divisions cover: infrastructures works; architecture and building construction; public buildings and airports; industrial and power projects; petroleum, chemical and mining infrastructure; real-estate; and operation and maintenance.

Co3 does not have any established OCoPs, and thus the findings will enrich this current study by providing new insights into the opportunities and challenges affecting the establishment of OCoPs. Table 6 outlines the profile of the company.

Table 6: The profile of Co3

Co3’s profile	
Industry	Construction
Location	HQ – Jeddah; with some offices in the Arab region.
Foundation	1931
Company’s size and workforce	Large family business, with over 60,000 employees, ‘variable’ as in 2007. (company website, 2016).
OCoPs	Not yet established.

3.3 Stage two: Data collection

3.3.1 Initial contacts and gaining access

In order to obtain permission to conduct this study, an official letter on headed paper from the research supervisor explaining the purpose of the study was presented to decision makers. In the case of Co1, access was gained informally by approaching an employee, who advised the researcher to contact a developer of the company's KM Programmes (which included OCoPs). This was followed by an official process undertaken with the department dealing with external research affairs, resulting in a letter of permission to undertake the research. In the case of Co2, a senior manager in the Talent Management Department was informally contacted for permission to conduct this study. For Co3, access was granted through a consultant involved in providing consultation for learning affairs. The researcher was directed to contact the Human Resource Department to obtain official consent. In Co3, the participants from headquarters differed in their views from those in the Maintenance and Operation Section in a different city, when it came to the factors enabling (or disabling) the establishment of OCoPs within the company. These aspects are discussed in detail in Chapter 6.

An external researcher can experience a number of challenges in Saudi Arabia, including difficulty gaining permission to conduct a study. This is particularly true with large companies, whose sites are distributed locally and globally, and who have sensitive operations related to oil discovery and the petrochemical industry. It can, therefore, prove more straightforward for the researcher to seek informal contacts, following Wahyuni's (2012) view of the benefits of informal links in gaining consent, and to assist in facilitating the administrative procedures required to obtain access to a company. Therefore, the researcher maintained frequent formal and informal contacts with these companies. Zahra (2011, p. 14) notes that: "personal contacts and connection matters a great deal in gaining access to data from Arab Middle East companies". For this current study, building a relationship to increase trust promoted the sharing of data, and improved the quality of the data received through encouraging those involved in the study to share their views, experiences and interpretations with the researcher (*ibid*).

3.3.2 Data collection methods

This research adopts a qualitative approach to explore the views and practices of participants regarding OCoPs within the company. Employing a variety of methods enables relevant data

to be gathered from prospective participants. Therefore, the application of a number of research methods assisted the researcher to adjust to unexpected situations. When the researcher began the process of collecting data, he was unsure if participants who were not members of OCoPs would be willing to take part. Hence, the present study utilises data triangulation that encourages the researcher to collect information from multiple sources, with the aim of supporting identical findings (Yin, 2014).

Notwithstanding, as the study has adopted a triangulation approach, it is important to note that not all methods employed cover all aspects of the research questions. Atkinson (2005) suggests that employing a number of methods (i.e. as opposed to a single method) to identify, or support, data is beneficial, enabling the researcher to understand each case on an individual basis and assist in analysing data that reflects the social and cultural facets of the research context. For example, interviews were augmented by annual corporate reports and documents from the participating companies relating to business strategy. It was also beneficial to use documents and field notes to gain an improved understanding of the company's KM initiatives, or to establish the company's historical background.

3.3.2.1 Interviews

Interviews were implemented as the primary instrument for this qualitative research. Myers (2013) states that interviews are an excellent 'window' for qualitative research, promoting the understanding of an organisation. It can also assist the researcher in discovering individuals' opinions, motivation, and rationale for their activities, so obtaining a comprehensive picture of the context of the study. The implementation of semi-structured interviews was helpful to clarify and explore specific information capable of being strengthened by, or conflicting with, that from the interviews (Dawson, 2009). For example, a number of participants from Co3 (in particular from the HR department in the headquarters) revealed a number of different views regarding the establishment of OCoPs within the company, which contradicted those employed in the operation and maintenance section. It was therefore important to seek information from several perspectives to establish a more in-depth understanding of the situation.

In-depth interviews were undertaken to explore views of OCoPs, as well as obtain insights into the impact of organisational factors on collective knowledge sharing in OCoPs. The views of employees, managers and OCoPs members concerning the influence of OCoPs in their organisations have been explored in-depth, with interviews enabling the researcher to

encourage interviewees to elaborate on their perspectives and discuss any issues emerging during the conversation. The main purpose of an interview is to enable interviewees to share experiences, stories and perspectives regarding a specific social phenomenon (Wahyuni, 2012). Figure 6 shows the interviewee groups:

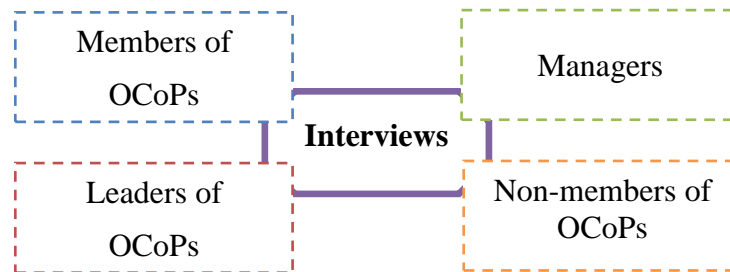


Figure 6: Interviewee groups.

Semi-structured interviews

Interviews in this study were *semi-structured*, addressing a set of themes with open questions worded flexibly to encourage interviewees to freely express their views (Wahyuni, 2012) and to change the direction of the interview to accommodate different sub-topics previously unconsidered by the researcher (Blumberg et al., 2014). The researcher prepared an interview guide, in which the wording and order of questions remained flexible; to allow participants to raise issues the researcher had not anticipated (Braun and Clarke, 2013, p. 78). Prior to conducting the interviews, the researcher tested the interview with a fellow researcher, receiving some useful feedback (Braun and Clarke, 2013).

The researcher conducted in-depth, semi-structured interviews with a total of thirty-one participants, of which: twenty-five were face-to-face interviews; five were by telephone; and one was through Skype. The interviews generally lasted between 45 to 60 minutes. A recording device was used during all interviews (including those by telephone and Skype), with the awareness that issues could arise, i.e. interviewees refusing permission for interviews to be recorded, or disruption from faulty equipment (Yin, 2014). These eventualities did, in fact, occur, as one participant from Co3, and two from Co2, refused permission for their interviews to be recorded, as this would limit their freedom of expression. This led to the researcher taking notes. The researcher has attempted to write down everything he can remember that took place during the interviews, using keywords and phrases to reflect on the discussion at the end of the interview and elaborate on the ideas, feelings and memories related to the conversation (Doody and Noonan, 2013).

At the start of face-to-face interviews, participants were given an ‘Information Sheet’, along with a ‘Participation Consent Form’ that they signed and returned (see Appendices A and B). These documents gave participants information concerning the research purpose and assured them of confidentiality (Braun and Clarke, 2013). The same took place in relation to the telephone and Skype interviews, with the above forms being emailed to participants, requesting them to sign and return the consent form, or reply to the email with an agreement for the interview to be recorded (*ibid*).

Due to a number of participants being unfamiliar with the notion of TCoPs or OCoPs, the researcher opened the discussion with a brief explanation of ‘Communities of Practice’, employing Wenger’s (2011) definition as this is the most commonly used in the literature, along with the main differentiations between these two terms. A number of examples of applications of OCoPs were also given for purposes of clarity. The discussion then commenced with general questions concerning the participant’s work experience, background, and position within the organisation. A four-section interview guide was used: Firstly, interviewees’ views on OCoPs were elicited, enabling the researcher to evaluate the company’s understanding of the concept. Secondly, they were asked for their perspective on the top management’s support, level of control and attitudes towards OCoP activities. Thirdly, they were requested to evaluate organisational culture in relation to knowledge sharing and rewards systems within their companies. Finally, participants were questioned concerning the impact of organisational structure (e.g. centralised or formalised) on OCoP activities (see Appendix C).

Selection of participants

Due to the exploratory nature of this research, there were considerable challenges in the selection of participants, particularly when the researcher was unsure whether OCoPs were implemented or well-known within the company.

The thirty-one participants in this present study were selected by the snowball sampling technique, along with theoretical sampling techniques, resulting in many respondents referring the interviewer to colleagues, many of whom also became respondents and, in turn, suggested other prospective respondents (Noy, 2008). Perry (1998) notes the benefits of conducting interviews at different hierarchical levels of a network of relationships, and therefore participants were generally drawn from managers and supervisors at different levels. This also ensured a diversity of perspectives, as highlighted by Braun and Clarke

(2013). Likewise, Eisenhardt and Graebner (2007) suggest the potential to mitigate bias by including highly knowledgeable informants, capable of viewing the focal phenomena from diverse perspectives. This study also followed their suggestion that such informants can include organisational actors from different hierarchical levels, functional areas, groups, and geographies. In addition, OCoPs members from Co1 and Co2 were approached for their views on the influential role of the three organisational factors on the activities of their OCoPs.

Context of the interviews

In this research, interviews played a vital role as the primary source of data collection. It was therefore significant to consider their context during the process of data analysis, particularly as the venues varied according to the preferences of participants, and to ensure their comfort.

Face-to-face interviews were generally undertaken during site visits, apart from one, which took place in a restaurant. In some cases, the researcher endeavoured to undertake personal interviews with participants from the three companies; however, these were only possible in the case of Co3. As the study aims to include OCoPs' members' voices from Co1 and Co2, it was necessary to negotiate an interview schedule convenient for all participants (Braun and Clarke, 2013, p. 90). It was beneficial to use Skype or telephone interviews as a medium to create a convenient alternative to face-to-face interviews, avoiding the need for the researcher to travel long distances to conduct the interviews (Hanna, 2012). However, this was not always possible, due to a busy schedule or participants' business trips (for Co1 and Co2 in particular), and thus telephone interviews were beneficial where extended access to participants was required (Opdenakker, 2006). A number of participants expressed a preference for telephone interviews that encouraged them to participate from a location of their choice (Braun and Clarke, 2013). Each technology has its own benefits and drawbacks. Skype ensures that: "the researcher can easily record both the visual and audio interaction of the interview through simple software downloaded onto their workstation" (Hanna, 2012, p. 241). Telephone interviews can also reduce interviewer bias, particularly in relation to the interviewer's physical appearance, actions and body language (Blumberg et al., 2014). A telephone interviewee (Co2-R14) stated that:

Face-to-face interviews are more effective, but for me a telephone interview is fit for purpose; I was comfortable, the questions were clear to me, I felt [I

was having] live interaction. There was effective listening, and this is very important for the person who is talking and that encouraged me to talk more.

3.3.2.2 Document review

Documents are generally employed in combination with further qualitative research methods as a medium of triangulation. Myers (2013) notes that an in-depth case study will employ a further source of evidence alongside interviews. This study follows Myers's (2013) view that documentary evidence can be employed to support information obtained through interviews, taking into consideration, potential limitations through the use of documents with insufficient detail, low retrieval and bias selection (Bowen, 2009). This present study has employed documents to gain supplementary research data, and findings were corroborated by other sources.

Bowen (2009) notes that documents include:

Advertisements; agendas, attendance registers, and minutes of meetings; manuals; background papers; books and brochures; diaries and journals; event programs (i.e. printed outlines); letters and memoranda; maps and charts; newspapers; press releases; programme proposals, application forms, and summaries; radio and television program scripts; organisational or institutional reports; survey data; and various public records. (2009, p. 27-28)

The documents employed in the current research include: annual reports; email correspondence; company journals; and company websites (see Appendix D for a sample of document reviews). In addition, the researcher received a number of documents from Co1, including a Charter and Agreement template and an OCoPs User Guide (see Appendix E). The rationale for the use of this method was the ability to corroborate evidence gathered from other sources. Moreover, document analysis allowed the researcher to obtain contextual information to assist in elaborating the ways in which knowledge sharing is perceived within companies, and obtain additional evidence related to organisational factors influencing KM initiatives. Documents from the three companies were therefore used to understand each company's internal knowledge sharing culture, and the popularity of the term OCoPs, particularly in relation to Co1 and Co2. The information gathered through the document review was analysed and integrated using MAXQDA software to support the data analysis.

3.3.2.3 Field notes

The majority of field notes were taken during and after each interview, with the researcher recording details of the essential features of the participant's response, along with the circumstances of the interview, to reflect on his own reaction to the participant's responses (Miles et al., 2014) (see Appendix F for a sample of field notes). The raw notes were converted into text (*ibid*) to assist the researcher with the development of data analysis.

An example of field notes in Co3 is the researcher's observation that centralisation decision-making by top management affected participants' ability to: (1) be interviewed; (2) express themselves freely. This was demonstrated by Co3-R23 and Co3-R28, employed by the same company but in different cities. Co3-R23 requested that his voice not be recorded, while Co3-R28 needed to obtain permission from his direct manager to participate in an interview. This had a potential impact on the establishment of OCoPs within the company, as discussed in detail in Chapter 6.

3.4 Stage three: Data analysis

This section discusses and elaborates the techniques and approaches adopted to analyse data collected from the interviews, with each case study being analysed separately. Rowley (2002) states that an alternative approach needs to be adopted in exploratory case studies that generally prefer not to include propositions. Thus, a framework was developed of sections reflecting the themes in the case study, and evidence was gathered within relevant themes. This was then analysed and compared within each theme category, in order to arrive at a case study corroborated from multiple sources of evidence.

3.4.1 Data retrieval

The interviews were transcribed and electronically stored on a computer in the form of Microsoft Word files. Tapes were stored and played frequently during the process of transcribing. Although the majority of participants were Arabic speakers (apart from one interview with a native English speaker and one with a non-Arabic speaker), some used a number of English expressions during interviews. This was particularly the case with Co1 and Co2, while participants from Co3 frequently included English terms, i.e. approximately 60% of discussions in the interviews were in Arabic, and approximately 40% in English. Therefore, in order to ensure consistency, all interviews were initially transcribed as text, including the interviews that were not recorded. The interviews primarily in English were fully translated from Arabic to English prior to the analysis of raw data, and before

commencing categorisation. When it came to the interviews held primarily in Arabic, only the sections relevant to this study translated into English. The translation was subsequently checked by a colleague of the researcher, who is currently undertaking research in an Arabic context. To ensure the validity of the translation, further checks were undertaken by a bilingual academic in a UK university, who was aware of the rigorous requirements of translation for cross-cultural research (Chapman and Carter, 1979). Figure 7 illustrates the steps applied in this study for transcribing and translation interviews.

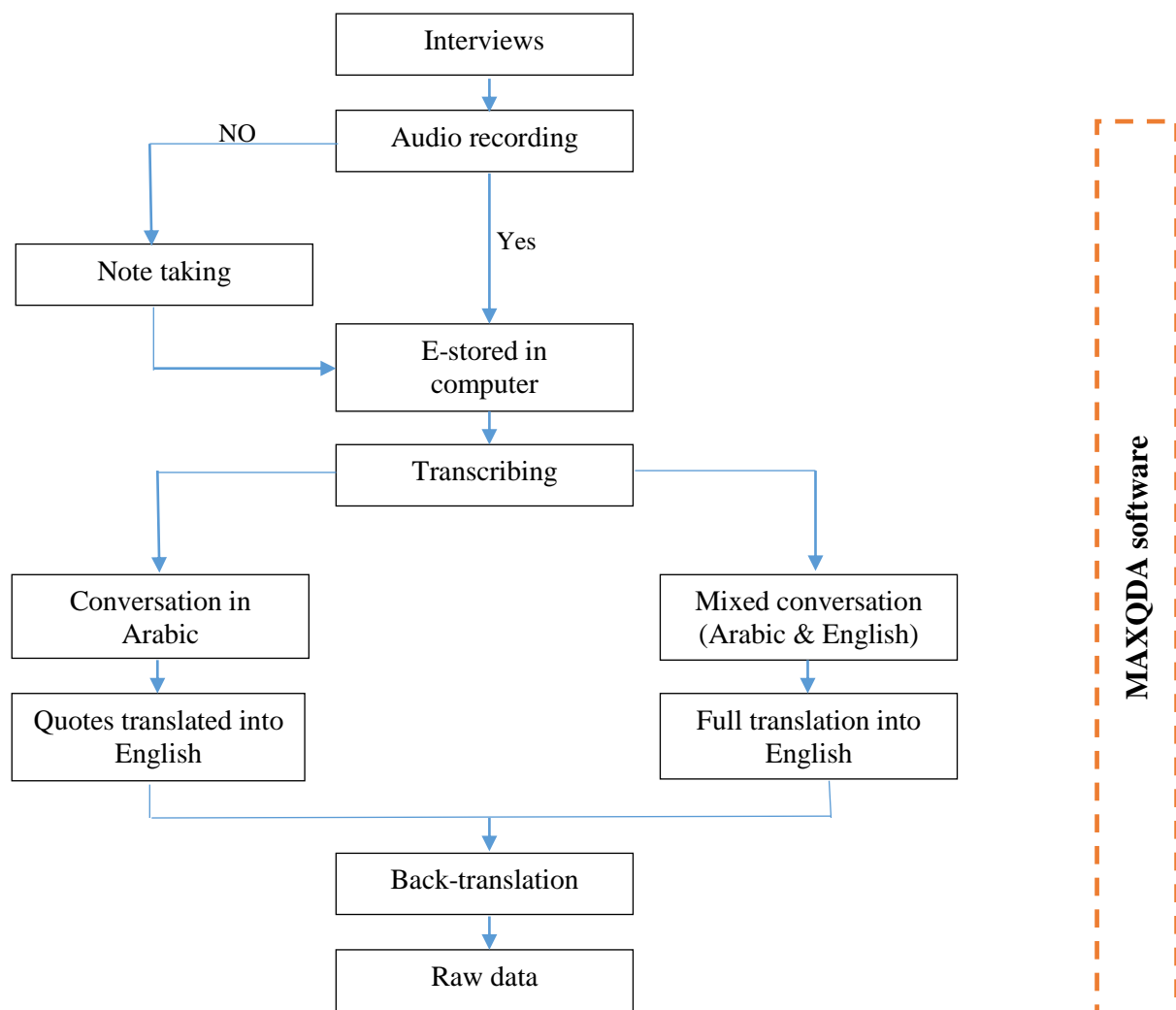


Figure 7: Proposed framework of the transcribing and translation processes

The researcher personally transcribed the majority of the interviews. However, in order to simplify the process of analysis, a professional translator was also, on occasion, employed. Audio recordings were transcribed into text. The qualitative software MAXQDA (whose key feature of supporting Arabic language analysis minimises time spent) was employed to organise the themes for analysis.

3.4.2 MAXQDA software

Computer-Assisted Qualitative Data Analysis Software (CAQDAS) offers tools to assist with qualitative analytical research (Schönfelder, 2011). MAXQDA software is a programme within the category of CAQDAS, i.e. a software developed in Germany for the analysis of qualitative and mixed methods data. Saillard (2011) notes that MAXQDA supports an interrelationship between data, code and memo. This promotes simplicity, and the interactive design aids a coding process allowing retrieval of all coded data (*ibid*). MAXQDA has a key feature of supporting Arabic, and its analysis minimises the time spent, and was therefore employed to organise themes for analysis.

Transcribing interviews and importing into MAXQDA

The use of the MAXQDA has significantly facilitated the process of organising, rearranging and managing a considerable amount of data. The interview transcripts were formatted in Microsoft Word to assist importing the transcripts into MAXQDA (Document Browser). Furthermore, relevant information concerning the interviews was placed into a table at the beginning of each transcript. The appropriate formatting of the interview transcripts assisted in the efficient organisation of data and simplified the analysis of the interviews. Figure 8 demonstrates the four main categories in the MAXQDA system, including: Document system; Document Browser; Code System; and Retrieved Segments. Data from the three companies was uploaded in the software to facilitate the generation of the initial codes.

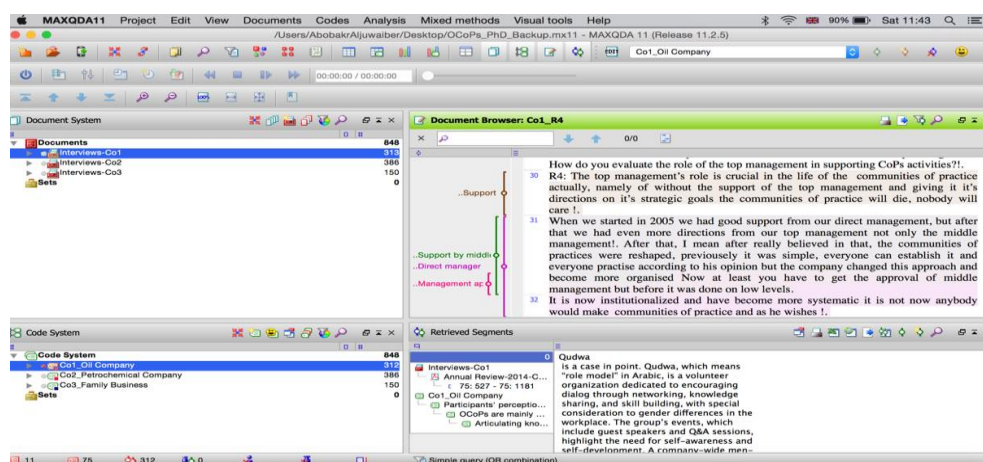


Figure 8: MAXQDA display illustrating the four working plan

3.4.3 Interpretation of the interview data: thematic analysis

This research employs thematic analysis for its analytical framework. Braun and Clarke (2006, p. 79) consider that thematic analysis forms “a method of identifying, analysing and

reporting patterns (themes) within data”. The use of thematic analysis enabled the interview data to be parsed into information, i.e. rich quotations that were ultimately placed into thematic categories (*ibid*). Although the essential themes were pre-determined, based on a review of the literature (e.g. top management, reward system and knowledge sharing culture), further themes emerged during the process of analysis. According to Pritchard (2002), issues that were raised during the study need to be taken into account by the researcher. Initially, a number of the themes considered to be desirable information (Fereday and Muir-Cochrane, 2008) were related to the research questions, while other themes emerged from the data and occurred several times, representing some level of patterned response, as noted by Braun and Clarke (2006).

Braun and Clarke (2006) provide a practical step-by-step procedure for performing thematic analysis on interview data. This procedure is demonstrated below in Figure 9:

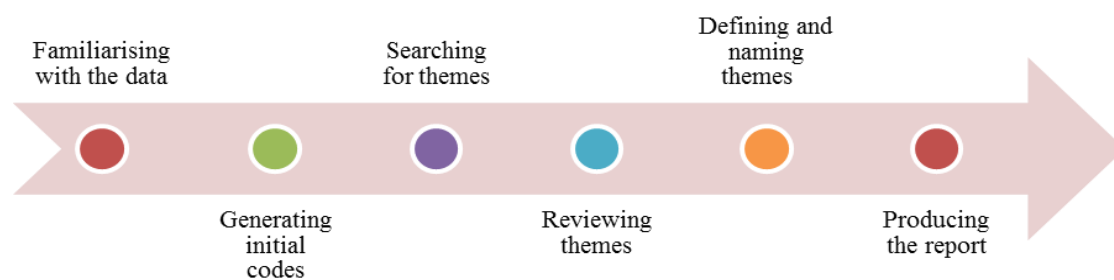


Figure 9: The six steps for performing thematic analysis.
(Source: Adopted from Braun and Clarke, 2006).

Thematic analysis was undertaken on all transcripts and the main concepts coded and grouped into categories, sub-themes and finally themes. The use of MAXQDA software enabled the six steps in Figure 9 to be utilised to perform the thematic analysis. All interview transcripts were imported into the software, followed by a code system being set up and codes applied to data electronically. It should be noted that each company set up its own transcripts in a different document system.

The three companies were analysed separately, due to each being based in a different industry and with a separate understanding of OCoPs. Therefore, the key findings from these cases were discussed and contrasted with all the evidence from further sources previously reviewed

and analysed. The following sections describe the six steps applied while undertaking the thematic analysis.

1. Familiarising with the data

In order to immerse himself in the data collected, the researcher commenced by reading, and re-reading, the transcripts, accompanied by writing down initial ideas from the document, assisted by the ‘Memo’ feature in the software. This stage familiarised the researcher with the data collected, and enabled him to develop initial ideas for interview coding. Figure 10 exhibits an example of note taking on initial ideas prior to coding.

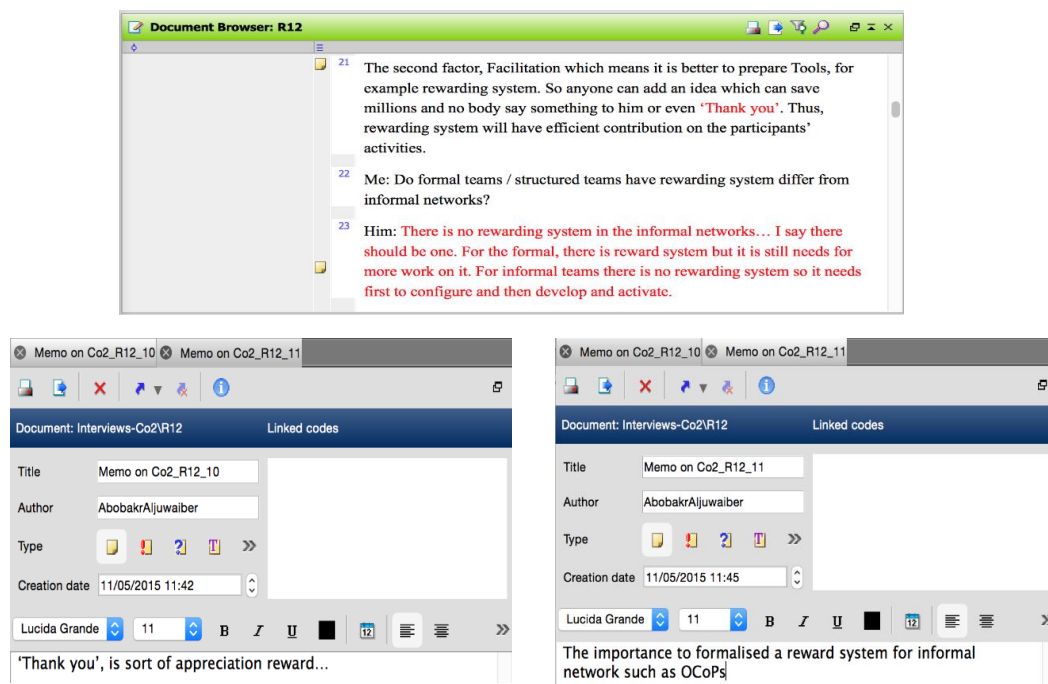


Figure 10: Example of initial ideas on the transcript

2. Generating initial codes

Once an initial list of ideas within the data was completed, initial codes were drawn up. Each transcript was examined individually, which produced many potential codes. This led to the collation of data identified with the same initial code. This process was applied independently for each company.

The researcher employed line-by-line coding on each transcript, employing the highlighting feature of the software to take notes on the text in order to generate initial codes. An example of the initial coding process is illustrated in Table 7.

Table 7: Example of initial codes extract from the transcript

Profile	Line	Data Item	Initial Codes
Co2_R15	2	We have what we call Operating Rhythms, so we have weekly meetings and monthly meetings.	<ul style="list-style-type: none"> • Knowledge networks
Co2_R15	10	There are many deliverables and you need 100 hours to deliver them, and you are only given 50 hours...so you mainly focus on achieving your objectives...due to the nature of dealing with chemical companies, there are always unexpected problems or unpredictable problems. So (at the end of a weekday) you want to go home, but a problem has occurred in one plant and you need to go back, so you may stay till midnight because of the problems.	<ul style="list-style-type: none"> • Extra work • Achieving objectives • Unexpected problems
Co2_R15	15	If it is within the organisational structure and was not controlled... free time is not meant to give them ten years... but they work at their own pace... they all have good experience and are professional, so they are allowed to do things at their own pace... I think their efforts to be recognised by the company are (good).	<ul style="list-style-type: none"> • Organisational structure • Control • Experience • Recognition

This research utilised the functions available in MAXQDA to search and browse coded sections of text. The Code Matrix Browser identified frequently used codes across all interviews and determined code overlap. Figure 11 is an example of Code Matrix Browser employed to identify frequently used codes across all interviews in the company.

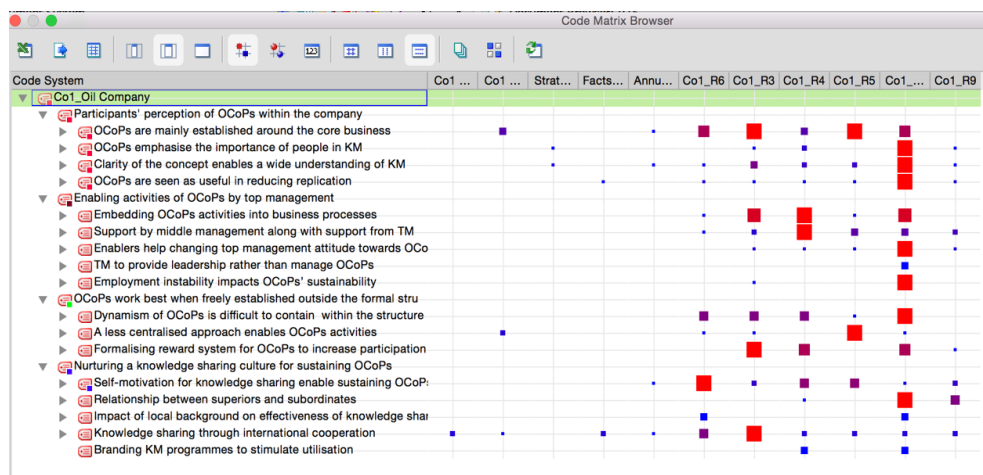


Figure 11: Example of Code Matrix Browser in Co1

3. Searching for themes

At this stage, a long list of different codes had been drawn up within the broader level of themes. Some codes were discarded, due to being irrelevant to the scope of this study, while

relevant codes were collated into potential themes. This list of codes was revised on a continuous basis as more interviews were coded, identifying emerged themes. Initial codes were combined with the relevant coded data extracts to identify themes. The feature of Memos in MAXQDA was helpful, and was utilised throughout this process to keep track of thoughts and ideas regarding the analysis. An example of the use of memos in the software is shown in Figure 12.

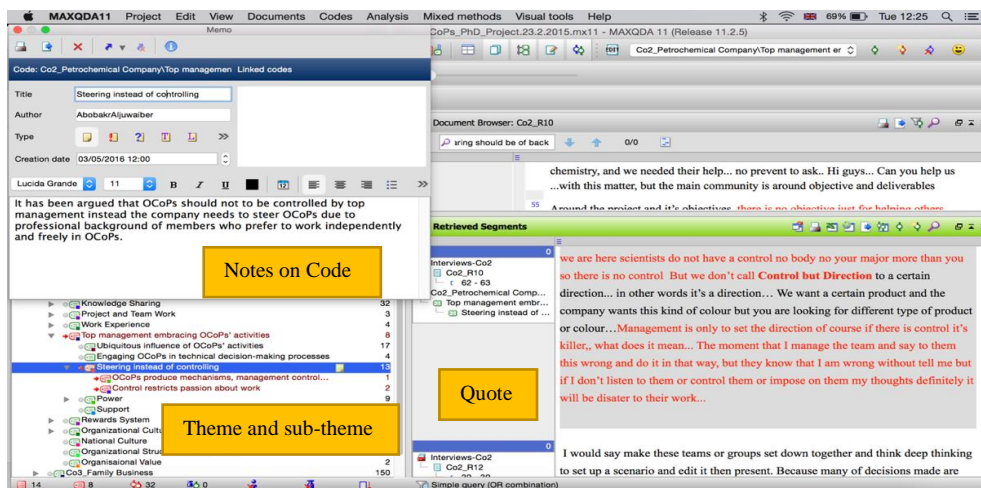


Figure 12: Example of coding process

4. Reviewing themes

This stage afforded the researcher an improved image of the collection of themes and sub-themes. This stage went through two processes: (1) The first process reviewed the level of coded data, re-reading the individual coded chunk of data extracted from each company to ensure all data forms are in a coherent pattern. At the same time, a number of potential themes were dismissed, due to a lack of sufficient data. (2) The second process reviewed the level of the themes. The thematic table framework visualised the relationship between the themes, thus reflecting the meaning of the data as a whole.

5. Defining and naming themes

Once the main themes have been identified and reviewed to ensure the coherence of coded data in each theme, this stage captured an overall narrative data in each theme. Moreover, themes from each case also contained sub-themes.

6. Producing the report

This stage consists of the final analysis and write-up of the chapter analysis of each case studied, and therefore this phase refined the themes and assisted in the production of the report.

3.5 Chapter summary

This chapter illustrated in detail the philosophical stance of the research, outlining the research methodology, and the research design, to establish how the research objectives were achieved. It explained that the research is qualitative in nature, utilised a multiple case study design, and relied on 31 semi-structured in-depth interviews as the primary data collection method. The majority of these interviews were recorded and then transcribed. The transcripts were then analysed using a thematic analysis approach. A document review and field notes were also used as supplementary methods for data analysis. Following this methodology chapter, the subsequent chapters present the findings obtained and discuss the role of OCoPs within the three case studies.

CHAPTER 4: CASE STUDY ONE: FINDINGS AND DISCUSSION ABOUT OCoPs WITHIN CO1 (OIL COMPANY)

4.0 Introduction

This chapter examines OCoPs based in the oil industry with subsidiaries and affiliates distributed globally. This is an important case study, as it exemplifies the situation within well-developed OCoPs (e.g. ShareK), in a context in which the company has a clear understanding of the importance of knowledge sharing and facilitating KM initiatives, believing OCoPs offer an appropriate atmosphere, promoting best practices and lessons learned.

At the outset of this research, the researcher conducted an exploratory investigation of the company's website to identify key information about the implementation of OCoPs within the company. Seemingly, the company encourages a variety of learning techniques and delivery methods, such as knowledge sharing and online OCoPs. OCoPs within the company aimed to enable members to learn from one another drawing on shared topics or issues, and exchanging ideas, solving problems and engaging in other relevant activities of shared interest. A Journal of Technology, published quarterly by the company and authored by the company's engineers, scientists, geologists and other technical professional specialists of differing backgrounds, indicate the main mission of OCoPs is to convert tacit knowledge into explicit knowledge by stimulating interaction, creating new knowledge, fostering learning, and identifying and sharing best practice (Khursani et al., 2011). Having a journal published specifically to provide the company's scientific and engineering communities with a forum for the exchange of ideas adds value, encourages the development of KM programmes, and welcomes initiatives that promote an exchange of expertise and knowledge, such as OCoPs.

Analysis of the case study revealed four themes. (see Appendix G for the final framework of themes and sub-themes for Co1). The first, participants' perception of OCoPs within the company, includes four aspects that inform the clarity of the concept enabling a broad understanding of KM, asserting that OCoPs are useful for reducing replication, OCoPs are mainly formed around the core disciplines of the company, and that OCoPs emphasise the importance of people in KM. The second discusses the category of top management that facilitates OCoPs' activities. It reveals the importance of middle management to support OCoPs activities, the need to embed OCoPs activities into business process, asserts that top management should play a leadership role, and the impact of job changes on OCoPs'

sustainability. The third highlights OCoPs activities that are located external to the company’s formal structure. Within this theme, the data revealed the dynamism of OCoPs creates tension within the company structure, such that a less centralised approach enables OCoPs activities, and formalised reward systems for OCoPs can better assist the increasing level of participation in OCoPs. Fourthly, it discusses how enhancing the knowledge sharing culture is important to maintaining OCoPs sustainability. Table 8 provides details of participants interviewed in Co1.

Table 8: Details of the interview participants from Co1

Participants’ details from Co2 (Oil Company)		
Interviewee’s Code	Job title	Experience with OCoPs
Co1-R1	KM Specialist (Technical Knowledge Sharing Unit)	Yes
Co1-R2	Coordinator (Engineering Knowledge & Resources Division)	Yes
Co1-R3	Analytics Professional (Central Engineering Consulting Services)	OCoPs members
Co1-R4	Division Head (System Engineering)	OCoPs members
Co1-R5	Production Engineering	No
Co1-R6	Educational Counsellor	No
Co1-R7	Employee (Engineering Knowledge & Resources Division)	No
Co1-R8	Employee (Engineering Knowledge & Resources Division)	No
Co1-R9	Senior Technician	No

4.1 Participants' perceptions of OCoPs within the company

Participants from Co1 provide various views to explain their belief that OCoPs could contribute to their company’s effectiveness, including by enabling employees to learn from one another and share their ideas and other relevant aspects of mutual interest through KM programmes, such as ShareK. The upcoming sections cover four main sub-themes that emerged as reflecting the participants’ views about how OCoPs are seen within their company relative to knowledge sharing, in an attempt to answer the first research question.

4.1.1 Clarity of the concept enables a wide understanding of KM

Understanding the beliefs held by the participants from Co1 regarding the development of OCoPs within their company was useful for the researcher's investigation. Co1 gave a clear indication of OCoPs, either from the Journal of Technology issued by the company or that given by the participants, OCoP members. In a documentary review, and according to an article by Khursani et al. (2011) published in the Journal of Technology issued by the company, OCoPs are "groups of people who come together to share and learn from one another face-to-face and virtually". This definition shares similarities with Wenger's (2011) definition where members can learn from each other and increase their knowledge. Having access to a definition consolidated the concept, with the result that the participants gave similar worded definitions of it in interview. For example, Co1-R4, a system engineer and an OCoP member, defined OCoPs as:

A group of people who are experts in a subject matter and meet in order to share their knowledge and expertise with others working in the same field.

Co1-R4 – OCoP member

Co1-R3 explained further, outlining the functions of OCoPs:

Tools that can be used to contribute to raising the level of operational practices, to help divisions and develop ideas and guidelines resulting in challenges to companies.

Co1-R3 – OCoP member

Having consistent definitions of OCoPs in the company's journal and the participants developed understanding of the notion of cultivating OCoPs within the company, which helped to improve organisational knowledge and enhanced collaboration among OCoPs' members across the company.

Since the concept of OCoPs is widely applied to engineering services, the participants from this company who were not members of OCoPs were aware of the concept. However, the participants who were aware of the concept gave different names to their groups although all the definitions conformed to same criteria-based concept of OCoPs. For instance, Co1-R5, who was an engineer but was not involved in an OCoP stated:

This concept perhaps is known and applied here but indirectly [it is] the same as that which you are talking about. Yes, we have a lot of [O]CoPs, but not with the same term or title. I confirm that!

Co1-R5 - Engineer

The participants interviewed commended the fact that when the company provides clear processes and procedures to participating OCoPs, the activities would broaden the awareness of the importance of knowledge sharing initiatives. This idea is illustrated by the following quotation from an OCoPs member:

Our company classifies our business into three different areas: leading processes, operational processes, and supporting processes. Regarding supporting processes and operational processes; people in this area are very well educated in terms of their communities of practice, they are aware of how to use it and when to use it and how to participate in it. In terms of leading processes, the company thinks that they should reflect company practices not the practices of others.

Co1-R3 – OCoPs member

Co1-R3 spoke about the importance of OCoPs to help articulate knowledge across the company. From his experience of OCoPs, Co1-R3 perceived that the company pays attention to edify its employees by giving clear procedures and processes of KM initiatives, such as OCoPs, particularly for those involved in engineering and technical processes. Thus, a well-defined notion can guide the detection of OCoPs existence in real life cases (Bolisani and Scarso, 2015). In this case study, the clarity of the concept provides a clear process to assist in the establishment of OCoPs based on well-articulated perspectives regarding how OCoPs are used as tools for KM, as they are seen as enablers, to increase the level of awareness, and to establish the importance, of knowledge sharing and the exchange of expertise. Thus, OCoPs are viewed as tools that contribute to raising the level of operational practices, helping to establish divisions and to produce guidelines to overcome company challenges and solutions.

The analysis of the interview transcripts illustrated that when a company has a clear strategy about how to improve implementation of its KM programmes, then employees witness the extent to which their company is invested in KM programmes, which then affects how far

OCoPs thrive across the company; thereby, increasing awareness of the importance of knowledge sharing within the company. Co1-R1 confirmed:

We do many internal studies to recognise the failure and success factors associated with our programmes - we do benchmarking, to compare our initiatives with the other companies through cooperation with APQC.

Co1-R1 – KM Specialist

Facilitating knowledge sharing through OCoPs and collaborating with external advisory services organisations assists the company to drive forward improvements in the company's KM approaches, such as the implementation of ShareK. Generally speaking, facilitation of KM initiatives to consolidate all knowledge resources across the company enable the enhancement of the importance of knowledge sharing, making the concept of OCoPs more comprehensible. The company seeks to improve the learning approach within the organisation through KM initiatives. Establishment of OCoPs is done to facilitate organisational knowledge sharing and improve business performance, which have been considered among the most effective KM strategies (Bolisani and Scarso, 2014), particularly in reference to geographically dispersed companies.

4.1.2 OCoPs seen as useful in reducing replication

In this study, it was found that, the company seeks to transfer knowledge from senior employees to new employees. In such situations, OCoPs play a substantial role in filling the knowledge gap for younger generations of employees seeking to attain expertise from their seniors. Hence, knowledge sharing is important and KM initiatives, such as ShareK in Co1, facilitate it. The Journal of Technology (Khursani et al., 2011) issued by the company, clearly mentioned that the aim of establishing ShareK was to avoid repetitive and redundant work. Co1-R2, a coordinator at a unit dealing with knowledge engineering services explained the main incentive beyond establishing KM programmes in the company as follows:

There is a trend at the company to ensure transference of knowledge from senior employees to new employees. We can speed up closure of the knowledge gap for the younger generations of employees by sharing the expertise of their seniors. Knowledge sharing is important, but knowledge management programmes are comprehensive and help reduce the repetition of work processes.

Co1-R2 – Coordinator

In an annual review of the company (2014), Co1 organised events for operators, providing younger employees with opportunities to advance their knowledge. Such networks helped to reduce the reworking of different workplaces at the firm. Having a system in place, such as ShareK, would reduce the training time for new employees (Probst and Borzillo, 2008), and, if the knowledge were to be codified, it would enable the retention of knowledge within the company after employees leave. One KM worker mentioned the benefits of implementing KM initiatives to the company as follows:

If we formed this KM programme and captured knowledge in a repository and everybody could benefit from it, there would no replication of work, and therefore next time anyone has an inquiry they would first search and if they find an answer and a solution for what they are looking for they will use it directly. Thus, the primary aim or main driver is to reduce rework.

Co1-RI – KM Specialist

The collaborative environment between experts and new employees facilitates knowledge sharing by utilising in-house developed software, which helped increasing the company's Intellectual Capital (IC). IC relates to knowledge but is a broader concept. IC can be defined as “the possession of knowledge, applied experience, organizational technology, customer relationships, and professional skills that provide organizations with value and a competitive edge” (Coukos-Semmel, 2003, p. 10). In this case study, ShareK is implemented as a comprehensive program to address all organisational knowledge sharing IC components, such as talent, teams, technology and processes. As mentioned at the beginning of this chapter, one of the main drivers when establishing KM initiatives in Co1, such as ShareK, concerned lessons learned. The reduction of rework, mistakes or problems occurring at one plant could be avoided at another plant, due to the benefit proceeding from the lessons learned from previous experience.

In Co1, the notion of saving time and making solutions available to a company's employees appeared to be important. In a large company, such as Co1, that needs to build bridges to connect ‘knowledge islands’ and reduce incidences of rework at its plants, OCoPs offer a valuable advantage, by bringing the right knowledge and experience to the right people. Their attitude emphasises the importance of knowledge sharing and its role as a timesaving approach. According to the article by Khursani et al. (2011), in the Journal of Technology

published by the company: “[Co1] is rich with the many technologies, solutions and databases that are not connected with each other. We bridged these knowledge islands through ShareK. ShareK has become [Co1’s] one-stop shop for knowledge”.

4.1.3 OCoPs are mainly established around the core businesses of the company

The analysis of the interview transcripts clarified that the participants perceive OCoPs are cultivated around the company’s core business, which produces and exports oil. The general perception in the company is that the people who deal with the core businesses establish OCoPs. From the data analysis, it seems that the company has also strived to create OCoPs to cover the needs of those engaged in engineering activities. It was observed during field interviews in Co1 that the company had established a department within Engineering Services to provide KM solutions for plants. As the researcher discovered from the company’s website, Engineering Services work directly to enhance the company’s downstream activities through collaboration and knowledge sharing. People working in this department are responsible for assisting in the company’s development and the implementation of new practices, as ShareK is one of their products.

Although OCoPs are part of a ShareK programme established to support Engineering Services, it appears that not all the engineering departments pay equal attention to knowledge sharing via ShareK. Despite this, ShareK provides sources of information and considers these a knowledge pool of employees who share their expertise; meanwhile, some participants expressed concerns they held about setting up an OCoP. It seems that employees have encountered challenges during the establishment of new OCoPs. In this regard, the analysis of interview transcripts shows two main barriers that impact on the establishment of OCoPs, particularly within departments where activities are mainly constructed around core businesses. Firstly, there is insufficient encouragement from direct management. Secondly, there is a need to transfer employees to another job or position when forming new OCoPs. These two barriers impede success when establishing and sustaining new OCoPs within a company. The following two quotes provided by Co1-R5 and Co1-R1, explain these two barriers respectively:

I refer the shortage to anyone in charge who has 70 employees under his supervision. These general supervisors have the authority to encourage beneficial and cooperative knowledge sharing groups. General supervisors should give this matter an appropriate level of importance. If

he has an obvious understanding about this group, then the situation would be very different; therefore, the problem, the shortage begins from here.

Co1-R5 – Engineer

We are here in [Co1], employees are often transferred to different sites or work, so that if a person [the one assigned to the OCoP] is moved to another site within the company, and so on ..., we do not follow up with them [the KM initiatives], thus the [O]CoPs dies and everybody goes back to using the emails instead of [O]CoPs.

Co1-R1- KM Specialist

Therefore, the existence of OCoPs in the company appears to have strong connections with the area of work. The result is that engineers and employees with engineering related work were more able to elaborate on the OCoPs and their activities within the company. One OCoPs member communicated this perspective saying:

Communities of Practice are the lines that the company observes to go around engineering standards. In [Co1] we have almost three of streams; Upstream, Downstream and Support Services. Within each area, they establish engineering standards, and for each standard, they create Communities of Practice to which they assign a committee [Chair] with a Chair or owner [leader] of that Community of Practice.

Co1-R3 – OCoP member

These initiatives are crucial for employees seeking to share expertise and resolve problems within their work. Links have been mentioned by other professionals working in this field. For instance, a study carried out at six large organisations by Oliver and Kandadi (2006), asserted that KM activities, in cases where OCoPs were one of the activities, should be integrated with core business processes, to enable knowledge sharing and the exchange of expertise to flow seamlessly in day-to-day business life.

A different perspective was offered by Co1-R6, who works as an Education Counsellor, supervising the company's projects, and cooperating with governmental educational projects, and expresses strong convictions about the importance of knowledge sharing within the company, although he was unaware of the existence of OCoPs within it. Despite this, he

indicated that OCoPs are well known in the domain of engineering, because oil production and petroleum are core company businesses. Meanwhile, departments such as HR were considered supportive units for the company, although they had received minimal attention in relation to OCoPs. Co1-R6, a new employee, whose work involved designing programmes for talented youngsters outside the company, explained that his department perceived KM initiatives as subtasks, and so they were not prioritised in terms of implementation.

The priority is not important for some heads of departments in our Centre. They do not see the importance of these development practices, much as they demand greater productivity through the programmes we present. They believe you are recruited and paid for to deliver daily tasks.

Co1-R6 –Educational Counsellor

As mentioned above, Co1-R6's views were negatively affected by the nature of his work. He designs extracurricular educational programmes for young people as a part of corporate social responsibility to propel the country to a bright and prosperous future to benefit the generations to come. It is therefore unsurprising that Co1-R6 believes in the importance of knowledge sharing and considers it a major part of his job to share knowledge and exchange ideas, not just within the company, but also with 'Talents managers' working in the Education Ministry. He expressed a need for these managers to observe the operation and learn from company's practice when designing educational programmes.

In contrast to previous views, where OCoPs were mainly established around core-disciplinary areas, the analysis of interview transcripts reveals that not all employees working alongside the core businesses of the company utilised OCoPs to share their experiences. One engineer, who holds a Bachelor's degree in Petroleum Engineering, and joined the company as a Production Engineer in 2006, states that his duties were confined largely to his discipline.

This is the first time I have heard of this term. This idea is not familiar to me because I am busy with work. When we started employment here, our duties were defined. For example, you have 100 oil wells, so my duties are confined to them. In my view, our management has a big role [to play] in improving this aspect. The company, about three years ago, started to affirm very strongly that knowledge sharing and knowledge transfer are crucial.

Co1-R5 –Engineer

In the case study company, as illustrated by the research findings, the focus was principally on facilitating OCoPs' activities around core businesses, uniting efforts to ensure evolving practices. However, this one-way orientation could enhance knowledge sharing practices as it affects different disciplines company-wide. The two main barriers, insufficient encouragement from direct managers and the transference of the funding of OCoPs within the company are key factors involved in disabling the establishment and sustainability of OCoPs activities.

4.1.4 OCoPs emphasise the importance of people in KM

OCoPs by their nature are social configurations (Kerno, 2008). As people are the founders of the groups in which they participate, the process of establishing TCoPs spontaneously within the company differs when the company intentionally establishes OCoPs. Generally, all the participants from Co1 agreed that people could enable or disable the success of KM programmes. Therefore, it is unsurprising that participants emphasise the crucial role for people within OCoPs, to bolster knowledge sharing processes within the company. Seemingly, the company does not oppose any method that assists the facilitation of internal KM initiatives. Although this study did not aim to investigate the IT component, or its impact on OCoPs, some participants raised the issue of IT during the interviews. The participants agreed that people are the fundamental vehicle contributing tacit knowledge sharing practices, such as OCoPs. Hung et al. (2009) identified two KM approaches, one focusing on people and the other on technology. The people-centred approach is driven by organisational learning and focuses on tacit aspects of KM. It emphasises the generation and sharing of knowledge through interactions between people. Technology-centred strategies, on the other hand, are IT driven and focus predominantly on explicit and tangible aspects of KM.

Co1-R1 and Co1-R7, who work in the same department, concurred that people are driving force of KM initiatives, whereas technology offers merely a support. Co1-R1 has extensive experience designing KM programmes within the company. His perspective is shaped by his work experience in the engineering knowledge and resources division, and his opinion accords with Chong and Choi's (2005) view, that KM initiatives are people-based and not technology-based. Thus, during his interview, Co1-R1 constantly attributed the success of KM initiatives to those people who had witnessed the development of OCoPs programmes, such as e-Way and ShareK, showing how people play a vital role in creating a culture that is congenial to exchanging and sharing knowledge within a company.

KM is consisted of three main components: people, process and technology. People account for the biggest percentage, 70% [leading to the success] of the whole programme; the process is about 20%; and technology is normally lower than 10%. The most important factor in any KM programme is the people, the culture. If people do not believe in KM, it will not work very well.

Co1-R1 – KM Specialist

Co1-R1's view is that reported by Hasan and Zhou (2015), who indicated that the success of KM programmes derives from people, processes and technology. e-Way and ShareK are technology-based OCoPs that grant access to knowledge for everyone, including new employees who can use them to obtain necessary information from experts. However, although the scope of this study is not to investigate the role of technology as it influences OCoPs, observations from recent studies concerning the feasibility of relying on technology to share tacit knowledge are notable. For instance, Arling and Chun (2011), who examined a KMS called AskMe as a social system that enables employees to share and create knowledge through interaction, indicated that people preferred person-to-person feedback and assistance rather than codification-based KMS. Thus, while technology is appropriate for sharing explicit knowledge, direct personal contact is more effective for sharing implicit knowledge, also increasing the probability of creativity and innovation. The definition of OCoPs attained from participants at Co1 emphasised positively the fact that OCoPs' members can meet face-to-face or virtually via ShareK.

However, Co1-R1 raised another issue, citing some of the difficulties faced when seeking to persuade department managers to explain their role when motivating people to utilise KM initiatives to share their knowledge and expertise. Additionally, Co1-R2, who is the coordinator of the "Engineering Knowledge and Resources Department" (the same department in which Co1-R1 works) shares the view that people determine the success of the OCoPs within their companies when they work using OCoPs daily.

People [are] behind it. If you have people who are interested in it and make it part of their day-to-day business it will work, but if it's an additional thing it may not work; but if all discussions, studies and consultations are thorough, [O]CoPs it will work effectively.

Co1-R2 – Coordinator

Co1-R4 and Co1-R3, who are active members of OCoPs with distinct fields of interests, share the opinion that people determine the success of any initiative, and that a culture of unwillingness and lack of self-motivation can be a drawback when sharing knowledge, particularly in OCoPs. Brown et al. (2013) stress the importance of the nature and structure of individual social networks, as elements for “knowledge sharing practice” in organisations. Although Co1-R4 opines that companies invest heavily in people because they view them as intangible resources, he nevertheless recognises people as a potential barrier to knowledge sharing.

[T]he problem is not with knowledge sharing, the problem is finding people who are willing to share [their] knowledge and experience. It when people develop their careers that something stems from them. That person should feel the need to improve himself!

Co1-R4 – OCoP member

Thus, Co1-R4 perceives that whatever assistance and tools a company might offer to facilitate the process of exchanging experiences, such initiatives will not succeed if individuals do not desire them to. It appears that people in Saudi Arabia prefer to communicate via face-to-face communication instead of relying heavily on technology to exchange their expertise and knowledge. The participants’ perspectives, as mentioned in this section, to some extent agree with the findings of Dulayami and Robinson (2015), who also used Saudi Arabia as their study context. They indicate that IT plays a supportive role in most KM programmes, although people play a performative role. Accordingly, implementation of a sophisticated technology programme to facilitate KM might not be as important as effectively convincing people to act positively within OCoPs in the physical and virtual domains. Hasan and Zhou (2015) indicate that success in KM programmes will proceed first from people and processes and then move on to technology. That is, people are the primary engine for knowledge sharing, with technology an important second.

4.2 Enabling activities of OCoPs by top management

The main goal of this section is to present, interpret, and discuss the data obtained from the interviews by examining views regarding the influence from top management and its role in enabling OCoPs activities. Five sub-themes were identified suggesting that support from middle management is crucial alongside the support of top management. Embedding OCoPs activities into business processes is a mechanism that should ensure individuals receive

attention from the company. It also alters top management's attitude towards OCoPs, encouraging the provision of leadership rather than merely cultivating OCoPs. Moreover, the instability of jobs is seen to also impact OCoPs' sustainability. These factors are explained in the following subsections.

4.2.1 The importance of support from middle management alongside support from top management

A theme that emerged from the data associated with the top management category was the influential role of middle management on OCoPs activities. In this case study, middle managers, also called general managers by the company, were given responsibility for particular business units at the intermediate level of the company hierarchy (Uyterhoeven, 1998). Despite the perceived importance of the support proffered by top management to bolster OCoPs, the data reveals that establishing OCoPs can be more successful when support is provided by the middle manager. Seemingly, OCoPs' members have no problem with their direct managers (e.g. coordinator, supervisors), particularly when this reflects positively on their participation in OCoPs, or the work performance of their departments. Arguably, the powers granted by top management to middle managers when making decisions affect the support of OCoPs' activities. Although the data shows the importance of middle managers in terms of supporting OCoPs' activities, top management continues to play a vital role in this regard. When middle managers feel attention is also directed by top management towards OCoPs they react positively by supporting those of their employees who are also members of OCoPs. Thus, in Co1, the role of the middle manager in supporting OCoPs is in enabling members to engage efficiently in group activities.

Co1-R4, who is an OCoP member, perceives the role of the middle manager as very important, particularly in the early stages when establishing a group, as this role is more important than is top management's support for OCoPs' activities. Based on his experience at OCoPs, Co1-R4 explains that when top management observed the positive advantages achieved by OCoPs, they started to believe in them and put more effort into advancing development. Moreover, Co1-R4 adds that middle manager's confidence in these groups typically translates into support from top management to organise OCoPs.

When we started in 2005, we had good support from our direct management, but after that, we had even more directions from our top management, not only middle management. After that, I mean after they

believed in [knowledge management], the communities of practices were reshaped. Previously it was simple; anyone could establish it and everyone could practice according to his opinion, but the company changed this approach and became more organised. Now, at the very least you have to get the approval of middle management, but before permission was sought at lower levels.

Co1-R4 – OCoP member

As explained in the literature review, top managers are those with the authority to establish and enforce policies and guidelines within an organisation (Cavaness and Manoochehri, 1993). Co1-R4 spoke about how the flexibility of TCoPs can be established readily without any intervention from top or middle managers. He noted that this factor was acknowledged by his direct manager, when considering participation in OCoPs. However, the analysis of interview transcripts showed the support received from top managers for OCoPs is still important, as it motivates people to participate in OCoPs' activities, because top management's direction of OCoPs aligns their activities with the company's strategic goals. When an OCoPs' domain is clearly defined and linked with strategic business goals by top management from its inception, it becomes easy for members to understand the knowledge based activities present throughout the organisation (Yamklin and Igel, 2012).

Moreover, when the business units in a company become aware of the support of top management, they are then emboldened to foster participation in OCoPs, providing them with support that raises the probability that they will be successful. In this case study, the general manager is seen as the intermediary between top management and lower level employees. This position leads the authorities to encourage knowledge sharing activities within the company, a point illustrated in the following quote:

The general manager who has around 100 employees in his unit should have given this matter its appropriate importance. He should have drawn the attention of top management to useful activities. If he has an obvious vision about this topic, then the situation would differ, any shortage proceeds from the general manager. He should have forwarded a proposal about the group to top management, and should have included in his proposal that in accordance with faith in knowledge sharing and its

related topics we will do so and so. I do not think top management will object to such activities.

Co1-R5 - Engineer

Garnering support from top management was commonly described by the interviewees as necessary to the establishment of OCoPs. Without support from top management, no one, neither plant staff, engineers nor operators will participate without the approval of top management. Co1-R4's comment about this appears below:

So I say it is crucial for top management to believe in and support communities of practice, because when your department sees that top management is behind these communities, you will get support from the manager of the unit.

Co1-R4 – OCoP member

Although there is some consensus regarding the importance of receiving support for OCoPs from top and middle managements alike, the responsibility of bring OCoPs' activities to the surface rests on the shoulders of direct managers, such as departmental supervisors. To this end, it is argued that direct managers should be granted the authority to form OCoPs and set their objectives, without always needing to seek approval from upper management. This view was expressed by Co1-R7 and Co1-R8, who are new employees who are affected by the support they receive from their direct manager. Although neither are members of OCoPs, they work closely with their direct manager Co1-R1, who is responsible for the KM initiatives at the company. They have witnessed his struggle to convince other managers of the importance of KM programmes and to encourage employees to engage in KM initiatives. Accordingly, this experience has shaped their view that sufficient support from top management would increase awareness among employees and encourage participation in OCoPs.

Our direct manager is very supportive, sometimes he participates in activities that are not required, he is a very hard worker.

Co1-R8 - Employee

Whilst Co1-R1, who has had a good experience with KM when working at the company, receives effective support from his direct manager, However, he has observed the difficulty his direct manager has obtaining support from higher managers, and he frames this as top

management's 'attitude'. Arguably, this offers evidence that business managers do not generally appreciate the value and strategic potential of OCoPs (Smith and McKeen, 2007).

In this case study, the lack of adequate cooperation from managers of business units at the company has affected dissemination of the idea of KM programmes, such as ShareK, as mentioned earlier by Co1-R5, who works in a different department, Production Engineering. The awareness of the concept of OCoPs at ShareK arises from middle managers not encouraging everyone in the unit to use the programme. This finding suggests the company can play a role in aligning OCoPs' activities to specific purposes, ensuring the right resources and people are available to the group, and managing OCoPs members' relationships. Without middle managers translating knowledge sharing initiatives into action, and without stressing the importance of KM programmes, such as OCoPs, employees are likely to assume that emphasis on KM initiatives is a transient phase and not something to be considered seriously (DeTienne et al., 2004).

4.2.2 Embedding OCoPs activities into business processes to generate attention within the company

According to Raghu and Vinze (2007, p. 1064) "business processes are a collection of interdependent activities or tasks organized to achieve specific business goals". In this section and the subsection that follows, the data analysed for this case study revealed two main points. These are, firstly, that top management needs to embed OCoPs' activities into the business processes of the company to attract more attention from other managers (e.g. general managers or supervisors). Secondly, that OCoPs work best independently when they are not controlled by top management; however, that does not mean there are no specific goals to accomplish.

Participants assert the importance of stating clear objectives for OCoPs to contribute to achieving the company's targets. One of the barriers expressed by participants, which disabled participation in OCoPs, was that they were not considered a component of business processes. As OCoPs become organised and purposefully designed within a company, there is a requirement to identify specific goals linked to the company's business plan. Co1-R2 explains his perspective, thus:

If my boss wants me to work on the side activities he then has to transfer the main job to the side job and we call this embedding knowledge management into business processes. The process I do is not voluntary.

Moreover, that is an important reason why people do not use [O]CoPs. It means additional work.

Co1-R2 – Coordinator

Co1-R2's statement that OCoPs are not voluntary jobs appears to confirm the argument that TCoPs with self-organised features are not appropriate methods to implement in a business setting, rather OCoPs are more appropriate (Kirkman et al., 2011). Although the data shows that the concept of OCoPs within Co1 developed out of their status as spontaneous constructs, they have shifted, to take on the character of systematic and institutionalised configurations.

As OCoPs are not seen, but are embedded within the business process, they can easily lose the attention of people responsible for developing KM programmes. It is likely that when OCoPs activities are included as part of a business process this would trigger a rise in the attention directed toward these types of activities across the company, ensuring their activities can accomplish specific organisational goals. Co1-R1 describes this below:

We are a unit of developers we are not active participants in [O]CoPs. The same obstacles mentioned earlier will reflect on us again. If there is no interaction you feel you are in a space isolated. There is no interaction because it is not a business process. If you send me an email and I do not respond I will receive a reminder but I do not have tasks in [O]CoPs, it is not mandated, nothing is special.

Co1-R1 – KM Specialist

The data shows that OCoPs were developed in the company (from e-Way to ShareK), and, therefore, this development also brought about more improvements to ensure that OCoPs were contributing to the organisation's business plan. However, some participants, who were also members of OCoPs, claimed that the OCoPs implement clear procedures, and are now organised and focused to produce valuable outcomes. It is likely that these procedures to form OCoPs represent a sort of business process that members need to follow when seeking to establish a new OCoP. For example, Co1-R4, a member of an OCoP, states that each spontaneous and formalised OCoP has unique features. Co1-R4 claims that, previously, the procedures for forming TCoPs (e.g. e-Way) were flexible and unfixed, but recently the process of establishing OCoPs (e.g. ShareK) has become more organised, resulting in a focus on short-term value, because the top management requires regular updates to justify their

existence. Procedurally, the organisation of OCoPs, according to Co1-R4, requires many signatures and approvals, and hence, it is not an easy process.

It is organising. There are requirements you need to follow if you need to establish [O]CoPs. You should be clear; you should have a certain experience, a minimum number of members. Moreover, you should get management approval. The matter requires justification, no subject can be used for communities of practice. You must satisfy minimum requirements.

Co1-R4 – OCoP member

Co1-R4 used to lead an OCoP, as he is currently a member of the same group. He has attempted the old system mode of referring to e-Way and a new system referring to ShareK when establishing OCoPs. He also argues that the recent organisational processes for OCoPs do not mean there is unnecessary bureaucracy, but that procedures aimed at monitoring and increasing quality are in place. Although it demands more arrangement, the new system results in additional time being needed to prepare properly for the establishment of OCoPs. However, Co1-R4 insists that top management should provide funds to support the workforce while allowing technicians and experts to address technical issues within OCoPs. As a former OCoP leader, Co1-R4 describes his experience forming new OCoPs and when seeking to ensure that OCoPs are satisfying the company's goals in the following quote:

One of the communities of practice we tried to form was not accepted and I was requested to resubmit an application, in addition to following other procedures. So you take your time working on paper and saying whether we need this or not. Not every subject can be covered byan [O]CoPs. So, you should be clear and satisfy requirements in order to establish [O]CoPs.

Co1-R4 – OCoP member

This intertwining of OCoPs activities and the business process facilitates the delivery of adequate support from top management. Thus, arguably, OCoPs leaders have a responsibility to ensure a certain clarity about an activity, to ensure whether it can adequately contribute to the processes of knowledge development. As already stated in relation to the key features of ShareK as a KM portal, the previous quotes clarify that the company engages in many specific steps to ensure OCoPs are successful. Specifically, the company has put guidelines and procedures in place to establish OCoPs, and has identified key topics for exploration,

such as discovering how employees share knowledge, how best to measure that knowledge, and what might happen if employees do not share knowledge. The leader of an OCoP should ensure these guidelines are followed before setting up a group (see Appendix E for an example of these guidelines). Co1-R4's point draws on his experience participating in two different OCoPs, one relating to information systems and the other to assessment and decision-making. Although he explained that establishment procedures are not seen as controlled by management, Co1-R4 considers employment of these procedures are critical to ensure that the outcomes of OCoPs activities add value to the business process.

It can be concluded that embedding OCoPs activities processes as organisation's goals can increase awareness of KM initiatives and improve employee's engagement in OCoPs. As mentioned by Co1-R2, a coordinator working in the Engineering Knowledge and Resources Division, within his division focus is on the process and finding and filling knowledge gaps using OCoPs. Thus, if significant aspects of business processes are aligning with KM components because of OCoPs, certain knowledge activities can then be addressed. Embedding OCoPs activities into the business process would assist members to understand the full spectrum of issues relating to a company's objectives, rather than just a single system.

4.2.2.1 OCoPs are better positioned to achieve business' objectives when there is no control

The term "control" refers to influence exerted on subordinates to seek their compliance with organisational objectives (Malhotra, 2000). In this case study, most participants implied that when not controlled by top management OCoPs mean the groups work without specific objectives to follow. The idea behind implementing these standards is to ensure the quality of OCoPs, and that top managers monitor OCoPs' activities, and change standards, requiring approval from management. As an example, one OCoPs member explained how the company would ensure the quality outcomes of OCoPs:

Yes, there is no control over communities of practice. However, please remember one thing; communities of practice are surrounded by standards. These standards relate to quality KPIs (Key Performance Indicators)! Executive management of standards monitors these KPIs. [Standards] should be observed. Should anybody [dislike] any of these standards, he should ask for a waiver. The waiver should be approved by the company's management.

Co1-R3 – OCoP member

These standards are, from Co1-R3's standpoint, intended to assure the quality of OCoPs, and to monitor the positive and negative consequences of their activities. This is what Su et al. (2012) mention regarding the considerable responsibilities and specific roles members of OCoPs are expected to fulfil to ensure formalised OCoPs produce high quality knowledge. Therefore, the company utilises KPIs, as mentioned by some participants, to meet its operational goals, and to ensure its employees attain the required level of technical competence through knowledge sharing. In the context of this case study, it is likely that KPIs would function as an alternative tool to control the quality of OCoPs activities. Co1-R4 states that OCoPs facilitate good communication and good collaboration between employees, supporting the achievement of the business' objectives.

For example, one of our company's KPI (Keep Performance Indicator) is to keep our staff up to the job, so we always try to certify that our people are up to their jobs. One aspect of this certification process is the [presence of] communities of practice.

Co1-R4 – OCoP member

Co1-R3 would prefer top management did not control OCoPs' activities, but that they would instead allow people to establish OCoPs and create activities according to their business issues. When top management attempts to control OCoPs' members' activities agendas, such as an exchange of expertise, or sharing their interactions with others they can become reluctant to participate actively (Agrawal and Scarso, 2014).

It is better for a company not to control it, and leave it be, perceiving and addressing the main matters of people's issues. As some people have decided to create [O]CoPs, they go around [considering/performing] all the matters and activities they created them for, and to control the environment as they feel necessary.

Co1-R3 – OCoP member

Any control of OCoPs by the organisation should ideally be through OCoPs' leaders, who should be given full authority to be creative within their groups. Otherwise, any other attempts at control from outside will restrict the work of the OCoPs's. This attitude can relate to what Borzillo (2009) mentions when discussing how top management can involve OCoP leaders in the control process, by providing them with a specified number of issues that can be developed within the OCoP.

OCoPs also play a vital role in fostering innovation (Wenger, 2004). This is because the idea of establishing an OCoPs is out-of-the-box thinking bringing a unique perspective to the business. An example mentioned in the Journal of Technology, by Khursani et al. (2011), concerns an engineer who knew the composition of an alloy that reduces corrosion. After sharing this information throughout the organisation, the information resulted in a more effective engine design and prompted ideas for innovative or improved equipment. Co1-R5, a production engineer, mentioned that controlling OCoPs' activities by directing member's meetings or imposing rigid standards might restrict them and inhibit innovative thinking.

If they are under control their activity will be restricted and their thinking will be limited. They can't go out of the box in their thinking therefore the results will not be beneficial.

Co1-R5 - Engineer

It is likely that if a company always gives instructions to guide initiatives, the output might be poor and the quality will be limited. Thus, helping OCoPs' leaders by giving them full authority for leading their groups' activities will ensure the group complies with general company objectives, and, therefore, the output will be better and the creativity will be more effective. Generally, alignment of OCoPs' activities into business processes can help to maintain and support accomplishment of a business's objectives; offering flexibility to form OCoPs and imparting some authorisation, such as establishing new OCoPs without seeking top or middle management approval.

4.2.3 Enablers help change top management attitudes towards OCoPs

In this section, the analysis of research findings identified three components that can assist in changing attitude towards OCoPs, highlighting the actions of managers and employees within the company. These three elements involve top management (e.g. vice president - VP) in OCoPs activities, and help to raise awareness of OCoPs activities.

Awareness of the importance of OCoPs can be increased when top management is involved in their activities, whereas accountability for OCoPs' activities improves their productivity, as does making participation compulsory for employees. These three elements can assist in changing attitudes towards OCoPs within a company and increase OCoPs' productivity.

4.2.3.1 Involving top management in OCoPs activities helps to increase the awareness of their activities

Involving top managers, for instance the VP, in OCoPs activities, though periodic visits, is one way the company draws attention to its knowledge sharing initiatives. Although the participants generally do not perceive top management to be positively involved in the establishment of positive initiatives to improve business performance, such as OCoPs, those participants who work in KM programmes view this differently. As mentioned in the previous section, not all the managers of business units effectively encourage their employees to participate in OCoPs. Indeed, an important role of OCoPs leaders' attributes is to communicate professionally with other departments, as this is something that members might not be able to do individually. Although KM programmes are well-developed in Co1, participation in KM programmes is considered informally among employees. In Co1, it appears that the role of the VP in changing attitudes towards OCoPs is crucial, as close attention is required to promote the implementation of KM programmes, such as OCoPs, within the company. How one KM Specialist emphasised the responsibility of the VP when discussing changing attitudes towards KM initiatives is apparent from this quote:

The leader will ask me directly as a KM developer if there is any adequate support from the departmental manager, he will ask me again to persuade them, but the problem is I do not have any control over them. The right thing is not to talk to me; it is to speak to the manager who needs KM. The company says that if I need to attain a competitive advantage I need to have a strong KM programme, so the company needs people with the ability to change managers. Thus, as a VP you go to the managers and ask them to give you a monthly report on KM activities within their departments. When you put him [the manager] on a hot platform, he will come to me [saying] I need your help, I have to report this to the VP next week, please help me. I may not help him this time, as I am busy with something else [have another responsibilities]. Therefore, when I go to him next time he will cooperate with me, as he will have been asked by the top leader at the company because he is the accountant. I do not need your support, but you need my support.

Co1-RI – KM Specialist

Company policy is shifting, to encourage anyone in charge of managing people and with the power and authority to do so to establish OCoPs. Changing attitudes towards OCoPs generally can be achieved by communicating positive findings pertaining to work and individual performances alike. For example, showing success stories and details of cases addressed through OCoPs will ultimately alter the attitudes of top management regarding OCoPs.

This is the major aspect - 'showing value' to encourage people to participate. Because some [O]CoPs are vague and do not have clear work [to present] it is necessary to show value, and to be very specific and have a purpose.

Co1-R4 – OCoP member

Therefore, managers' attitudes toward supporting OCoPs proceeds from a conviction about the feasibility of supporting OCoPs and from being conversant with the visible and tangible results of their activities. Oliver and Kandadi (2006) indicate that company's highly value the role of top management in raising awareness about the importance of OCoPs and encouraging knowledge sharing. The present case extends this view, such that believing in OCoPs direct managers can afford sufficient importance to attract the attention of top management toward useful OCoPs activities.

Alterations to attitudes towards OCoPs within a company needs must take place first at top management level. The data collected shows people in the company perceive OCoPs as entities for knowledge sharing but not for developing work. This perception is perhaps shaped by the reality that higher level managers do not direct adequate attention toward OCoPs. As Wenger (2010) admits, some managers think of OCoPs as unfocused groups or clubs. Co1-R1, whose work involves developing KM programmes for Engineering Services, characterised his unit manager's perception of OCoPs as follows:

Our head is influenced by the upper managers from a different generation whose internet activities are limited. His upper manager will conceive [O]CoPs as Facebook or a game even if he uses a different word. If there is any serious business to be conducted, he will ask for information via email or hard copy, he will not accept it in the form of a discussion or questions, he is not a big believer in these.

Co1-R1 – KM Specialist

Subsequently, several participants expressed their views that if a company wishes to increase its awareness of OCoPs, it has to include KM activities, including OCoPs, in its annual assessment; then employees would act on the basis that their direct supervisor will evaluate them based on their engagement in OCoPs at year-end.

4.2.3.2 Compulsory participation in OCoPs is only for core members

The analysis of the interview transcripts illustrated that participation in OCoPs is not compulsory for employees; however, it is expected that core members will be actively involved in OCoPs' activities. Wenger et al. (2002) observed that core members must commit 20-50% of their daily work to the promotion and supervision of OCoPs' activities, to ensure they remain operational. Notably, the non-compulsory nature of OCoPs distinguishes them from the activities of other formal groups such as project teams. Co1-R4 stated:

For us [OCoPs] have no compulsory participation. It is up to each one of us if he wants to participate or not. But, as we are experts, we should share and exchange our experience with others. It is part of our evaluation [annual evaluation] and therefore taking part is very beneficial.

Co1-R4 – OCoPs member

Given this scenario, Co1-R1 links compulsory participation with the region's culture, focusing on Arab culture, and observing that in this context mandatory guidelines are preferable.

So it must be compulsory, particularly in our culture, Arab culture, [where] everything is made compulsory and there is reporting to ensure accountability and strong leadership role, not just a management role.

Co1-R1 – KM Specialist

In reality, the data shows diverse perspectives concerning compulsory participation in OCoPs. Some argue that people involved in OCoPs and considered core members view their participation in OCoPs as mandatory, having expended effort during their daily working hours to complete OCoP activities. Among those who disagree with the notion of compulsory participation in OCoPs, there is a tendency to distinguish between OCoPs and other structured groups, such as project teams, in which participation is not compulsory. That is, OCoPs' members express a sense of responsibility to participate actively in their OCoPs. Hence, participation in OCoPs for core members becomes part of their duties in the

workplace, and these core members therefore devote some of their daily working hours to OCoPs to establish their benefits at the individual and organisational level. The statement below exemplifies the view of an OCoP member who conceives of participation in OCoPs as compulsory:

In fact, people working in the communities feel it is mandatory for them. A certain percentage of their time is assigned to serving the community of practice. Again, we are discussing technical people who are assigned to strengthen the community of practice by bringing additional practices, revising practices, qualifying [practices]. In addition, they spend about 60% of their time on [O]CoPs. For non-core members, they should spend about 30% of their daily workload in [O]CoPs.

Co1-R3 – OCoP member

4.2.3.3 Having accountability for OCoPs' activities improves their productivity

Many participants noted the importance of improving the performance of OCoPs and maintaining their accountability to top management for their efforts and contributions to organisational goals. OCoPs are not considered a priority and people do not seek knowledge through them or even participate in them actively as there are no perceptible benefits in terms of return or accountability. McDermott and Archibald (2010) propound the view that explicit accountability and clear executive oversight ensures OCoPs contribute meaningfully to organisations and operate efficiently. However, some participants argued that establishment of a new OCoP has to be informal, at least in its early stages, so that awareness of its activities within the company can be fostered. When a group is fully formed, participation can then be made compulsory.

On the individual level, there is no accountability for... [knowledge sharing activities] if I do not share what happens to me, and what benefits I get. These are the primary barriers that [face] KM initiatives including [O]CoPs.

Co1-R1 – KM Specialist

The achievement of accountability by establishing measurable responsibilities for OCoPs activities can support the receipt of adequate attention and support from top management. Top managers, and those at lower levels, might also adapt their attitudes towards, and ensure that OCoPs meet and deliver specific goals, to contribute to a company's objectives.

According to the viewpoint expressed above, it is possible to argue that in some cultures informal naturally occurring OCoPs are not an option. This finding reflects the view expressed by Liu et al. (2012), who commented on the importance of accountability in certain cultures. They highlighted that people from interdependent cultures, such as those in China and Japan, are typically motivated to be more inclined to abide by established social norms of interaction, than those from independent cultures such as Americans. Liu et al.'s perspective reflects on OCoPs, as they aim to enhance social interaction, because doing so is one of the main purposes of an OCoP, as discussed by Wenger et al. (2002) in Section 2.2.1. Although Bentley et al. (2010) express their view from the perspective of the health sector, suggesting the requirement for an accountability tool to evaluate OCoPs, and to enable a strategy aimed primarily at facilitating the development of OCoPs to enhance knowledge sharing and exchange expertise, the needs of the business sector are the same.

External accountability for OCoPs' activities as assessed by the organisation, appear to be required to maintain members' commitment to OCoPs. However, external accountability contradicts Wenger's (1998) belief that OCoPs members should only expect to have mutual accountability. This case study argues that members of OCoPs should not be accountable to top management, otherwise they will lose those features that distinguish them from other formal structured groups. The intention when establishing OCoPs is to foster knowledge sharing across the company. Thus, having a sanction system for OCoPs would eradicate the flexibility feature of OCoPs, possibly leading to poor quality knowledge sharing, as people would become cautious about engaging with and sharing their experiences.

Arguably, however, collective accountability, in contrast to individual accountability could maximise the achievement of goals set by the company. Perhaps the company could evaluate the productivity of the OCoPs as a whole, instead of demanding that individuals' assessment and participation in OCoPs activities as OCoPs are aggregated from experts with mutual interest rather than an independent group of individuals. In this case study, it can be suggested that making core members accountable by presenting the results of their activities at larger company events, such as annual meetings would bring their activities to the attention of top management. This enables members to become active when taking responsibility and demonstrating their expertise during learning sessions or on conference calls (Borzillo et al., 2011).

4.2.4 Top management to provide leadership rather than merely cultivating OCoPs

The data reveals that top management has to provide leadership instead of management, particularly when cultivating KM initiatives within the company. In the KM field, *Leadership* refers to “the ability of the organisation to align KM behaviours with organisational strategy, identify opportunities, promote the value of KM, communicate best strategies, facilitate the evolution of the learning organisation and provide metrics for assessing the impact of knowledge” (Coukos-Semmel, 2003, p. 9), whereas *top management*, as defined in Section 2.4.1, refers to “the individual or individuals responsible for allocating resources for KM and for specifying the KM programmes for the company” (Ugwu et al., 2012, p. 67). In this case study, the missing aspect which could influence the implementation of KM initiatives is leadership; this factor is absent because KM is not considered a part of the business process, but a subsidiary activity. This will affect the promotion of OCoPs because this type of initiative requires employees to feel top management is providing leadership, rather than thinking of it as simply another piece of administrative work to be performed.

I am not offering theoretical words I am talking from the reality. What is missing is leadership, knowledge management is not part of the process, and it is informal work. This is the primary barrier to knowledge sharing including [O]CoPs.

Co1-R7 – Employee

According to DeTienne et al. (2004), KM practices must be actively and aggressively supported and practiced by a firm’s leaders; if KM does not permeate all levels of a company, from top management upwards, they are unlikely to be effective. This finding means that leaders are the principal actors of the company. When the Vice President (VP) acts as a leader by promoting and directing attention toward KM programmes, this will assist the development of an innovative environment within the company. The following remark by Co1-R1 indicates this point clearly:

There is a difference between management and leadership. What they do here is management, not leadership. When you look at any study about KM, they mainly talk about leadership, not management. Leadership, one of those senior executives (e.g. VP, CEO) is the Godfather of the programme. We included this aspect on the innovation programme, and it was successful because there was someone to act as the spiritual father for

the programme. People usually follow a leader. The leader talks, follows up, asks, requests KPIs, and, therefore, the programme succeeds.

Co1-R1 – KM Specialist

However, although this is true, it can be argued that the analogy between management and leadership in the above statement is due to the inherent nature of OCoPs, which demands social leadership and an interactive environment to inspire and motivate employees to collaborate to achieve organisational goals. Thus, participants in Co1 criticise top management's cooperation with KM programmes when discussing practical engagement practically in OCoPs activities. While the company seeks to develop KM programmes within set boundaries, the success of any KM programmes requires leadership that inspires the whole company, urging employees to act positively. KM is not simply about procedures or processes; it is the ability to influence others to engage in knowledge sharing initiatives. The statement made above by Co1-R1 reveals that in some cases, top management fails to inspire KM programmes or bring about their success; it is important that the VP becomes involved in these activities. Performing the role of management means coordinating resources according to a series of procedures and functions (Ellis and Hartley, 2009); therefore, there is a belief among participants that leadership is a crucial factor informing the success of KM programmes. In Co1, the top management seems to be practical and to have a desire to assess the value of tangible things. Co1-R7 describes this style of management in the following quote:

[As] for top management, now [let us] talk about our President. I do not think he realizes the full impact of KM programmes. I think he is a very practical person. He will ask you to show him the dollar value; show him something he can touch and [something] very specific [he would say]. Do not tell him about knowledge management programmes or initiatives or big talk and at the end [show a result] that is not tangible. So I do not think there is full support from management.

Co1-R7 - Employee

4.2.5 Employment instability impacts OCoPs' sustainability

The analysis of the interview transcripts reveals that changes to employees' positions and changes at top management level can both affect OCoPs' effectiveness and sustainability. For instance, interdepartmental transfers of employees entail moving employees onto different

tasks, to optimise their exposure to a variety of types of knowledge. These interdepartmental transfers of employees not only have an affect at top management level, but also influence the work of the OCoPs. For example, Co1-R1 mentioned that transferring an employee assigned to participate actively in an OCoP to another site affects the OCoPs' sustainability. Losing active core members can result in the collapse of the entire group's activities if no successor emerges. Borzillo et al. (2011) indicate that in cases where core members leave OCoPs, because they become overloaded with other responsibilities within the company, or because they leave, it is extremely important to regenerate the OCoPs by adding new core members.

Although changes in job role can further an individual employees' accumulated knowledge, continuous changes have a huge impact on the success of KM initiatives. On this subject, Co1-R1 makes the point below:

Here employees are frequently transferred to different sites. The sustainability of any knowledge management initiative is a key challenge then. You start a new programme and people [are] get excited about it; this is very easily, but to sustain a knowledge management programme or any programme requires additional effort.

Co1-R1 – KM Specialist

However, in the case of top management, changes in the leadership at a company influence KM initiatives like OCoPs that require long-term sustainable development to achieve their aims. Changes to senior leaders at the top management level (e.g. Senior Vice Presidents) can affect KM activities, because each leader has their own unique views about KM practices. Thus, changes in top management personnel might negatively influence the facilitation of KM initiatives within a company. Consequently, changes among executives are known to affect the development of KM initiatives such as OCoPs within Co1. This is reported by Co1-R8, who works in Engineering Knowledge and Resources Division:

Our direct manager is supportive. Sometimes he participates in activities that are not mandatory for him, and he is a very hard worker. The problem is with the VP; [The Company] the post of VP is rotated, so there is a changing impact on KM activities because each VP has different views on KM.

Co1-R8 – Employee

The participants also mentioned that sustainability is a major concern for OCoPs. In the context of this study, sustainability refers to engagement in activities that support sustainable operation of OCoPs. Therefore, participants typically consider sustainability from two angles. On the one hand, sustainability in terms of job position, as the rapid development of the industry brings a wealth of opportunities for employees seeking advancement. On the other hand, promotion can affect an employee's participation in an OCoP, as an employee who has been responsible for promoting an OCoP's activities might be reluctant to join another OCoP, remembering the effort (which he may now consider to have been wasted) that he had put into the earlier OCoP's activities to ensure its sustainability. Hence, some members of OCoPs, stated a preference for participation in OCoPs to involve a contribution from employees, but not one characterised as an obligation. This reluctance to bear responsibility for OCoPs is the main reason why members leave them in favour of focusing on their main job, thereby compromising the sustainability and effectiveness of OCoPs. Co1-R3, an OCoP member with 15 years' experience working in central engineering consulting services, summarised this view saying:

Such a condition represented a reason for some members to leave the [O]CoPs as they don't like to bear responsibility and they think such participation, therefore, will result in them becoming stuck in their careers. They say, 'I am a person, I want to grow in my career!' I can tell you such [people] avoid [O]CoPs. It [participation] should not be a condition [for a specific duration] but seen as a contribution to development. Alternatively, in other words, there should not be a link between career advancement and [O]CoPs' commitments. This would assure sustainability and good participation and remove weak contributors.

Co1-R3 – OCoP member

As indicated previously, the OCoPs in this case study are well-developed, as they are part of ShareK, and so it is possible to characterise the OCoPs in Co1 as having achieved a mature level of implementation. Therefore, it may not be surprising that participants, particularly those with experiences engaging in OCoPs activities, emphasise the importance of adapting OCoPs activities to create business processes. Aligned with this finding, it can be suggested that OCoPs leaders need to develop systematic processes to promote knowledge sharing within their OCoPs; for example, articulating collective problems associated with practices at

each plant and identifying appropriate solutions (Cheung et al., 2013). It is also suggested that the importance of having sustainable OCoPs lies in the benefits gained from improving the knowledge they contain, which in return will improve the outcomes for the company. For example, Co1-R2 suggests the importance of having a custodian or an owner that takes responsibility for supporting the building up of OCoPs to the required levels of knowledge development. Such an owner would be a senior manager, who would then offer leadership, to inspire and stimulate the group; although, they could then leave managerial roles to the direct manager or the leader of the OCoP. This manager would coordinate and facilitate the OCoPs' activities, but top management involvement would emphasise the company's recognition of, and support for OCoPs (Nam Nguyen and Sherif, 2011).

4.3 OCoPs work best when freely established outside the formal company structure

This category presents, discusses and interprets data obtained from the interviews regarding organisational and structural themes. Three main factors were identified under this heading, as illustrated in the following subsections.

4.3.1 The dynamism of OCoPs is difficult to contain within the company structure

Co1 is a large organisation with geographically dispersed operations. OCoPs are seen as a practical tool enabling employees to share their knowledge through ShareK. While OCoPs are not formally located within the organisational structure of the company, the data reveals various opinions regarding whether OCoPs should be encompassed within the structure of the company. There is a general consensus among participants that movements within the existing organisational structure might not nimbly accommodate the sharing of knowledge and expertise within OCoPs. This is because the current functional hierarchical system might contradict the main aim of establishing OCoPs as flexible entities. Moreover, there might be some changes among the members of OCoPs when merging two small and medium size OCoPs together. Creating rigid formal characteristics for each contributing OCoP could cause some difficulties when they become one entity. This finding, to some extent, confirms Roberts (2006) concerns with regard to the successful establishment of OCoPs within organisations characterised by rapid change and unstable structures. This finding highlights an issue with the structuring of OCoPs themselves in conditions where membership is unstable. Participant Co1-R3 elaborates:

Creating the organisation, [and] establishing any change within the organisation would make some things abnormal, because [organisational]

communities of practice are very dynamic [and] complex, and this combined with the characteristics [of OCoPs] as big and small and so on, would make it difficult to manage such organisations. Sometimes communities of practices merge. So if you get a merged organisation within a company, the whole project will be affected. This is why the company decided to keep the communities of practices as virtual [O]CoPs.

Co1-R3 – OCoP member

In a contemporary business environment, intentionally established OCoPs are more likely to be managed in a formalised fashion (Garavan et al., 2007). Based on the definition of formalisation offered in Section 2.4.2, it would appear that, Co1 is more likely to follow a formalised approach, delineating its OCoPs by following an official approach to configuration, such as the “CoPs Charter” produced by the company, which was not located within the structure of the company. This is because OCoPs are ascribed as dynamic entities with continuously changing or devolving processes, in which people can share and exchange their knowledge and experience freely without formal or organisational restrictions (Retna and Ng, 2011). The following quotation from Co1-R4, who is a member of an OCoP, gives an example of the formal procedure he followed when forming an OCoP:

One of the [O]CoPs we tried to form was not accepted and I was requested to resubmit an application in addition to following other procedures. So you take your time working on paper and saying whether we need this or not. Not every subject area can be covered by an [O]CoPs. So you should be clear and satisfy set requirements in order to establish [O]CoPs. It's necessary when organising the [O]CoPs. It's not bureaucratic, rather it aims to increase the quality, and therefore you have to prepare more for [O]CoPs and you need to spend more time making arrangements. Sometimes, as a technical person, you do not need to spend additional time doing paper works.

Co1-R4 – OCoPs member

It appears that the formal procedures required to establish an OCoP arose, not because the company is centralised in its decision making, but to ensure the quality of the outcomes of the OCoPs after they have been established. Nonetheless, some participants claimed that there were some attempts made by the company to formalise the group structure, particularly those

without an administrative system, such as OCoPs. In other words, as Co1-R4 states, OCoPs should not have an official structure. They should be flexible and not divided into OCoPs, or units of OCoPs. Thus, considering issues such as the amount of experience and articulated knowledge needed in the technical field, it might not be beneficial for OCoPs to be controlled rigidly in terms of their administration; instead, the company should manage OCoPs by implementing policy and procedural guidelines. In addition, OCoPs comprise experts who consider their participation in OCoPs as part of their duties, and not tied to the managerial hierarchies within the company.

4.3.2 A less centralised approach enables OCoPs activities

When analysing the interview transcripts, it was found that opinions about placing OCoPs within the structure of the company were mainly influenced by concerns that an official structure might limit the flexibility features of OCoPs, in terms of their freedom from hierarchical pressures (Probst and Borzillo, 2008). This was confirmed by a documentary review (Company's corporate citizenship review, 2009), which confirmed that the company removes the formal hierarchy in the creativity process by providing opportunities for employees to share ideas and expertise via knowledge sharing networks (e.g. ShareK). Nevertheless, some participants admitted that OCoPs imply ownership of knowledge via specialisations (e.g. Petroleum Engineering, Chemical Engineering, etc.). Having ownership based on specialisations in this way means that if any member has to leave the group for any reason, he cannot establish an OCoP with tasks similar to the original group. Seemingly, this perspective results in OCoPs becoming more organised, thereby assuring the sustainability of delivering successful outcomes, and enabling the achievement of organisational goals, because this will help avoid substandard contributions to the company. This point was emphasised by Co1-R1, thus:

It is not necessary to be linked to the structure of the company. It is disciplinary-based [groups]. However, it has to have an owner, and the owner is the organisation.

Co1-R1 – KM Specialist

This issue was discussed by Seba et al. (2012), who investigated the role of knowledge sharing in the Dubai Police Force, and found that hierarchal organisational structures have a negative impact on knowledge sharing and inhibit the performance of social networks. Seba et al.'s (2012) study was conducted in an Arab Gulf State that shares similarities with the

context of the present study, Saudi Arabia. Accordingly, non-hierarchical groups, such as OCoPs fit more closely with the Arab work culture than structured, formal teams (Roberts, 2006). This finding contradicts the results reported by Yamklin and Igel (2012), who claimed that OCoPs embedded in formal structures improve tangible outcomes, because employees consider participation in OCoPs as part of their formal job responsibility. The findings of Seba et al. (2012) suggest that when OCoPs form outside an organisational structure, they can contribute significantly to a firm's performance. This case study not only confirms Seba et al.'s (2012), but also extends the view that less formalised and less centralised features are an advantage for OCoPs, because they are by nature dynamic entities with social interactions, whose confinement within the framework of a company could result in problems with their management, affecting the entire project should changes occur. This was confirmed by Co1-R5, who ascribes Co1's organisational structure, which he characterised as partially centralised, as facilitating knowledge sharing within the company.

From my point of view and opinion, the organisational structure across [Co1] is semi-centralised. For each individual, when working inside the organisation he sees it as independent organisation (not centralised), however, for individuals working higher up and outside the organisation it seems to be a dependent organisation (centralised one). Parameters that support the meaning of centralised organisational structure are: business plans, general instructions, and budget. These three parameters are common to each organisation and the general shape of these three parameters is almost the same and shares grey areas with [Co1's] organisation. There are also some areas of independence (less centralised): for example, each organisation is privileged to issue its own IP (Internal Procedures) in some areas, to serve its operations better, although within the [Co1] guidelines. So, a less-centralised structure in organisations could build bridges between them by means of knowledge sharing (bringing experts from outside the organisations to deliver recent technologies).

Co1-R5 – Engineer

It is likely that employees in Co1 feel the meaning of less centralised at the lower level (e.g. units' level), but at the same time Co1' employees feel the meaning of the centralised structure is crucial at a higher level (e.g. admin area or business lines). It appears that OCoPs

are encouraged within Co1, as the company seems to be less-centralised at the lower levels than at the top management level, where it is more flexible, giving middle management the opportunity to make decisions within their units. It is likely that due to the disperse operations of the company, Co1 engages flexible management, to respond to the complex environment inherent in its businesses. OCoPs, therefore, benefit from being nurtured in a flexible and less centralised structure.

Aside from the rationales discussed regarding making OCoPs components of the organisational structure of a company, one group of participants disagreed with the suggestion to afford OCoPs a loose structure. They argued that OCoPs should be formalised, as they attribute the lack of formalisation to difficulties managing employees' needs individually when their cultural backgrounds differ. For example, Co1-R5, who is an oil engineer, explains:

I prefer to stay in a formally organised structure. The first thing [is that] you will be credited. [So] that if you do something not required of you, [you] will not receive any benefit from the company. Then they will say 'you have done something not instructed officially'. Therefore, if such activities are made official, and are [OCoP's] processes, and the budget, and objectives are clear, it will be better.

Co1-R5 – Engineer

A similar view is expressed by Co1-R3, says:

I think if you have linked the communities of practices to the structure of the company, you need to have charges and a custodian to support building communities of practice up to the required level. We need to have an owner of it [the company]... and most appropriately is to be as a technical organisation.

Co1-R3 – OCoP member

These views expressed by those who disagree with OCoPs run with a loose structure saw the situation from a different angle; emphasising the need for clear objectives and financial or non-financial appreciation of any work done.

In summary, Co1 seems less formalised in terms of the option given for employees to participate in OCoPs within their area of speciality, despite the procedures and rules that

needed to be followed to establish a new OCoP. It can be deduced that a less formalised approach enabled OCoPs to grow in Co1, as it affected the establishment of OCoPs, such as ShareK. However, people were aware about of rules and responsibilities that were expected to meet when forming OCoPs. However, the interviews found that a less formalised organisational structure would be more appropriate for OCoPs intentionally managed by the company, rather than for TCoPs, which are characterised by their self-managed aspect and do not necessarily thrive when objectives are imposed on them by members of the company. Chen and Huang (2007) confirmed that when the characteristics of an organisational structure are less centralised, less formalised and more integrated, the social interaction among organisational members is typically more favourable and the KM initiatives are therefore enhanced. Hence, the discussion in this section is not only concerned with how professionals answer the question of whether OCoPs can reside within the structure of the company, but also how they regard OCoPs in terms of providing them with space to present their ideas freely in relation to the harmonisation of policies and rules.

4.3.3 Formalising a reward system for OCoPs to increase participation

Although the role of a reward system was discussed and linked to the organisational culture factor mentioned in the literature review, this case study investigates a formalised reward system. One of the main incentives for a company when establishing OCoPs is to promote the importance of knowledge sharing among employees, particularly those who work in the same field but at different locations, the views about rewards for OCoPs members varied. In their study, Walter et al. (2013) suggested a more extensive investigation into the perception of rewards, and their impact as factors increasing the level of participation in OCoPs' activities. The findings from this case study showed the company has no official reward system established for participation in informal entities, such as OCoPs. This was further mentioned by Bartol and Srivastava (2002), who indicated that it is difficult for organisations to reward knowledge sharing behaviour in OCoPs, due to the informal arrangements among participants, despite the possibility that they might be nurtured and supported by the company in different ways.

It appears that OCoPs members receive appreciation for their work personally and not formally. The participants from Co1 explained that rewards are mainly organised by direct managers when they particularly appreciate their work and choose to reward them for it. These rewards can be either financial or non-financial. While rewards guarantee that employees are aware of the appreciation of their managers, a range of non-financial rewards

can encourage employees to participate in OCoPs' activities. These rewards can include adding information to an employee's CV to demonstrate that he has achieved a valuable objective from participating in OCoPs; this would encourage promotion of his inherent worth. Previous research by Bartol and Srivastava (2002) indicate that individual participation in OCoPs' activities is motivated by factors such as self-actualisation, learning, and the advancement of OCoPs. Thus, monetary rewards from participation in OCoPs might be less useful than intrinsic motivation of individuals to build expertise. One OCoP member, Co1-R4, emphasises the importance of establishing a reward system that works to convince people to participate in OCoPs.

You can add your participation in [O]CoPs to your achievements. So any technical person who participated in [O]CoPs' activities and delivered for example a presentation or documents can add this to their CV. It is not only a financial reward but also a benefit to your CV. I would prefer to have a reward system, because [otherwise] some people do not give it such importance or value.

Co1-R4 – OCoP member

Co1-R3 agrees that a reward system would be beneficial if implemented as part of each member's annual review. The company could thus recognise his participation and the efforts made to advance his community.

If we are a strong [organisational] community of practice than this will be reflected in the annual member review at the end of the year, and consequently the company will recognise it.

Co1-R3 – OCoP member

Co1-R3 speaks based on his experience as a division head and a participant in OCoPs. As a technical person, he is convinced that a formal reward system is a good driver for members of the company seeking to participate in OCoPs. Moreover, from his perspective, the reward system will invigorate inactive members to participate more actively and present constructive ideas to demonstrate their capability. In his view, people are often reluctant to share valuable knowledge and expertise if they have no promise of receiving a benefit in return.

From my experience, this is a good driver for people to participate in [O]CoPs and become active; and technical people can prove their

efficiency and thereby augment their records for advancement and promotion.

Co1-R3 – OCoPs member

On the other hand, this study found no evidence that direct managers provide any monetary rewards to enhance participation in OCoPs. Aside from these findings regarding formalising reward systems for OCoPs, one participant indicated that there is a reward system but that it is designated mainly to formal groups.

We have financial and non-financial rewards but mainly for formal groups. Nevertheless, appreciation has more impact.

Co1-R9 – Senior Technician

It is likely that appreciation is more important for employees who work in the field and spend much of their time among the oil wells. Such findings suggest a reward system could promote optimisation of one's self-image in the company as a means of appreciation of the efforts of OCoPs (Oliver and Kandadi, 2006).

In contrast, participants involved in this study felt that even were a reward system to exist; it would not change the minds of those who do not want to participate in OCoPs. Co1-R1, who works in KM development, indicates that he was awarded the accolade of best moderator of OCoPs. He believes that changing the prevailing culture among employees to alter the image of KM programmes is more important than simply creating a process. Co1-R1 feels that embedding the value of knowledge into culture is more valuable than the process itself.

The culture is more important than the process, so we need to make a programme for incentivising. We need to create incentive programmes and rewards. However, you cannot depend on these. I will do a successful programme and everyone will get involve, people do not care even if you rewarded them, they do not care.

Co1-R1 – KM Specialist

In this case study, the reward system did not appear to reinforce participation and knowledge sharing at OCoPs. KM programmes such as OCoPs are seen as an opportunity for self-development of employees, to increase their knowledge in his field. Since OCoPs are well-developed at Co1, those participants who have experiences with OCoPs expressed their views

about formalising the reward system as an enabler, motivating members to engage actively in their OCoPs meetings.

You can put a reward system in place, some drivers encourage people to participate. The main goal is to find people who are willing to work on these activities even without an allowance, but if there were some reward in return, that would be an assisting factor.

Co1-R4 – OCoPs member

In business settings, such as that where Co1 is based, this finding extends previous research, as observed by Walter et al. (2013) who investigated OCoPs in the United Nations Development Programme and found rewards might not always play a substantial role in increasing knowledge sharing among members. Walter et al. (2013) also suggest developing an appropriate reward system for OCoPs with clear criteria for assessing activities, for instance, rewarding based on the number of patents produced from OCoPs. Formalisation of the reward system is seen as possible by Co1, as the establishment procedures for OCoPs are set out clearly for employees, encouraging the exchange of ideas and knowledge to sustain the creativity process through knowledge sharing initiatives, thereby maintaining the sustainability of the level of participation in OCoPs.

4.4 Nurturing a knowledge sharing culture to sustain OCoPs

Establishing and sustaining KM initiatives to enhance knowledge sharing was identified by several participants as a key factor ensuring OCoPs sustainability and success. The analysis of interview transcripts, field interviews and interview notes revealed five main factors that assist the nurture of a knowledge sharing culture and promote participation in OCoPs. These are: (a) self-motivation for knowledge sharing, (b) the relationship between supervisors and subordinates, (c) the impact of local background on knowledge sharing, (d) seeding knowledge sharing through international collaboration, and (e) branding KM programmes to stimulate use. These five factors are discussed in the following subsections.

4.4.1 Self-motivation for knowledge sharing sustains OCoPs

The data shows that the concept of sharing knowledge comprises part of the value received by a company that assists in establishing and facilitating OCoPs activities. This is because the company needs employees to transfer their experience of knowledge, such as through technology, by which everybody can attain the required level of technical competence. Despite this, in the context of this case study, some participants stated that promoting an

organisational culture for knowledge sharing is more important than setting processes and procedures for OCoPs. As considerable knowledge resides in individuals' minds, self-motivation of the employee is seen as an important element enabling knowledge sharing culture within the company. Previous literature (e.g. Liebowitz et al. (2010)) highlights the important role people play in promoting a knowledge sharing culture. In Co1, participation in OCoPs is voluntary, especially for non-core members; however, self-motivation, allowing employees to share their experiences would enable the spread of a knowledge sharing culture across the company. Participant Co1-R3 comments:

Actually, from my experience, if people are not willing to serve in an [O]CoP, that will defeat the aims of any type of procedures to make the people participate in these groups. These things are really driven by the interests of people more than by organisational policies. People should have self-motivation to share their ideas.

Co1-R3 – OCoPs member

At Co1, OCoPs are seen as a venue to facilitate knowledge sharing. In an internal study conducted for the Engineering Knowledge and Resources Division, to investigate cultural barriers within the organisation, it was found that employees look for the benefit they will receive when sharing their knowledge and experience, particularly through informal groups such as ShareK, although OCoPs activities might not be recognised by the direct manager or included in annual assessments. The more knowledge an employee shares, the more he will benefit in return. This perception felt at Co1 is illustrated by Co1-R1.

One of the barriers was 'What it is meant for me?', 'What benefit will I receive?' At the end of the year we have an evaluation. I know my boss will not look at activities that I have done. Moreover, I have no time to catch up on my main job when my boss [asks] me to finish. My boss will blame me, he [will say] you are late, the work is delayed and so on.

Co1-R1 – KM Specialist

It is likely that some participants in this case study cannot see any quantifiable returns on their knowledge sharing investments from a material point of view, but nevertheless believe that KM should be routine for employees in the workplace. McDermott and O'Dell (2001) proposed that people should choose to share ideas and insights naturally, rather than feeling

compelled to do. Thus, it seems that Co1 prefers to embed OCoP activities into the business process to stimulate employees to participate and share knowledge actively through OCoPs.

The capacity of employees to be self-motivated plays a significant role in enabling the company to produce a sustainable organisational culture that includes engagement in OCoPs, generating an atmosphere of knowledge sharing. This finding is not only consistent with McDermott (1999), who indicated that the key driver of a change toward sharing knowledge is likely to involve the OCoPs themselves, but also suggests inviting non-members of OCoPs to consider knowledge sharing as an integral part of their daily work to promote participation in OCoP activities. As mentioned previously, the data suggests enhancing knowledge sharing among employees can be achieved through an annual performance appraisal in which each employee is evaluated based on his participation in OCoPs. Co1-R4 comments:

We have what we call the method of 'Giving hope and warning from harm', showing the hope of benefitting from knowledge sharing as something that can be included an annual performance evaluation. Then people will be recognised by the end of the year, for how much they shared their knowledge and experience with others.

Co1-R4 – OCoPs member

Thus, enhancing the knowledge sharing culture through OCoPs can help employees to be self-motivated moving beyond a strict job description to promote knowledge competencies in a specific area of their field.

4.4.2. Relationship between supervisors and subordinates enhances knowledge sharing culture

Three interviewees mentioned that the relationship between a supervisor and his subordinates plays a vital role in creating a knowledge sharing culture. OCoPs need adequate support from the company, and problems arise when managers do not provide space for employees to discuss their ideas, or view such discussion as a challenge to their authority. Hence, a lack of support in this area would have the potential to disable the knowledge sharing culture within the company and negatively affecting willingness to share ideas within OCoPs. Co1-R1 illustrates this point forthrightly:

Well not many people like to talk about it, but I like to. For example, the relationship between superiors and subordinates is not as good as it is in the US and the UK [in business companies]. It is hard to communicate

with top management, he does not listen, so to keep my position I have to flatter him, I agree with him about something when I do not, particularly regarding technical things where I am an expert, because he will feel I am challenging him and therefore there will be serious consequences. So many people prefer not to put themselves in trouble with the management. Therefore, this organisational culture kills knowledge sharing, whereas in other States it does not.

Co1-R1 – KM Specialist

Although this study, offers no further evidence to support this argument, by comparing Saudi Arabia business companies and Western companies, Co1-R1's view is probably influenced by his previous work experience at companies in the US before he joined Co1. It seems that he alleges weakness of functional competencies at the level of senior leadership, particularly among those employed in departments supporting the core business of the company, who may understand the concept of OCoPs but do not pay close attention to their importance for knowledge sharing and to improve the level of performance among employees in the company. Managers who have short-term goals and targets might not allow their teams (e.g. OCoPs) to spend time on knowledge creation and sharing, ultimately thwarting the knowledge sharing culture (Oliver and Kandadi, 2006).

By contrast, other participants cited OCoPs as a good example of knowledge sharing, and did not mention any obstacle preventing people from participating in these groups. For example, Co1-R9 stated that the experts within his department are very cooperative and very proactive young employees, enthusiastic about learning from experts. He attributes this to the encouraging company environment. From the documentary review process, it is apparent that the company asserts the importance of enhancing KM programmes in its annual reviews, and ShareK is a good example of a forum for knowledge sharing. It is likely that the time technicians spend working in the field affects their relationships with one another, their supervisors, and their approach to sharing knowledge. The bond between OCoPs members is mentioned by Wenger (2011), who argues that OCoPs are not merely a database or a website but also a milieu for interacting and building mutual knowledge sharing. Co1-R9 comments:

Knowledge sharing is encouraged within the company. So, through this programme you can suggest any ideas and transfer them to your direct supervisor who will pass them along to the Engineering Management

Services, and if the idea is implemented and is successful at the worksite and it possible to use it elsewhere it can be circulated to other departments in the company.

Co1-R9 – Senior Technician

Hence, there is an evident belief in Co1 that the type of work an employee engages in will play a substantial role in enhancing the culture of knowledge sharing and influence how managers managing their units can influence opinions linked to participation in OCoPs. As a result, it appears that people in technical fields, who are likely to encounter certain issues as part of their job, appreciate the culture of knowledge sharing more and participate more actively in OCoPs than those working in non-technical fields. This can be attributed to the fact that OCoPs appear to assist people in the technical and engineering fields to address technical problems, solving them through sharing experiences and exchanging ideas. However, it is again emphasised that leadership is important, and if senior managers involve themselves practically in knowledge sharing initiatives, the organisational culture will resolve barriers to knowledge sharing via OCoPs.

4.4.3 Impact of local background on the effectiveness of knowledge sharing

Some barriers inhibit the nurturing of knowledge sharing culture within a company. If a company wants to promote OCoPs, it has to overcome national cultural influences that impede knowledge sharing. Co1-R6, commented that a clan culture (Suppiah and Sandhu, 2011) is overwhelming within the company, as people are more willing to share their knowledge or expertise with someone from the same tribe or from the same city or even with the same job title as themselves; thus, a technician will share his knowledge with another technician. Ali (2009) indicates that society in Saudi Arabia has always been highly nepotistic. Friendships, regionalism and communal relationships have long had a significant impact on individual actions and behaviour in workplace settings. This undoubtedly shapes Co1-R6's view, as he works in educational project management, which is one of the company's corporate social responsibility initiatives. Although a clan culture can have a positive influence on tacit knowledge sharing behaviour (Suppiah and Sandhu, 2011), local political or religious background can limit knowledge sharing, according to Co1-R6.

This issue was closely examined by Hasan and Zhou (2015), who investigated KM initiatives in global companies, suggesting that cultural and personal barriers need to be overcome through the cultivation of an organisational knowledge sharing culture. This kind of

organisational culture would then affect the spread of ideas or knowledge sharing among employees. Co1-R6 outlines these influences on organisational culture:

I think local culture is winning now. It means that if you are from my tribe I will share my knowledge with you, if you are not, I will not share it with you. If you are a technician, I will do so. Keep in your mind its clan culture existence in the company. All the sectarian problems from local culture effect organisational culture.

Co1-R6 – Educational Counsellor

The working environment, according to Co1-R6 is mixed, with members of different nationalities and religious backgrounds. He engages directly with the local community, designing programmes for young people to support them. In this case, building up an organisational culture linked to this sort of work environment could influence knowledge sharing and engagement in OCoPs, as it would then be based on the personal preference of an individual to share knowledge effectively. However, no clear evidence was gathered in this study to suggest that clan culture would have a positive or negative impact on knowledge sharing within OCoPs. Working on similar lines, Harvey et al. (2013) argue that the promotion of knowledge sharing should not be the responsibility of one person, one OCoP or one department. Enhancement of a knowledge sharing culture should be performed throughout the organisation at different hierarchal levels.

4.4.4 Knowledge sharing through international cooperation

Due to the global presence of the company as an oil production company, international cooperation with its subsidiaries is also part of the knowledge sharing process. As Co1 is a large multinational company, the data revealed the importance of sharing knowledge about the latest technology in its industry (oil and gas exploration and production), through cooperation with leading international companies. The company sends employees overseas to learn about the use of a specific technology in their field, can reduce shortages in production and find solutions to production engineering problems that it might face. The following quotation from Co1-R5, who works as a production engineer, explains that his department have a monthly gathering termed a ‘Knowledge Sharing Presentation’, where the staff (about 70 people) present subjects related to their work.

We have something called a technical support unit. The supervisor of the technical support unit selects the members based on their experience. The

unit sends them to large companies in the USA and Canada for what is called 'assimilation', so when the employee comes back he is supposed to be fully aware of a certain issue to support resolving it. The other thing is called 'hosted knowledge sharing', in which we call a leading international company once a month and they present what they have in terms of technology and solutions to problems from which we continually suffer in production engineering. They talk and explain the knowledge they have about oil production and this benefits us at the level of Saudi Arabia, or all the Gulf states, or even at the level of Middle East.

Co1-R5 – Engineer

The interview data presented above highlights the fact that the company fosters a culture that empowers individuals and encourages global collaboration to employ the up to date technology provided by international companies. The document review confirmed this international collaboration between Co1 and other partners to create shared value. For example, a review of the citizenship report (2014) published by the company indicates that in 2014, Co1 conducted a first joint oil spill response drill with the Petroleum Association of Japan to share knowledge and experience. This encouraging collaboration moves organisational culture toward advancing the knowledge of the employee as a type of global knowledge sharing, which has been undertaken in production engineering. Hasan and Zhou (2015) indicate that local employees, who have adapted to the culture and practices of their parent companies are more open to sharing what they know with others and participate in knowledge sharing activities. Thus, at Co1, it appears that enhancing the knowledge sharing culture is important due to its role in the oil industry, as it is important for the company to implement advanced technology. Furthermore, it seems that the company has not only created a culture of knowledge sharing among its affiliates located in Saudi Arabia, but has also encouraged employees globally to exchange their ideas and experience with their affiliates. It is possible that this increasingly collaborative environment motivates employees to share their expertise and technical know-how through OCoPs.

4.4.5 Branding KM programmes to stimulate utilisation

Although OCoPs are well known among KM specialists at the company, particularly in Engineering Services, the participants revealed that the company prefers to label its OCoP programmes as ShareK. Thus, the company utilises branding for its KM programmes as it

extends a knowledge sharing culture across it. During the interviews, when asked about the OCoPs benefits, the participants mentioned aspects such as ‘the subject of branding’, ‘give the programme a brand name’, ‘ShareK is the brand name’. The objective of branding is to ensure the name of the KM programme is known widely across the company. At Co1, using an attractive name is intended to stimulate KM practice. A KM specialist at Co1, participant Co1-R1 comments:

By the way, the subject of branding is very important in knowledge management. You give the programme a brand name, so people can remember it and start to talk about it. So, when you say e-Way that means the Upstream programme, ShareK is an engineering knowledge management programme.

Co1-R1 – KM Specialist

The data shows that most of the respondents feel the company should conduct campaigns to increase awareness of OCoPs within the company. A supporter of this idea is Co1-R4, who has been participating in OCoPs for about ten years as both a leader and a member. He believes that one of the reasons for the concept failing to evolve, as it should have within the company is that OCoPs are mainly organised for people working in central offices and are not well suited to those who work in plants.

I think we should conduct some campaigns using advertisements to tell them that they will receive new information and updates about their job, and [we could thus] improve their abilities

Co1-R4 – OCoP member

The finding of this study suggests that giving a brand name to OCoPs will increase awareness among employees about sharing knowledge and experiences. It was seen that ShareK enables clustering expertise and makes knowledge more accessible to diverse employees.

4.5 Summary

This chapter has presented the findings of the empirical case study for Co1. The analysis of OCoPs experience in Co1 has provided many insights. This case study is a good example of an organisation that takes the concept very seriously, communicates the idea of instituting OCoPs widely in a form of a ShareK portal of which OCoPs are a part, encouraging its utilisation openly. The uniqueness of Co1 is that it has put on in place a clear strategy for

implementing KM initiatives. The case study has shown how the company was able to establish and enforce well-developed OCoPs by presenting some aspects that assist in enabling OCoPs within its boundaries. Due to the flexibility complying with rules and procedures of establishment, employees were able to share their knowledge and expertise and form OCoPs based on the mutual interest and specialisations area. In addition, this case study illustrated how the company built an attractive brand name for its OCoPs, such as ShareK, which has enabled OCoPs to be recognised extensively within the company, particularly among engineering employees. Such collaboration from middle management along with top management is important to achieve sustainable OCoPs within the company. In addition, in order to maintain sustainability, this case has shown that OCoPs need to sustain a knowledge sharing culture in which formalising the reward system can help maintain participation to ensure OCoPs are sustainable.

CHAPTER 5: CASE STUDY TWO: FINDINGS AND DISCUSSIONS ABOUT OCoPs WITHIN CO2 (PETROCHEMICAL COMPANY)

5.0 Introduction

This chapter will look closely at Co2, a company in the petrochemical industry whose operations have recently become global. This chapter aims to elucidate an alternative example of OCoPs, in which the company claims a different title than OCoP, instead using the term 'Expert Groups'. However, in this study they will still be referred to as OCoPs, as they share the same essential components of intentionally established OCoPs (as defined in Table 1 on page 30), although it is essential to reference the concept of 'Expert Groups' in some parts of the study. Additionally, it was decided to keep the title of 'Expert Group leader' to describe the participants in this study, as this is the title given to them by the company.

The conclusion of this case study will be that the application of the concept of OCoPs within Co2 is still in its infancy. This immaturity has brought about different views amongst participants regarding the implementation of OCoPs within Co2, compared to Co1. One of the main differences between OCoPs in Co1 and Co2 is that in Co2 the members of the OCoP are assigned based on their accumulated knowledge and experience in the plants' operations, whereas in Co1 OCoPs are more open, as discussed previously. Consequently, it is important to examine and understand the factors that enable or disable OCoPs in the development stages.

A review of a recent annual report (2015) for Co2, it appears that the company lacks a clear strategy for its KM initiatives, through which employees can enhance their knowledge sharing activities. Knowledge sharing is mentioned just once in the annual report, where the company expresses its intention to issue Co2 Manufacturing Standards and deliver specialised training to improve the technical competencies of its engineers and managers. This case study, therefore, is extremely helpful, as it provides an example of a company practising unobtrusive KM within its own boundaries. Analysis of the case study revealed four themes. (see Appendix G for the final framework of themes and sub-themes for Co2). The following subsections will present and interpret the data and themes that emerged from the interviews conducted, documents reviewed and field notes taken with regard to Co2. Table 9 provides details of the interview participants from Co2.

Table 9: Details of the interview participants from Co2.

Interviewee Code	Job Title	Experience with OCoPs
Co2-R10	KM Leader (Technology and Innovation (T&I) Centre)	No, but aware of it
Co2-R11	Director SC Systems Excellence Department	No
Co2-R12	Chief Engineer	No, but aware of it
Co2-R13	Senior Manager (Talent Manager)	No, but aware of it
Co2-R14	General Manager (Affiliates)	No, but aware of it
Co2-R15	Section Head (Manufacturing Centre of Excellence)	Yes, participated in an Experts Group
Co2-R16	Failure Analysis Group Leader	Yes, Experts Group Leader
Co2-R17	Senior Engineer	Yes, Experts Group Leader
Co2-R18	Project Manager (Manufacturing Centre of Excellence)	Yes, participated in an Experts Group
Co2-R19	Global Feedstock Director	No
Co2-R20	Project Leader	No, but aware of it
Co2-R21	General Manager (Affiliates)	No, but aware of it
Co2-R22	Business Director	No

5.1 Perspectives on OCoPs within the company

In comparison to Co1, in which the notion of OCoPs is clearly defined by the company in the form of ShareK, in Co2 the situation is very different. The concept was relatively new to the participants interviewed from Co2, except for those who worked in the KM field. This case study identified two main sub-themes in participants' views regarding OCoPs within the company; these are: (a) the notion of OCoPs can lead to diverse perspectives within the company, and (b) expert groups are seen as an ongoing activity, as opposed to a more formal and structured practice.

5.1.1 Diverse perspectives surrounding the notion of OCoPs within the company

The research findings show that there is unanimous agreement among participants from Co2 regarding the fundamental role of knowledge sharing networks within the company, particularly on a global scale. However, the research findings also reveal that OCoPs are a relatively new concept within Co2, where people who work in the same area may form their own ‘teams’ that act as OCoPs, without actually using the term. The network established within the company may use different terms or titles to describe groups with the same function as OCoPs. Therefore, it seems that the company is not restricted to labelling groups as OCoPs; more importantly, though, it is clear that knowledge and expertise is shared and exchanged via these groups. Though Co2 shares the same point of view as Co1, that OCoPs can assist in facilitating knowledge sharing, it appears that the specific term OCoP is not popular within Co2, even though such groups do exist, under different names, and primarily aim at personnel development. Participant Co2-R10, for instance, has previously worked as a scientist in the Technology and Innovation (T&I) Centre, in which KM is a more commonly used term. The T&I Centre has a dedicated team called the Knowledge Management Team, though this team appears to have different names across the different company plants. This is in line with Bolisani and Scarso’s view (2014) that the problem with the notion of ‘CoPs’ is that there is no uniform usage of the term when it is adopted in various organisational forms. In the case of Co2, the main aim behind establishing such initiatives is to promote tacit knowledge sharing around a certain practice, regardless of title.

It appears that the concept of OCoPs is still not well understood or widely implemented nomenclature at the management level, or in employees’ perceptions within Co2 as a company. Co2 establishes knowledge sharing practices under other titles, but with functions and characteristics are very similar to those of OCoPs, such as membership boundaries and officially assigned OCoPs leaders. Nonetheless, some participants put the onus on OCoP members to communicate their efforts in a more efficient way to top management. For instance, Co2-R12, who previously worked as a manager in the company, commented:

[M]aybe the terminology is not clear... Here they call them Networks; they do not call them [O]CoPs. If you say to them ‘Domain’ or ‘Networks’, they will know it. However, there is mixing between Domains because they were established recently, about three years ago, and it is not on the radar of top management in any effective way.

Co2-R12 – Chief Engineer

At Co2 participants did not use the term ‘OCoPs’, as it is a relatively new concept to the company and various terms are used to refer to groups that fit the description of an OCoP. This contrasted with the participants from Co1, who demonstrated clear understanding of OCoPs as a concept, although its OCoPs are branded as ‘ShareK’. It should be noted that the main incentive for establishing any kind of network in the company is to deal with specific issues in order to help achieve the business objectives. If that requires bringing people together for a specific purpose, then this would not be an obstacle. The introduction of KM initiatives is relatively new to this company, unlike Co1, which has a longer history of KM implementation and a clear KM strategy (best practices and lessons learned) that is more ingrained in the organisation, whereby individuals can adopt a wide range of tools and means to enable and support the achievement of company objectives.

In the context of this case study, it seems that there is no one unified initiative bringing people together from different sites to share their knowledge and experience. This situation was described by Co2-R13, who works in the Talent Management department, and demonstrated an awareness of OCoPs, as a term. Co2-R13 perceived that the establishment of these communities helps Talent Management to recognise the talented people within the company, and work on their development. Moreover, this facilitates networking between departments in the same field, thus helping to share expertise and raise awareness about the different issues faced in that field. Having said that, while it is clear that individuals working for Co2 appreciate the importance of sharing their expertise and knowledge, these efforts are not well developed. For instance, some participants suggested that there is a need for Co2 to consider a distinctive designated name for KM initiatives, in order to expose those KM initiatives more widely. This point is illustrated by Co1-R13 in the following quote:

Knowledge communities or [O]CoPs have not established their brand. They exist timidly, under different names, and exist [in such a way that] no one knows they exist. So first, you need to raise awareness, build a strong brand in the community; then people will see and value the outcomes.

Co2-R13 - Talent Manager

It is likely that when OCoPs have a specific indication distinct from other groups, such as team projects, this would help OCoPs to be better recognised, as was the case for Co1, in terms of ShareK. The view quoted above was expressed by Co1-R13, who was interviewed at the company’s headquarters. Yet the concept of OCoPs seemed to be unclear to the affiliates,

also. For instance, Co2-R14 joined the company in 1993 and began working directly for an affiliate. He was later appointed as a technical general manager in 2011, a post that he continues to hold. This participant was not familiar with the term ‘CoPs’, and inquired as to whether there was a direct link between OCoPs and Expert Groups or Domains, or whether the company had not evolved enough to conceive of anything beyond ‘Expert Groups’ and ‘Domains’.

This a new concept in this culture. Actually, ‘Communities of Practice’ is a new concept to me. I know about what is called ‘Expert Matter Domains’, but I don’t think [O]CoPs is a common [term] in [the company].

Co2-R14 – General Manager, Affiliate

While the notion of OCoPs is not commonly used in Co2, Expert Groups are established to support the company’s affiliates and plants, in order to address their current issues and to come up with solutions. In the context of this case study, this highlights that a company operating globally accumulates a wealth of expertise, which requires the company to consider establishing a pool of knowledge, such as an MCE, which can help affiliates to solve any problems or issues they may face in their operations. Co2-R13 illustrates:

Expert Groups began with the restructuring of the company. The Manufacturing Centre of Excellence was established in 2009 as part of a new model for the company, a global model. From the definition you gave of [O]CoPs, it is more or less the same thing, but it exists in a structured way and as a permanent organisation. The idea of the Manufacturing Centre of Excellence is to enable people who have accumulated experience in a specific field to benefit the company and its affiliates, overall.

Co2-R13 - Talent Manager

Similarly, Co2-R10 points out how knowledge sharing has become important for Co2, due to the moving of its operations to a global scale, despite the different titles of the groups:

[T]he goal is to exchange tacit knowledge regardless of what we call it and how we do it. We are not traditional workers, not anymore; we are now a global company... We do share knowledge; we do exchange expertise; we do use different brains in one project, not necessarily working in the same location. Knowledge sharing takes place without

being called [O]CoPs, and without being in the same area. So do not be surprised that the concept of [O]CoPs does not exist.

Co2-R10 – KM leader

The nature of the work carried out at the plants in Co2 means that understandings of the advantages of establishing OCoPs vary between the different business units in the company. Generally, this finding shows how the absence of a unified concept of OCoPs can lead to differing interpretations and various applications within the company. This dispersion of perception of OCoPs hampers awareness of the concept and its activities across the company and its affiliates.

5.1.2 OCoPs create the perception that they support continuous exchange of expertise, in contrast with formal structured groups

Although OCoPs are purposefully established within Co2, their activities are not considered formal or structured. This apparent informal aspect of OCoPs led some participants to distinguish between formally structured groups and OCoPs in the case study.

In Co2, any structured group within the company is seen as a formal group. One example of this is a project team, or a work team, to which individuals are assigned and tasked with delivering specific objectives within a certain time frame. This group would be disbanded at the end of the project, when the objectives have been accomplished. By contrast, the OCoPs are seen as an ongoing activity. Despite the fact that OCoPs are formed by the company, they do not fall within the structure of the company. Co2-R17 explains how OCoPs (though referred to as Expert Groups) are viewed differently to project teams, and highlights the longevity and continuity of OCoPs, as well as their ability to connect people and projects via a shared language:

A Project Team is like a project that includes people from various backgrounds, such as Civil, Electrical and Mechanical. Once it is finished, the team members return to their normal work. Project teams have a certain task to be achieved by a [certain] date, or [in certain] numbers... An Expert Group is different; it is to expect the unexpected, to avoid problems in the future, to save money, to avoid repeating the same mistake every day, every month, and every year. We speak the same language, we talk about a specific thing, we talk about equipment; we are all in the same wave. So they are different.

Co2-R17 – Expert Group Leader

In this case study, it is likely that OCoPs members cluster together in a more homogeneous way, and members speak in the shared language of their discipline, which makes it easy for them to communicate with and understand each other. As Chiu et al. explain, a shared language goes beyond language itself, as it also utilises “the acronyms, subtleties, and underlying assumptions that are the staples of day-to-day interactions” (2006, p. 1878). Thus, members of OCoPs who have technical and engineering backgrounds can experience these sorts of groups as a space in which members understand each other and enhance the efficiency of their communications.

Co2-R16, also an Expert Group leader, agrees with Co2-R17 that OCoPs operate in a more unified manner than other groups. OCoPs work within the same remit as other groups, but have a specific area of specialisation, which Co2-R16 argues is an advantage because it enriches the knowledge and experience of the members. At the same time, this reflects on the performance of the company, because as the members learn from each other they can provide optimum and timely support to the plants in which they work.

We have, as technicians, agreed to unite in one group, that is, the Expert Group, where everyone can help each other to resolve [issues] and give insights about a certain problem, drawing from experience. This will save time and money for the company.

Co2-R16 – Expert Group Leader

Co2-R13, who has no experience of participating in OCoPs but supports the idea of having such groups, arguing that they enhance continuous knowledge sharing within the company, comments that:

I think Expert Groups will be more effective, more productive and more creative. Part of this is the different mindsets, different backgrounds, different experience; everyone will bring a different perspective and try to resolve this problem. Usually, when it becomes formal, concerning things within the organisation itself, we consider daily duties; you live within a sort of silence within the organisation.

Co2-R13 – Senior Manager

It is likely that when employees have the same level of knowledge in their field, they will be able to exchange knowledge quickly. Their shared language will help motivate members to

engage actively in knowledge sharing activities and enhance the quality of shared knowledge (Chiu et al., 2006). Thus, from a practical point of view, it appears that the Expert Groups in Co2 are determined and focused forums that stimulate discussions about common daily processes.

Although this section has shown that the participants from Co2 distinguish OCoPs from other structured groups, the key point is that the ambiguity surrounding the concept, and the absence of a clear mechanism for the formation of OCoPs, has led to each department or group of individuals nominating groups across the company. Moreover, scaling down voluntary involvement in OCoPs and appointing people to them officially may reduce the chances of increasing awareness of the existence of such groups, or prevent them from progressing within the company.

5.2 Top management facilitation of OCoPs activities

This section will discuss factors influencing top management's influence on OCoPs activities within the company. The analysis of interview transcripts identified five main sub-themes in relation to this category; these are: (a) the importance of top management embracing OCoPs activities, (b) the requirement for cooperation from managers in affiliates, (c) the ubiquitous influence of OCoPs activities through leading by example, (d) the engagement of OCoPs in technical decision-making processes, and (e) steering, instead of controlling, OCoPs.

5.2.1 The importance of top management embracing OCoPs activities

In Co2, the level of support provided by top management is not only seen as important in facilitating the establishment of OCoPs; top management support is also essential to fostering the belief that these groups can achieve their outcomes (i.e. solving business problems), and add value to the company as a whole. Co2-R13 describes how the experiences of OCoPs are providing positive results, and the members are enjoying their participation in the groups:

It was something new for them in the first year. This year it can be noticed that people are more excited; they have found that there is added value, they have found that they have made a contribution to some decision within the organisation, so they felt we need to continue supporting our groups.

Co2-R13 - Talent Manager

Research findings show that top management attitudes toward supporting OCoPs can be one factor affecting OCoPs feasibility and efficacy within the company. Nevertheless, participants do not attribute this influence to management working styles, for instance

centralisation, as there is nothing within the company's policy that prevents establishing such knowledge sharing initiatives. As Co2-R19 comments:

I do not think the management would welcome, or would oppose the idea. I do not think they would be impressed or [feel that] this is very good initiative.

Co2-R19 - Global Feedstock Director

Since the involvement of top management in OCoPs activities is seen as important, it follows that members of OCoPs should also share the responsibility for improving the perception of their activities at the top management level.

So far, the top management has neither a full, nor clear picture. I would give this responsibility to the members of the networks, so they can inform management and make it clear, because management does not have a complete background.

Co2-R12,

It is likely that in Co2, OCoPs are not currently receiving full support from top management because they are seen as a new implementation within the company, and, therefore, the concept is not sufficiently mature to receive adequate attention, particularly among top management. Therefore, in Co2, members of OCoPs also share the responsibility to improve the perception of their activities at the top management level. To clarify, if OCoPs are to work effectively, members must take responsibility for highlighting their activities to top management. Despite the fact that OCoPs exist within the company, top management still has no clear understanding of their activities. When the work brings obvious and visible benefits, top management is able to recognise this, and the OCoPs will receive attention and support. In the following interview extract, Co2-R12, who previously worked at management level, provides a suggestion for how OCoP members can help change top management's attitude toward OCoPs activities, in the context of the company's annual meeting, where the executives are present and the efficacy of posts is reviewed:

Members can inform top management about their activities in the annual meetings for the [OCoPs], where management are present. One member can take responsibility and prepare [some] form of activates done or extraction, include it in the report, take that to the annual meeting, show it to top management and say to them, 'This is what has been done, and these are the achievements, and results'.

Co2-R12 – Chief Engineer

In this way, OCoPs can benefit from the event and inform top management about their accomplishments. This finding echoes those of Oliver and Kandadi (2006), who indicate that spreading information about KM initiatives, such as OCoPs, through regular internal magazines, journals and newsletters can make these initiatives more visible within the whole organisation.

The findings of this case study demonstrate the importance of top management embracing OCoPs' activities, which is essential because this support can help OCoP members, who are experts in their field, to work actively to help resolve issues and provide solutions to current or anticipated problems in the company's plants. Participants who are involved in OCoP activities also assert the importance of top management embracing their activities, as this will encourage members to engage effectively in the activities of their OCoP. An example of this perception is provided by Co2-R16, an Expert Group Leader, who explains that their OCoP can assist the company in avoiding issues relating to their specialised area, due to the support received by higher management.

In our group, the most important work for us is to analyse the shutdown problems and failures of equipment and corrosion problems, and we look after liability and availability of equipment in [Co2] by carrying out investigations, studies of sourcing issues and chronic problems in plants, and coming up with recommendations to avoid any problems with equipment. Without support from the top managers we would not be able to carry out such activities in the group.

Co2-R16 - Expert Group Leader

In addition, the research findings reveal that in order for top management to be willing to embrace OCoP activities, OCoPs need to be aligned with the company's strategy. Having this alignment between OCoP activities and the business objectives is seen as important to gaining the support of top management. Co2-R18, a project manager who also has experience of OCoPs, argues that:

The main problem was that there have been [OCoPs] activities that have not been well directed. There is no looking at the overall picture of all the Expert Group outcomes. Whatever you are doing needs to be linked to business objectives, linked to the business plan... Things need to flow from 2020, five strategies into the five-year plan, down to the one-year plan. They

need to be working on business related issues, on the manufacturing business plan; they need to have key deliverables. It is not just a group of people getting together. They are getting together because they have collective knowledge that they want to optimise.

Co2-R18 – Project Manager

It seems that, based on Co2-R18's observation, the OCoPs need to be directed toward satisfying the company's vision, and to work on business-related issues. This is because when the outcomes of OCoPs' activities contribute to the company's strategic vision; this helps them to garner sufficient support from top management. If the activities of OCoPs do not clearly align with the company's objectives, then the groups might not receive adequate support, as they are concentrating on unrelated activities. Purposefully designed OCoPs require immediate and tangible KM outcomes and that OCoPs maintain long-term strategic KM activities (Yamklin and Igel, 2012).

Top management embracing the activities of OCoPs is important because they are pool of experts who can aid the company in bringing about advanced solutions to the issues faced in the plants. A review of the Co2 magazine (2010), which focuses on Manufacturing Excellence, clearly indicates that the aim of establishing the MCE was to build a broad platform for accessing and adopting the best technologies and practices available at the time of its establishment, followed by improvement in plant operations and management. It seems that individuals at the MCE are given a green light to request whatever they need from top management. The MCE, where OCoPs are established, is a stand-alone organisation within Co2, and must present its strategy and business plan, and clarify what can be delivered. According to DeTienne et al. (2004) top management is obliged to make strategic decisions regarding which KM practices to support and develop, and must then follow that strategy. The clear aims and goals in establishing this centre helps OCoP activities to receive support from top management. Co2-R16, an Expert Group Leader who works at the MCE, indicates that the top management is counting on the OCoPs to strengthen the exchange of experience and knowledge between the MCE and affiliated companies. The diversity of members' backgrounds stimulates ideas and brings critical issues for the affiliates to the discussion table, with the aim of identifying effective solutions.

The top management look up to us; they are supportive, but their expectations of us, the [OCoPs], are too high. They like the idea that within the team we have a mixture of members from the core team and members

from other [Co2] manufacturing sites. The engagement of plants and plants engineers with [OCoPs] is very important to ensure that we inspire each other [and] engage and align with the affiliates.

Co2-R16 – Expert Group Leader

It can be deduced from the above that it is important for top management to embrace the activities of the OCoPs. In Co2, OCoPs are purposefully established and people are officially assigned to them; however, the members still have the same responsibility for presenting their activities and the outcomes of their activities clearly to the top management. When members align their activities with the company's strategy, this enables top management to embrace the OCoPs and provide them with adequate support. The greater the support for OCoPs, embraced by top management, the wider the cascading effect of their positive outcomes throughout the company.

5.2.2 OCoPs require cooperation from managers in affiliates

The research findings show that Co2, which operates globally alongside many affiliated companies, may support various OCoPs in the affiliated companies in different ways. It appears that the support provided by top management in the parent company, or 'Headquarters', may not be of the same level as the support, in terms of adequacy and directness, provided in affiliated companies, as affiliated companies have their own operational practices and management. This difference in support at the affiliates is referred to as potentially conflicting with their primary aims, as stated by their managers. While positive outcomes of such OCoPs that benefit the company will ensure support from top management, some of the participants expressed that, although there is no problem with support from top management, they have doubts about the cooperation of the affiliates. For instance, Co2-R17 explains how the heavy workloads in affiliate companies can affect their support for the members of OCoPs:

I do not think we have a problem with top management, it is with the affiliates - it is a challenge from the management under whom a member works. For example, we want to arrange a business trip and workshops and so on. I received promises from the management [in affiliate] about the involved person, who is a member of the group, but their management is different to mine. We do make excuses for them, because they are really overloaded, but this is one of the main obstacles.

Co2-R17 – Expert Group Leader

It is likely that the managers in the affiliates are not always fully confident to allow their people to participate in OCoPs. It appears that managers in affiliates want their employees to devote more of their time to accomplishing the affiliate's goals. Each affiliate has its own objectives and priorities, and therefore it may not always be possible to send people who are members of an OCoP to an affiliate, as their time and efforts spent on OCoP activities would affect the achievement of their targets. Thus, it is likely that focusing on achieving one's own objectives is affecting the relationship between OCoPs and affiliates. Managers in affiliates also look for the mutual benefits to their affiliate and their experts. Another comment made by Co2-R14, a general manager in an affiliate, was the following:

Each affiliate has priorities that differ from those of other affiliates. So in the process of networking we sometimes receive a request from another company [affiliate] to give them some advice, if we have experience of the issue. But we have priorities, [and it is difficult] to give them our time and effort, as my management is my direct duty, and at the end of the year I will [be] evaluated according to that. So why should I give time and effort to others?

Co2-R14 – General Manager, Affiliate

The research findings reveal that OCoP leaders sometimes encounter difficulty in convincing managers in affiliates to allow members of their affiliate to participate in OCoP activities. Co2-R17, an expert group leader, explains this situation:

If there is no collaboration between the affiliate and the employee, he will only respect my request once or twice; next time he will apologise, 'I am sorry you will not evaluate me, my boss in the factory will do so. And he needs me.'

Co2-R17 – Expert Group Leader

In Co2, general managers in affiliates are seen as middle management. The analysis of interview transcripts for this case study illustrates that the role of middle management is essential in supporting OCoP activities, just as it was important in Co1. In Co2, it is argued that OCoP members feel that the managers in affiliated companies can be stonewalled for their participation in OCoPs. As explained earlier, OCoPs are established by the MCE in order to assist the company and its affiliates in coming up with solutions to issues

encountered. The lack of commitment from managers in affiliates can affect the degree of cooperation between OCoPs and affiliates. The research findings suggest that affiliate members of OCoPs may not receive the same level of cooperation from a newly appointed manager as they have received from a previous one. This is reflected in the following quote, from Co2-R17, an expert group leader, who describes how a change in management in an affiliate can affect the commitment of a member to participating in OCoP activities:

It's the commitment among members; we get commitment from the affiliate for their employees, but if there has been a change in management and a new manager comes, the deal you had with the other manager, who might have been promoted, or has retired, will change.

Co2-R17 – Expert Group Leader

Participants from affiliate companies explained their reasons for not allowing some of their employees to participate in OCoPs. For example, Co2-R14, a general manager in an affiliate, stated that they would not allow any person to participate in an OCoP unless that person was knowledgeable and an expert in the relevant field, and thus an ambassador of the affiliate company. In this sense, Co2-R14 emphasises the importance of selecting the right person, someone who can add value to their work and the company. It seems, therefore, that managers in affiliates allow their people to participate in OCoPs not only to increase their knowledge and expertise, but also to receive mutual privilege and to enable this knowledge to benefit the affiliate by improving productivity. The comment below summarises the views of a general manager in an affiliate:

... our role as leaders is to let people feel that they are empowered to share. Also, [leaders] feel that the sharing should have a [reciprocal] benefit. Our views are that 'sharing should be gaining', or, as you are giving, you will be taking. In other words, gain is something [that is] ensured for the participant.

Co2-R14 – General Manager, Affiliate

Co2 is a key player in the petrochemicals market and, therefore, maintaining a competitive advantage over its rivals is what motivates affiliates to not only give their employees the opportunity to participate in OCoPs, as well as to assist in accomplishing their business goals. Thus, Co2-R14, as a general manager in an affiliate, is perhaps considering the strategic and general benefit to both the company and its people.

In Co2, an important element of establishing OCoPs is setting a clear goal of building a connection between OCoPs and affiliates. The affiliate participants involved in this case study argued that the MCE, including OCoPs, should focus on larger issues that could mean big losses, and provide affiliates with statistical data, not just highlight problems. Trust should be built between OCoPs and affiliates, through OCoPs, not only highlighting problems for the affiliates, but also solving them. Having this clear objective can improve cooperation and encourage affiliates to support their members in the OCoPs. The KM literature highlights the importance of building an environment for interacting, learning and building relationships and mutual commitment between people and organisations (Wenger, 2011; Retna and Ng, 2011).

It can be concluded, therefore, that mutual cooperation between top management and affiliates can help to support OCoP activities. Individuals in the affiliates will expect support from the top management if the presidents of the affiliates are required to encourage knowledge sharing initiatives within their plants. This cooperation from managers in affiliates can also enable mutual benefits for all parties, including affiliates, in addition to the OCoP members.

5.2.3. Ubiquitous influence of OCoP activities through leading by example

On this point, participants highlighted that ‘leading by example’ is lacking among senior managers within the organisation, and therefore any initiative to enhance knowledge sharing will not be implemented effectively by the employees. Plessis (2008) argues that management plays a substantial role in changing employees’ perceptions regarding the importance of KM initiatives through leading by example, and ‘showing by doing’ that knowledge sharing is as important as other daily activities. This perspective was shared by several participants, who said that they reflect on their work experience when they see their direct manager encourage knowledge sharing by getting involved in the early morning meetings within the department. An example of this attitude is found in this response from Co1-R19:

The top management should have faith in the policies they propose. There is a difference between saying ‘we have it, we will write it down, we will put it in the policy’, and saying ‘you have it written in the policy and you are applying it, and you are leading in the organisation by example’. I can

assure you that leading by example, specifically in terms of sharing knowledge, does not exist.

Co2-R19 - Global Feedstock Director

This is an example of the importance of not just issuing instructions or commands, but actually practising and implementing guidance. It is possible that Co2-R19's view has been shaped by his work experience and his observations of different management styles in different countries and cultures in a previous role. For example, Co2-R19 also worked in Co2's Research Centre in Houston, USA as a technology transfer manager for three and a half years, and then in Singapore for four years as a director for sales. It is therefore likely that these work experiences in different countries caused Co2-R19 to consider the important role of top management, who can develop the concept of OCoPs, and make them more active. Co2-R19 believes that top management plays a vital role in changing attitudes through actually practising knowledge sharing within the company at the management level, which in turn will then be emulated by employees. Thus, participants in this case study stress that leading by example is extremely effective, if senior managers practice what they prescribe. This type of behaviour among top management will reinforce the influence of OCoP activities across the company, and, therefore, will enhance knowledge sharing, which will in turn be reflected positively in promoting participation in OCoPs. This influence is particularly strong when the top management itself practises knowledge sharing within the company and helps to build this into the collective culture (Harvey et al., 2013). This sort of attention from top management toward OCoP activities can help change attitudes to OCoPs among managers and employees within the company.

Co2-R17, an OCoP leader, suggests that top managers be invited to the actual site of OCoP activities, and argues that top management should show their commitment to OCoP activities by undertaking periodic visits. Co2-R17 believes that bringing executives to the actual site at which OCoP activities are conducted will help to change perceptions, and emphasise the importance of inviting top management and informing them of the outcomes of the OCoP. This would mean a lot to the members of the OCoP, who will see their work appreciated by top management. In this way, receiving attention from the company leaders can change managers' and employees' attitudes toward the OCoPs. Co2-R17 also observes, though, that it is time-consuming for employees to communicate with their direct manager in order to convince them of the advantages of the OCoPs, whereas it would be different if this was to come from top management. In Co1, the role of middle management was also seen as crucial,

alongside top management support. In Co2, participants' views emphasise the continuous enhancement of the influential role of the top management in bolstering OCoP activities within the organisation. Co2-R17, an expert leader, perceives that when there is active attention from senior managers, such as the Vice President, this enables lower management to witness an example set by the company's leaders, thereby prompting direct managers to direct more attention toward OCoPs, and encouraging the members of their departments to participate in OCoP activities. On this point, Co2-R17 comments:

This kind of appreciation means so much to the engineers - having a visit from the Vice President, who will acknowledge their hard work, and after three or four months, the Executive Vice President might pay us another visit. This way I can change the culture of the people. So when their direct managers hear that they are appreciated by the Vice President, they will start to pay more attention to them. That is why I do not go to the direct managers, or even the General Manager, because you are wasting time with them, and [they] do not really pay attention to what I want; but when the order comes from the top they comply with it, and will take good care of those who work with them, as they know that the top management cares about them.

Co2-R17 – Expert Group Leader

Overall, when senior managers actively and visibly demonstrate their interest, and make time to visit knowledge sharing initiatives and inspire them with ideas, this can cause others, such as managers in affiliates, to appreciate the valuable contributions made by OCoP activities, and to follow the example set by higher management.

5.2.4 Engaging OCoPs in technical decision-making processes

In Co2, OCoPs not only seek top management support, but also highlight the need to involve experts from the OCoPs in the company's decision-making process. In Co1, this was not an issue, where OCoP membership consists of a mixture of core and non-core members. A difference can be observed between Co1 and Co2 in terms of the OCoPs' configurations; members of OCoPs in Co2 are principally experts from different affiliates, carefully selected by management to help resolve plant issues. In Co1, as discussed earlier, OCoP members come from central offices, and are not those who work in the plants. In Co2, OCoP members

see themselves as key players within the company, involved in setting up technical business objectives.

The findings of this case study show that establishing OCoPs without giving them a voice in the decision-making process may be a drawback in many work environments, such as those in Saudi Arabia. Interview participants frequently suggested that the company should focus on supporting OCoP activities on a regular basis, and that technical OCoPs would benefit from this support via their participation in decision-making, particularly in regard to technical matters. However, one participant, Co2-R18, who has experience of participating in an OCoP, claimed that the culture of top management in Saudi Arabia may not support OCoPs' participation in shaping decision-making, as is the case with affiliate companies in Europe.

I think one can support [them] by making the technical experts the decision-makers. I know there is a very different concept in Saudi Arabia, but in Europe, when there is a problem, management does not get involved. From a technical point of view, we are the technical experts, so what can management tell us from a technical point of view? Nothing, because they are not the experts. They need to listen to us, not to the other way round. When [there is the] need to work together, they do not have all of our technical knowledge; they have management and business knowledge. Some of them have technical knowledge as well, but they use it in the wrong way. They need to – in my opinion – ask us what is important.

Co2-R18 – Project Manager

It is possible that Co2-R18's view has been shaped by his background, as he is from South Africa, where the working culture is different to that of Saudi Arabia. At Co2, it appears that decision-making is conducted and imposed in a top-down manner, where most decisions are not up for discussion. It is likely that this management style hinders the formation of knowledge sharing initiatives in Co2, as employees cannot work independently. It is likely that Co2-R18's view has been affected by previous experience of OCoPs, which used to be called upon to manage a crisis or deal with any large-scale technical problem that occurred in the affiliates. Moreover, Co2-R18 claimed that there are some people in top management with technical backgrounds, though they may not be able to identify technical issues in the company, as these are monitored by those who deal directly with technical matters, such as the OCoPs. As Annabi et al. (2012) indicate, the engagement of experts from OCoPs in the decision-making process can help their communities to work toward business objectives.

Dealing directly with technical plant issues creates rich experience that the decision-makers in the company may need to consider when shaping business goals and plans.

Participants in this case study stressed that top management only consider managerial and business perspectives when setting the general objectives of the company, without taking into account technical aspects. Thus, sharing decision-making between top management and experts is seen as important in this company, as it not only enables the experts to collaborate with the decision-makers, but also allows them to adequately comprehend the issues of concern, which in turn gives them the chance to highlight relevant factors for the decision-makers to consider when developing the business plan.

Moreover, participation in decision-making processes can increase the responsibility of experts in OCoPs, and thus enrich the quality of their activities. In alignment with this finding, Danish and Usman (2010) indicate that managers should allow employees to participate in decision-making so that employees feel that their opinion is important to the organisation's development. However, having independent decision-making powers to form OCoPs may not be possible in Co2, as management approval is required first. Like with Co1, in the context of this case study, it is worthwhile noting that the topic of management approval was mentioned frequently during interviews for this case study, which will become evident throughout the following sections. This is supported by the fact that Saudis employees must obtain management approval before acting, due to autocratic decision-making procedures (At-Twajri and Al-Muhaiza, 1996). It is clear that the establishment of OCoPs and their objective settings are highly interrelated, and informed by management approval. Co2-R16 describes:

Endorsement of activities by management is important because every year we have to set goals, we call them short term, where we set objectives for the whole group, The Expert Group will have the same objectives, so we need to get endorsement or approval from the management for these activities.

Co2-R16 - Expert Group Leader

The above point is echoed in the work of Harorimana (2012), who conducted a study in the context of African manufacturing, finding that working in companies with a strong top down management culture and strict policies and procedures, would prevent people from sharing knowledge, even across organisational networks, without management approval. This case

study, therefore, extends this conclusion, highlighting the importance of engaging technical experts in setting business objectives, due to their extensive knowledge of technical matters.

To sum up, this section illustrates why top managers should not make technical decisions alone; instead, OCoPs should share responsibility and take part in decision-making, drawing on their technical expertise. Inviting experts from OCoPs to participate in the technical decision-making process alongside top management will facilitate a wider view of current technical issues in plants, and the setting of goals that will help resolve or mitigate these issues.

5.2.5 Steering not maintaining the autonomy of experts' membership in OCoPs

Recent studies have highlighted the need for organisations to ensure a balance between the controlled and autonomous aspects inherent in OCoPs (Annabi et al., 2012; Borzillo et al., 2011). Thus, this has been explored in the current research. In the context of this case study, the data reveals that the nature of OCoPs as loose entities may not lend itself to strict control. OCoPs are a pool of experts who prefer to act independently when carrying out OCoP activities. Being independent in their activities enables OCoPs to focus on solutions and add value. Though the participants agreed on the importance of steering OCoPs' activities in the right direction, as opposed to direct control, they did not always agree on the way to achieve this. Their views seem to contradict those of participants from Co1. In Co1, top management control can be described as a form of accountability, whereby members take responsibility for the activities of their OCoPs, and participation is compulsory; whereas in Co2 control of OCoP activities by top management is seen differently. Co1 has a clearer idea of how steering versus control works for OCoPs, whereas in Co2 there is still uncertainty. This may be because the concept of OCoPs is still relatively new to Co2; they have not yet had time to solidify the control or steering procedures, and are in a period during which a balance must be struck. Furthermore, in Co2, OCoPs are comprised of a collection of members, known to be experts in their fields, and they do not consider a need for their activities to be controlled by top management. Rather, the groups' activities might be seen to benefit from occasional review to ensure that OCoPs activities are aligned with business objectives. This is reflected in the following quote from an expert group leader:

Of course, we have a scope that is well defined. There is empowerment, so the management is empowering its employees to discuss what they think is critical, and to prioritise their activities. I do not know if you would call it

control, but it is follow up. We need to make sure that we align with a business plan.

Co2-R16 – Expert Group Leader

Some participants explained that they would prefer not to have their OCoPs controlled. In Co2, OCoPs are pools of experts and scientists who are knowledgeable in their particular field. It is likely that top management will not control OCoPs in particular groups that include scientists, as scientists are experts and are thus very well acquainted with their field, more so than top management. Instead, the role of top management is to direct OCoP activities to ensure that they comply with the business objectives. It is likely that where the members of OCoPs originate from produces this perspective. In Co1, OCoPs are made up of a mixture of experts, who are the core members, and others who participate when they have mutual interest with that group; by contrast, in Co2, membership is limited to experts in their fields. As Co2-R10 explains:

[W]e are here as scientists [and] do not have control. Nobody knows your major more than you, so there is no control... we don't say 'control' but 'direction'. Management only sets the direction; of course, if there is control it is a killer...The moment that I manage the team and say to them 'this [is] wrong, do it that way', and they know that I am wrong and cannot tell me... but if I don't listen to them, or [if I] control them or impose my thoughts on them, it will definitely be a disaster for their work.

Co2-R10 – KM Leader

Co2-R10 is a scientist with more than 15 years' work experience. He has been with the company for the last 6 years, and used to work as an analytical chemistry expert at the T&I Centre, before being assigned KM Leader at the same centre, leading one of the company's KM enterprises 'Electronic Laboratory Notebook' (ELN), which facilitates virtual knowledge sharing between technician employees. Though Co2-R10 views the ELN as designed to perform the same role as OCoPs, wherein employees can share insights and exchange ideas that are consistent with the up to date company strategy, and prioritise KM projects. This application appears different to 'ShareK' in Co1. The company documents (e.g. articles published by the company) were reviewed for this research, and it was found that KM mainly aims to document research that technicians and engineers can then refer back to, but which is not considered a kind of OCoP, as it lacks the social interaction that characterises OCoPs. Nevertheless, Co2-R10 claims that scientists' autonomy is very important, providing they

work within the general orientation of the company; in this way, their view is positively affected by their work as a scientist and as a manager, currently in KM.

In Co2, it is believed that OCoPs should not be dictated to by external decisions that may impact the autonomy of their activities. Some participants stated that, in order to bolster the OCoPs without destroying their autonomy, the decisions and plans should come from the people who work within and outside these networks. The best way for the company to support OCoPs is to provide them with the autonomy to manage themselves (Hislop, 2013). Thus, it is suggested that members first plan amongst themselves, and then present their plans to management. This is because, as Co2-R12 notes, any impromptu plan produced by these networks could lead to unorganised and ineffective work, which may negatively affect their activities.

I would say make these teams or groups sit down together and think deeply to set up a scenario, edit it and then present it, because many impromptu decisions have been more counterproductive than beneficial.

Co2-R12 – Chief Engineer

Though participants assert the importance of empowering members to work within the scope of the business, they prefer OCoPs to work independently, without direct intervention from top management, as any form of control may stifle innovation within the team, as well as dampen the spirit of creativity.

Usually in [OCoPs] you want to create an environment of no fear and no control, in which everybody can think freely. When you face a problem you think freely and outside of the box, and try to solve it not only in a conventional way but also by finding a better solution, even if the resources are not available. So no, I would not prefer to be controlled.

Co2-R16 – Expert Group Leader

The perspective of Co2-R16 is likely influenced by his role and experience as a leader of failure analysis OCoPs. He noticed that when people stop fearing that they are being controlled, and feel that the way they work is not being taken away from them, they are more relaxed and will be more innovative. In a recent study, Yamklin and Igel (2012) revealed that when OCoP membership is treated as a formal responsibility and everyone is required to participate in OCoPs activities, the members' performance within their OCoP also affects their individual performance. It is thus likely that empowering people and encouraging them

to engage in team activities would motivate them to perform at their best, as people enjoy working with freedom and flexibility. When there is a cross-pollination of experiences, thoughts and competencies within organisational boundaries, this in turn will feed creativity and shape new knowledge (Jorgensen et al., 2004).

Wenger (1998) offers the perspective that OCoPs should be formed to work independently in order to become highly effectiveness in their activities. Though some participants suggested that control of OCoP activities is possible, both by management and the members themselves, they also explained that only members could control the mechanism within the group, whereas management could control the results produced by OCoPs. It seems that top management still lacks enough confidence to allow OCoPs to implement the ideas produced at meetings within the plants. This can probably be attributed to the possibility that this may cause counter-productivity in the company, and therefore it is the management's responsibility to be sure of an idea's effectiveness. Co2-R12, who recently joined MCE as an expert, after working for several years in a management position, explained that members who come up with a solution, or an idea to build a plant, shut down a plant, or change a technology or practice, should inform management of the proposed solution before taking any action, as failure to do so may lead to unsuccessful results, and perhaps even counter productivity.

Control can come from both sides. Set-up mechanisms can be controlled by Networks people, but the company has to control the results. These results should be organised by the company, but the procedures and decisions about how to interact, or how to share, should not be formalised.

Co2-12 – Chief Engineer

It is possible that Co2-R12's view has been affected by his experience of working at management level, where decisions are made. The participant may believe in the positive impact these networks have on the company, and also that any improvised decisions and actions taken by the members may have a huge impact on operations. Drawing upon the above points, it could be argued that, in the context of this study, the company is approaching the stage of striking a balance between steering OCoP activities and giving autonomy to members; once this is achieved, it will be much easier to establish OCoPs that work strategically to accomplish company goals. Control by top management appears to be unwelcome when establishing OCoPs, as it is perceived to limit the flow of information and sharing of expertise within the company.

In summary, it can be concluded from this section that the top managers controlling the OCoPs can restrict their autonomy and affect the flexibility of their activities, particularly where membership of the OCoPs is restricted to experts. Thus, steering OCoP activities is likely to be far more effective for OCoPs in Co2 than when top management control all their activities.

5.2.5.1 Control restricts passion for participating in OCoPs

As a consequence of OCoP activities being controlled, some participants highlighted a further issue regarding passion for the work. In Co2 it seems that any action of control over the OCoPs has had a negative impact on their activities, especially when this element of “control” is linked to aspects of national culture, specifically of the Arab world. Participants interviewed for this research expressed that it is important to create a motivating work environment, as passion for one’s work plays a crucial role in creativity at work. In the context of this case study, and in the Saudi Arabian context especially, imposing control on knowledge sharing initiatives such as OCoPs is unlikely to inspire and maximise individuals’ passion for the work. Participants described that, when the company requires its employees to work in a particular area that is not within their area of interest, this will affect their passion for the work, and may prevent them from engaging in other activities within the company. Thus, it would seem that top management imposing a controlled environment can either facilitate or prevent employees’ becoming passionate about participating actively in OCoPs, which, in turn, influences knowledge sharing. An example of this situation is provided by Co2-R15, an Arabic individual from Libya, who illustrates how the passion for work can also play role in enhancing the effectiveness of involvement in such OCoPs.

*...whenever you control, you lose control. A man likes to do things naturally.
In the Arab world people are just looking for jobs, whatever the type of job.
If you do not like your job, you will [still] find yourself forced to come to
work, but if you love your job and love what you are doing, you will excel.
So [it’s] the same [with] Expert Groups; if they are willing to do it without
any external force, this will give the best results.*

Co2-R15 - Section Head at the MCE

Despite the finding that some participants connect aspects of control to aspects of national culture the literature review indicates that this perception can also be shaped and influenced

by top management (Retna and Ng, 2011). Some participants stressed that people from the Arab culture are likely to work more productively in an open environment that provides them with space to work freely and informally. The work of OCoPs perhaps supports this view, when top management allows the freedom to work in line with the general company business plan. This finding confirms Roberts's (2006) assumption that OCoPs would be more favourable and productive in the Arab work culture than formal structured groups. Though this was not clearly identified to be a barrier for OCoP members in Co1, it is likely that restricting membership to only people with greater experience would generate this perception, as they will prefer to work in OCoPs that are not controlled.

When top management create an atmosphere that is supportive of participation in OCoPs, members will be more interested in the OCoP activities and will put all of their efforts into achieving the group's goals. Being passionate about an OCoP's field of interest appears to bolster knowledge sharing via OCoP activities. Co2-R17 confirms this point, stating:

I am passionate about my work in Manufacturing Competence Centre (MCC). [It] is like a child to me. I have been working in MCC since 2002, this is really my baby, everything in my life is connected to MCC, I would do anything for it, work overnight, at the weekend and even in the Eid; I will do it, if it is MCC. If you ask me to do something else, to work on another field, then my answer will be no.

Co2-R17 – Expert Group Leader

Co2-R17 is a good example of a passionate expert group leader, showing that passion for one's specialisation can lead to successful participation in OCoPs. Co2-R17's view on the outcomes of OCoPs is likely to have been affected by personal experience, having worked hard throughout their career, which began with the role of an ordinary technician, before going on to become a highly qualified and certified individual specialising in MCC in the company.

To sum up, it can be argued that mutual interest is not just about clustering people who share the same interests within an OCoP; it can also refer to an interest in the activities that the member enjoys doing, and the subjects they prefer to learn about, and the expertise they exchange. Thus, it can be deduced that, in Co2, experts in OCoPs prefer to work freely without being subject to strict control by top management, for instance by setting

responsibilities. Implementing strict controls over OCoP activities would disable members, and prevent them from participating actively in their groups.

5.3 Hierarchical organisational structure restricts facilitation of OCoPs activities

This section concerns those aspects influencing the organisational structure category in Co2. Compared to the dynamic interaction aspect of OCoPs in Co1, where facilitating knowledge sharing activities through ShareK was seen as vital, the management feature of low centralisation and low formal assistance to evolve OCoPs (e.g. ShareK), information collected about Co2, regarding the position of OCoPs within the organisational structure, revealed two different approaches. In Co2, top-down authority and global operations are facets known to affect the formal management of OCoPs. Co2 emerges as a more centralised organisation than Co1, which negatively affects the facilitation of OCoPs' activities and the recognition of them across the company. Considering the role of a hierarchical structure, three themes relating to organisational structure became apparent when evaluating the data collected for this case study. These themes are: (a) the top-down approach restricts the flexibility of OCoPs activities, (b) the formal structure restricts the disbanding of OCoPs, and (c) virtual-based communicating companies are suited to the configuration of OCoPs.

5.3.1 Top-down approach restricts the flexibility of OCoPs activities

The literature argues that one of the features distinguishing OCoPs from TCoPs is that key members of OCoPs are formally selected by the company (top-down approach), unlike the members of TCoPs, who are designated as such by interested members (bottom-up approach) (Dubé et al., 2006). Although the OCoPs at Co1 and Co2 are both intentionally formed by the companies, the selection of members takes place differently. In Co1, the establishment of OCoPs followed formal procedures, selecting core members to maintain OCoPs' activities but not defining the level of engagement of non-core members. Meanwhile at Co2, the company assigns both OCoPs leaders and members formally according to their expertise and knowledge. Notably, however, neither company (Co1 nor Co2) has integrated OCoPs into their formal organisational structure. The participants interviewed for this case study believe that it is not beneficial to position OCoPs within the company's organisational structure. They also explained that managerial decisions and business plans are tightly driven in a top-down manner, which negatively affects knowledge sharing and the facilitation of OCoPs within the company.

At Co2, the company is characterised by the large amount of control held by top management. This centralisation of authority has affected the establishment of OCoPs, including the assigning of members to them. In the case of Co1, it was apparent that the less centralised approach enabled OCoPs to thrive among engineering employees. However, in Co2, some participants reported that the centralised approach reflects the inherent organisational culture within Co2. For example, Co2-R18, who was involved in OCoPs, argues that the prevailing business culture in Saudi Arabia is designed and imposed in a top-down manner, such that most decisions are never debated. Thus, independent decision-making powers to form OCoPs are not possible at the company as any decisions are subject to approval from management. Elsewhere, in the literature, Saudi employees' decisions have been reportedly subject to the attainment of management approval, due to the autocratic culture (At-Twajiri and Al-Muhaiza, 1996). When interviewed, Co2-R18 clearly questions whether the method of administering OCoPs is the same as at the company's affiliates in different regions, such as Europe. It is likely that, at Co2, employees and managers at lower levels are limited in their autonomy and are not free to make decisions, and hence must follow the business plan shaped for them at top management level. Co2-R18 finds that this style of management limits the formation of knowledge sharing initiatives in companies. He comments:

It is a top driven organisation and the business culture here – in Saudi Arabia – is that top management tells us what to do and we have to do it. We do not feel the freedom to do that sort of thing on our own. I do not know what it is like in Europe. It will be very interesting to learn how it works in different parts of the world, because here we do not feel the freedom to do things like that. In this company, we could never get anybody to participate without management approval. We do not have the opportunity to do anything without getting approval. I cannot do anything in the company without getting my manager's approval. It is not unique to my manager. It is the way that it is. I am lucky that I have a manager here who does not do that [insist on advance approval].

Co2-R18 – Project Leader

Perhaps Co2-R18's view is negatively affected by his background, as he is from South Africa, where the work culture differs from that in Saudi Arabia. Both Co2-R18 and his direct manager are from South Africa and of European descent, and it is apparent from the

interview with Co2-R18 that his cultural background affects his perspective. It is worth mentioning that some participants at both Co1 (e.g. Co1-R1) and Co2, particularly those with different cultural backgrounds, often link their views to the impact of Saudi national culture on the business context. It seems that their work experience at other companies outside Saudi Arabia and their ability to witness how the top management at those companies motivates social networks such as OCoPs has shaped their viewpoints. Dulayami and Robinson (2015) indicate that local cultural issues affect opinions, and also motivations for taking part in KM initiatives and for sharing knowledge. This point was also made by Harorimana (2012), who conducted a study in the African manufacturing context found that working in companies with a strong top down management culture and strict policies and procedures, where management approval is required, limits people from sharing knowledge across organisational networks.

There is on-going debate in the literature concerning whether OCoPs are better at providing a formalised structure within the company (Annabi et al., 2012). For Co2, its global presence demands a flexible organisational structure. Co2-R12 comments that:

[Y]ou can say the company is very rigid, or very flexible. Very loudly, you can say it is very top-down structured. All these [aspects] exist but depend on the subject and location. It [a company's operation] is globally dispersed and the people at the top management level [are] from America, Europe, Japan, and China, this leads [the company] to much greater flexibility. You cannot be global and not to be flexible.

Co2-R12 – Chief Engineer

It seems that OCoPs can be formally managed by the company; however, they should not be given a rigid structure, because people will not be sufficiently motivated to practice knowledge sharing if it becomes obligatory. In Co2, OCoPs are viewed as more effective if they are formed independently, outside the formal organisational structure. The current mode of decision making within Co2 is top down, which can affect the ability of OCoPs to access data from affiliates, to help them understand about current issues and propose solutions. Speaking as the general manager of an affiliate, Co2-R21 explains how incorporating independence into OCoPs activities can increase communication among affiliates in different places. The following quotation explains this position:

These groups are influenced in a top down way, but if they are independent group[s], as they are technically highly qualified they will have access to everyone else's work problems and problems at other affiliates; they can gather data about those having problems. But if they are within the organisational structure of the company they cannot undertake such duties. But when [O]CoPs are independent they can look after affiliates in Yanbu, in Jubail, or in the UK. So in my opinion they should be independent, otherwise, if they are under the umbrella of the general manager or the president, this might influence their decisions.

Co2-R21 – General Manager at Affiliate

In addition, in the Saudi context of this case study, it seems that placing OCoPs within the structure of the company and giving them a hierarchical structure would result in questions from employees, as they want to find out who would be appointed to certain positions. It is likely that this perception contributes to the prevalent organisational culture. Co2-R13, a senior manager in the HR department, prefers to retain the status quo of OCoPs' activities to work effectively. He observes that if the company were to formalise OCoPs then expectations of those involved would be associated with their roles. He elucidates this:

In our company culture, we are sensitive in terms of the structure because once you start building the structure and putting in a certain hierarchy, people start jumping to conclusions and raising expectations - Who will be leading that function? Is he a manager or a general manager? So there are certain expectations, whereas the aim of [O]CoPs is that there is no hierarchy, no structure, and [no] appointment or assignation of people for promotions - none of this. I would say personally [that] I would avoid putting in something officially structured for [O]CoPs. Keep it off line.

Co2-R13 - Talent Manager

This above statement is a good example of people's possible expectations about the possible managerial role of OCoPs as these perspectives seem to be affected by the organisational structure that relies on the centralisation of nomination processes. It can be concluded that having a centralised structure and a top-down approach would disable the flexibility of OCoPs' activities as these groups will always seek out top management approval for their activities. People need to feel free to exchange their thoughts in a comfortable way; however,

when knowledge sharing is imposed upon them, it can be detrimental to the exchange of ideas among employees.

5.3.2 Formal structure restricts the disbanding of OCoPs

This case study shows that OCoPs are ad hoc groups at Co2, and the research findings reveal that incorporating this type of group within the structure of the company could result in the loss of some features. For example, a formal structure would result in the loss of flexibility and the option to disband at any time. Giving ad hoc status to these groups would require a series of procedures to establish or disband them; the purpose of forming an OCoP is mainly intended to deal with critical issues at the company and its affiliates, and to establish best practices and review the company's engineering standards. Thus, one participant, Co2-R16, who is an expert group leader, goes further, stating that OCoPs cannot be formed within the structure of the company, because the need for the OCoP might be temporary, for a few years only, after which there will be no need for such a group and therefore the OCoP can disperse. This is easier if the OCoP is not formally structured. Just as Co2-R16 explains:

[OCoPs] may last for one year or may last for ten years and after ten years for example [if] we realise that we do not need to have these [OCoPs] any more, we can just disband them and start with a more demanding subject group of experts. So, I don't think if you put it in a structure it will be easy just to remove an [OCoP] and put into another group, I think flexibility is very important for these [OCoPs].

Co2-R16 - Expert Group Leader

Co2-R16 holds a PhD in Material Science and Metallurgy, and has published several papers within his specialism. As the leader of an OCoP, and as a researcher investigating and studying issues and chronic problems in plants and devising recommendations to avoid problems, this has required him to be up to date about the issues in his field. When such issues are resolved, he might then need to look for another issue at another plant and might need to form a new group. Thus, it is easier for him to construct an ad hoc group than form an OCoP based on rules and procedures.

It is evident that when OCoPs are placed within the structure of a company this affects the group's activities, transforming them into a routine aspect of members' jobs or departments. A formal process for OCoPs would not add value to affiliates at different sites, and might restrict OCoPs to one affiliate. However, the right people need to be selected to form groups,

so that the OCoPs can add value. Hence, a loose structure, combined with virtual features, such as meetings online would encourage experienced members to feel free to leave or new members to join. This would make the group dynamic and enriched by different views and expertise. As Smith and McKeen (2004) indicate, OCoPs can be easily overlooked and taken for granted simply because they require few institutional resources or supporting structures. One participant, Co2-R14, expressed his concern that if OCoPs were to become hierarchically structured, then their activities would be subject to approval as it is routine procedure to seek approval to manage associated costs and to set up meetings to describe activities.

I fear if it becomes a part of the organisation, it will become a routine department. That, among key features, make it informal, [makes] it is a flexible body of changing members. For example, if today certain people are members, tomorrow we have others, and everyone has different experiences and consequently brings a variety of knowledge about different thoughts and forms. But if it becomes [a] stable section of the company, it will be confined to certain people and will be tied to their job titles [and] that will make it rigid.

Co2-R14- General Manager at Affiliate

Overall, the participants opined that adding institutionalised features to OCoPs, making them part of official arrangements would limit their degree of flexibility, and change their networking configuration; moreover, it would be difficult to unite all OCoPs under one process.

5.3.3 Virtual-based communicating companies are applicable for OCoPs' configuration

Contrary to the aforementioned perspectives, some of the participants from Co2 accepted the possibility that OCoPs could be effectively included in the hierarchy of the company, although they expressed concerns about OCoPs' ability to produce successful results when recognised within the organisational structure. Co2-R13, a senior manager of Talent Management, argued that his company operates as a type of virtual organisation, in which business units communicate with people who work globally using virtual communication

tools. Consequently, Co2-R13 claims that the majority of the company's business is carried out in a virtual environment, and hence, virtual OCoPs would suit this type of company.

The organisation today is a sort of virtual organisation; it has this characteristic. So, the official organisation - hierarchy [it] exists but is designed virtually. We use virtual communication tools to communicate with each other and [for] running our business. So, the organisation has this attribute. But when you talk about [O]CoPs, is it a virtual group? Can I link it to the virtual organisation? I think yes, when you look at the technical committees that exist in the affiliates, you can link them smoothly with the Manufacturing Centre of Excellence because they are more or less the same.

Co2-R13 - Talent Manager

The nature of global companies necessitates working utilising virtual communication tools. Therefore, Co2-R13 emphasises virtual communication because he works in Talent Management, communicating with peers in Europe, America and Asia. His direct manager is in America and his employees are located in Riyadh and Jubail (Saudi Arabia), so this type of virtual communication helps him to work effectively with colleagues based in other regions. This finding is in line with previous studies of interest regarding the establishment of virtual OCoPs in geographically widely dispersed organisations (Corso et al., 2009; Kirkman et al., 2013). Virtual communication between members of OCoPs does not exclude face-to-face meetings, but relies on ICT to connect members (Dubé et al., 2006). Thus, it seems that Co2, which has expanded its operations globally, relies on virtual OCoPs as a form of communication using ICT.

Although virtual communication tools are seen as important for connecting OCoP members from different affiliates, especially when a physical meeting is impossible due to the high travel costs for members, it seems that face-to-face interaction is more preferable for members, as they will have the opportunity to visit other plants and observe plant issues closely. Co2-R16, an expert group leader, explains:

Some of our plants are not in Saudi Arabia, they are in Europe, China and America and sometimes we face difficulties travelling and having face-to-face meetings, so [we utilise] the communication equipment through telephone or Skype or other communication means; however this is not as

effective as when you have face-to-face meeting and visiting the plant regularly, because you need to get aligned with expert groups to be more effective.

Co2-R16 – Expert Group Leader

Co2-R12 does not anticipate any problem arising from OCoPs being structured and located within the structure of the company. Based on his work experience and observations about how networks work at Shell, he believes that more formalised OCoPs will function more professionally, which will improve their efficiency for both members and the company as a whole.

To conclude this review of organisational structure at Co2, it can be asserted that Co2 already has a highly centralised structure, which has led to formalised OCoPs, because the decisions at Co2 are mainly made by applying a top-down approach. Thus, this sort of organisational structure has resulted in different perspectives among the participants in this case study, regarding OCoPs residing within the structure of the company. The case study also shows what occurs when power is received top-down manner, as this can limit OCoPs ability to thrive within the company. It has also been observed how scaling down the membership of OCoPs to specific people, because they have accumulated knowledge and experience from plants, would result in wide recognition of their activities restricted to one part of the organisation, which is MCE. It appears that the OCoPs within Co2 require reinforcement to assist their sustainability and the configuration of OCoPs across the company.

5.4 Participants' perceptions of whether the organisational culture enables OCoPs' activities

This section concerns aspects that enable the organisational culture category in Co2. The discussion below shows that Co2 presents five aspects regarding the impact of organisational culture on OCoPs activities. These aspects are: (a) understanding cultural diversity enhances OCoPs effectiveness, (b) experts in OCoPs can enhance a culture of initiative, (c) fear of criticism, due to lack of knowledge should not be permitted within OCoPs, (d) individual attitude towards knowledge sharing within the company would hinder knowledge sharing culture, and (e) recognition and appreciation are better rewards than financial awards for OCoPs.

5.4.1 Understating cultural diversity enhances OCoPs effectiveness

The data shows that working in a company with employees of multiple nationalities and different cultural backgrounds affects personal attitudes toward knowledge sharing through OCoPs. This is often due to perceptions of weakness in some skills, such as English proficiency and the need to respect others in terms of communication.

5.4.1.1 Appreciation for English language proficiency

Co2's global presence imparts cultural diversity, as the mixture of nationalities and languages used by employees influence knowledge sharing. It is important, however, to distinguish between English as used in daily interaction and English as used in management communications (Lauring and Selmer, 2010). In the context of this case study, and to ensure language consistency, English is used as the language of communication within its affiliates. Keeping this in mind, the members of OCoPs are likely to have different cultural and language backgrounds, and, therefore, the English language is the proper language in which to conduct conversations between the members of OCoPs.

The following examples explain this clearly; they are taken from interviews with two participants who hold leadership positions. Co2-R11, who works at the headquarters as a director of the Supply Chain Systems Excellence unit, states that people whose first language is not English, or people who do not speak English fluently might feel some awkwardness when engaging in sharing knowledge with others who speak English fluently.

People face several challenges during formal meetings, such as limited English language skills, lack of communication skills and not feeling confident as speakers.

Co2-R11-Director

On this point, Co2-R20 states that:

...our people are used to using technical language and therefore they will not feel comfortable sharing ideas in English, which is the business language...

Co2-R20 – Project Leader

The two statements above are confirmed by Lauring and Selmer (2010), who indicated that a lack of language proficiency might make it more difficult to establish the common frame of reference necessary for knowledge sharing. The findings at Co2 suggest that use of English is

considered one of the barriers to Saudi employees' ease when communicating through knowledge networks where English language is dominant. The recent change in the company's status in terms of its operations becoming global and no longer local may also have impacted the views expressed by the participants in this study. It appears that this change has necessitated more sharing via verbal communication and information exchange between employees in English, whereas Arabic used to be the main language used for this purpose. People with only basic English language skills are less confident about involving themselves in professional knowledge networks such as OCoPs, where members communicate at the global scale using English as the language of communication.

The analysis in the interview transcripts reveals that some participants make comparisons between the first and the current generation of employees; the latter possibly having had more opportunity to work in a global environment making them more confident and flexible about sharing knowledge. Through this, it can be argued that if the company establishes OCoPs with members from the company's global sites, the participants from outside Saudi Arabia might become more involved than those from Saudi Arabia, because of several issues such as the language proficiency and issues with presentation skills and documentation skills. In contrast with this finding, Pan and Leidner (2003) argue that global OCoPs that engage in similar business activities and share the same interests might not be handicapped by the lack of language proficiency, as this was not an issue for Co1. The absence of any specific guidelines for participating in global knowledge sharing initiatives would make some employees feel uncomfortable (*ibid*). Existing guidelines and a clear vision for OCoPs were established at Co1 (see Appendix E), whereas they do not appear to have been provided by Co2. Giving specific guidelines for OCoPs that operate on a global scale would enhance participation in global knowledge sharing initiatives.

5.4.4.2 Communication and respecting others backgrounds

The data shows that cultural aspects affect communication and knowledge sharing, in some cases becoming a barrier to the establishment of OCoPs in a company. The data links the issue of communication to the national culture. Although this theme of understating cultural diversity was not part of the research focus when introducing issues relevant to the national culture involved in the study, such elements became important, as participants' justifications for the lack of knowledge sharing within the firm revealed particular circumstances likely to affect the enablement of OCoPs' activities. Specifically, Co2-R20 claimed that people at the company are affected by a national culture that does not support communication. This in turn

influences communication in the workplace. He explains that the national culture in America and Europe assists in creating successful communication processes in initiatives such as OCoPs.

This may result in a relationship with national culture. In America and Europe, it is easy for people to interact, whereas in our culture there are multiple communication barriers. Our people are good in terms of know-how and have excellence in certain topic areas but not in communication, and [O]CoPs rely on communication.

Co2-R20 – Project Leader

Co2-R20's perspective is affected by his background, as he has previously worked in a global role in which he witnessed the impact of culture on people returning to Saudi Arabia after secondment to affiliates of the company in other parts of the world. He states that the national culture in America and Europe assists the building of communication skills and self-confidence at an early stage, which impacts positively on people's future careers. An organisational culture within the company can be brought about whereby an exchange of ideas and opinions is made possible through OCoPs. A suggestion by one participant to fill this gap is explained in the following quote:

The [proper] solution is to have, for example, three communication ambassadors, so they can try to implement face-to-face meetings and sometime to visit the plant in Europe and other areas, and try to meet with the management there to get in alignment. We know it's impossible for all of us to get together, so we have to get used to the virtual team approach and also we have to adapt to a culture accepting different backgrounds in different countries.

Co2-R16 – Experts Group Leader

The importance of understanding people's nationalities, how they view the world and what national characteristics might impact on knowledge sharing activities was acknowledged by participants. For example, Co2-R18, who works as a project leader, observes that the body language used by people of various nationalities differs.

I am from South Africa, so we have multiple-parts of different cultures and we have to deal with it. Eye contact for example; in traditional Western society direct eye contact is seen as a sign of respect, in black African

cultures direct eye contact with somebody is a sign of disrespect. I need to understand these things... so I think [national] culture has a huge impact.

Co2-R18 – Project Manager

Co2-R18, who joined the company almost three years ago, also states that mutual respect with regard to national culture and religion is important. Saudi Arabia's culture, differs completely from his own. It leads him to consider carefully how important respecting this difference is in promoting knowledge sharing practices.

It can be deduced from above that appreciating diversity and respecting other's cultural backgrounds in a global company are important values for fostering communication within OCoPs. In such situations at Co2, giving attention to these factors as they affect the company, and developing them within set boundaries could enable OCoPs to maximise the effectiveness of their activities, including employees who feel isolated from knowledge exchange due to their English language proficiency. These values would help to build a healthy organisational culture, increasing the productivity within OCoPs.

5.4.2 Experts in OCoPs help to enhance a culture of initiative

The role of cultivating a culture of initiative among company employees appears to be vital for enhancing the formation of OCoPs. The data reveals that the unique social environment of the organisation plays a substantial role in shaping the knowledge sharing culture among employees. As knowledge sharing is a fundamental element in the establishment of OCoPs, the findings show that a culture of taking initiative comprises part of the organisational culture, encouraging employees to form their OCoPs to assist in knowledge sharing processes within the company. Co2-R21, who works in an affiliate as a general manager claims that knowledge is not shared effectively between affiliates partly because of the lack of a culture of initiative. According to him, an excellent employee will show initiative in addition to extensive knowledge and experience, and will actively share and exchange ideas with others outside the plant.

Except where a case relates to an excellent guy who has initiative! If he does not have initiative, then I focus on the problems of the company, because this what I will get praise for! The manager will ask him about his job, not about the affiliates' work.

Co2-R21 – General Manager at Affiliate

In the context of OCoPs, power describes the ability to exert influence, and to bring knowledge-based topics into practice, to exert influence on those who need to be integrated into the process, and to control the extent to which this is done (Robert, 2006). It seems that any initiative to establish groups is usually approved by management. Perhaps this, as explained previously, is because Co2 possesses a strong hierarchy structured across complex and various levels, which shape its organisational culture. Nonetheless, the idea of establishing OCoPs is not rejected by company policy, although someone proactive is needed to take such initiative on, to enable people to exchange their ideas. Creating a culture of taking initiative was mentioned by several participants, who argued that the lack of awareness of groups' activities is not a consequence of organisational culture. Co2-R12, who currently holds a managerial position and has previous experience in OCoPs, stated that experts should take the initiative to present OCoPs distinctly within the company and appropriately to top management. He comments:

I don't think it relates to the organisational culture. Organisational culture perhaps evolves from people who are skilled, such as subject-matter experts. They are considered important people and they have to take the initiative; otherwise nobody will give them ideas.

Co2-R12 – Chief Engineer

It is likely that OCoPs are still not part of top management's vision. Co2-R12, who has a technical background and has work experience in both management and technical areas, emphasises the role of skilled people, particularly those involved in OCoPs, in creating a culture of initiative within the company and encouraging knowledge sharing through such groups. Co2-R12 argues that subject-matter experts should present initiatives clearly to top management; otherwise, they will not be effective because senior managers have other responsibilities to address. Therefore, if experts adopt this idea and demonstrate it to top management, it will be recognised and supported. This could result in an excellently managed and rewarding system. In fact, self-motivation, as demonstrated in Co1, and self-initiative as at Co2 can be considered similar when discussing enhancing knowledge sharing within the organisations. However, although at Co2 self-motivation was seen as important for enhancing the knowledge sharing culture within its boundaries, it also emphasised that the relative autonomy of the expert members of the OCoPs was contingent on ensuring the OCoPs accorded with senior management's vision. It seems that one of the reasons for knowledge not being shared effectively between affiliates at Co2 is the lack of a general culture

supporting initiative. Arguably, adapting the culture within the company to build an organisational culture that enables employees to facilitate OCoPs that are recognised by the company would be beneficial.

5.4.3 Creating a no-blame culture

Given that some participants stated that language proficiency might affect an individual's willingness to share their expertise through OCoPs, the knowledge sharing behaviour of employees in formal structured groups (e.g. project teams) will differ from their behaviour in informal structured ones, such as OCoPs. OCoPs can be utilised as a source of knowledge for any employee in the company working in the same field of specialisation as that of the OCoP, as the employee would benefit from the different views presented by the OCoP and receive assistance to overcome work-related issues. Employees can therefore develop and maintain various relationships within the company. However, the data shows that employees usually avoid saying 'I don't know' when they do not know the answer. This attitude is based on fear of condemnation for not knowing something commonly known, especially in the setting of a formally structured group. OCoPs assist in the development of individuals' knowledge. Thus, Co2-R17 states that everyone has strengths and weaknesses and that it is not wrong to show others that you lack knowledge regarding some issues, and that the real problem lies in pretending to be knowledgeable when actually being ignorant. He says:

As I am an engineer, when I go to an Expert Group, an engineer would say that others [in affiliates] will think that he can't solve this problem...The wrong thing is pretending to know things when you don't, this sort of culture and 'fear of blame is dragging us down and we can't get rid of it, some people feel ashamed about saying 'I don't know' and this is wrong.

Co2-R17 – Experts Group Leader

It seems that lack of knowledge does not mean that the members of OCoPs do not deserve to be involved in such activities of OCoPs. Creating a 'no blame' culture is essential for Co2. This can be achieved by focusing on key objectives, whereby knowledge sharing and learning are the main objectives pursued. Co2-R21 comments:

It is not intended to blame people and say they are not doing the job perfectly. That is not our objective. Our objective is to highlight the problem and help others to learn and share their knowledge. We need to create a no

blame culture. You cannot say that this company or organisation is not hiring the right people.

Co2-R21 – General Manager at Affiliate

Arab culture influences reluctance to exhibit lack of knowledge, and so knowledge sharing is inhibited by reluctance to ask questions about matters that appear axiomatic. Skok and Tahir's (2010, p. 9) study in one of the Gulf States indicates that, the biggest barriers to knowledge sharing in Arab organisations are people themselves and their social and cultural beliefs. Co2-R15 claims that OCoPs are much better for people to learn in, as they can feel more relaxed about asking without embarrassment.

Culture, specifically [in] the companies with an Arab culture - people do not want to be blamed. They are afraid to make mistakes and then be criticised about them... If you do not make a mistake [you] will never learn...you have a scar on your skin...no mistakes, no learn[ing]...

Co2-R15-Section Head in MCE

The differences in the comments in part reflect that Co2-R17 is Saudi, whereas Co2-R15 is from Libya. They share similar views because they are both Arabs, and Co2-R17's view is shaped by his relationship with Co2-R15, as Co2-R17 values the knowledge obtained by him, which has helped him to develop his own work. Co2-R17 joined the company with limited experience and few qualifications. Due to his ambition to learn, he has continued learning alongside his work. First, he qualified as a Mechanical Engineer, and later he was promoted to Chief Engineer. He ascribes the success in his career to his passion for his work that led him to query experts and improve his knowledge about things he did not know about, particularly as a member of the OCoPs and later as leader of an OCoP. His experience illustrates the value of creating an organisational culture of learning through trial and error, in which mistakes are tolerated. Creating a no blame culture can ensure collaboration for exchanging knowledge and ideas between members of OCoPs to achieve specific objectives.

Arguably, in the context of this case study, the creation of a no blame culture can assist in minimising the hierarchical levels ingrained in the organisation, which is important as OCoPs benefit from flexibility to foster the flow of knowledge across the company without fearing lack of knowledge. Therefore, the organisational culture of no blame can ensure knowledge sharing between the members of OCoPs.

5.4.4 Individual attitude towards knowledge sharing within the company would hinder knowledge sharing culture

The documentary reviews of this case reveal that the company's policy does not prevent employees from exchanging expertise among themselves. 'Engagement' is one of four organisational values (i.e. inspiration, engagement, creation and delivery) that the company expects its employees to adopt in their work, when dealing with their colleagues, their contacts and everyone else associated with the company. A clear vision favouring knowledge sharing at the organisational level should assist the construction of a culture of knowledge sharing within the organisation. However, individual attitudes towards knowledge sharing could disable the knowledge sharing culture. Several participants suggested that employees do not hesitate to share their expertise with their colleagues, whilst others are conservative and unwilling to do so. For instance, Co2-R10 claims that employees prefer to retain know-how for self-interest without expressing a regard for others, whereas others conceive that sharing knowledge is important as part of a process of collaboration and collectivism, assisting the success of the company as a whole. The widely accepted proverb "Knowledge is power" (Brown, 1989, p. 3) is meaningful here in reference to the desire to encourage employees to participate actively in OCoPs. People at the company perceive the power of knowledge from different perspectives. Co2-R10 explains in the following quote:

I can say [that] a few people may say 'knowledge is power and I keep it for myself and if you need me [to share] ask me'. And there are others [who] say 'what I am doing is for the company'. The project's success relates to the success of the team, but not individual or personal success.

Co2-R10 – KM leader

It is likely that the absence of an effective knowledge sharing culture within the company affects individual's attitude towards exchanging knowledge and sharing experience with others. In addition, the knowledge sharing culture can be initiated by top management in order to encourage employees to share their ideas and experience at different levels. Co2-R16, who works at MCE and is an OCoPs leader, sees the company as still developing a knowledge sharing culture, because people are not fully confident about sharing knowledge. This is illustrated in the following quote:

I think top management is developing a knowledge sharing culture. I think we still need to improve on this significantly. Sometimes people are so busy.

Therefore, they do not share knowledge or experience. Sometimes maybe some people fear to share some knowledge or experience because of IP [Intellectual Property] restrictions; they cannot share external knowledge, so there are many challenges that we need to overcome if we are to facilitate knowledge sharing.

Co2-R16 – Experts Group Leader

It seems that when an employee is reluctant to share his experience this can affect the overall promotion of knowledge sharing culture within the company. A problem arises, however, if an employee feels that it is not safe to divulge knowledge or deal with specific information as confidential. In such situations, it can be argued that top management can successfully promote a knowledge sharing culture, not only by directly integrating knowledge as part of its business strategy, but also by changing employees' attitudes and behaviours, to promote willingness and consistency in knowledge sharing (Lin, 2007). The company should recognise those people who participate in resolving major issues and exchanging their experiences to help others at the end of the year.

On the other hand, participants with some experience participating in OCoPs, did not see knowledge sharing as a problem at the company. They argued that most members are willing to spend time in OCoPs and share their experience and knowledge. Co2-R15, who is a Mechanical Engineer, and gained most of his work experience in the Oil, Gas and Fiberglass industries before joining the petrochemicals industry, explains:

I would say more than 90% of people want to spend the time and share their knowledge in their groups. I am talking from my personal experience. I do not remember going to a person asking for a solution or a suggestion and being told, 'I am too busy'.

Co2-R15-Section Head in MCE

Co2-R15's standpoint is probably affected by his personal experience, as he has never encountered difficulties acquiring information or learning about new ideas from his colleagues.

To build a good knowledge sharing culture within the company, OCoPs should expand their relationship with people from different affiliates. OCoPs are characterised by their dynamic interactions, which require them to work with other OCoPs and where members not only

learn from each other but also increase their knowledge from people working in other plants. Co2-R16's words illustrate this:

When you look to our people within the expert groups, for example, its very dynamic we are not only dealing with expert groups. They are also working with other groups from the core teams and the domain members and they are not expert group members, we are learning from them and this experience can also be shared with expert groups members, so its vice versa.

Co2-R16 – Experts Group Leader

In addition, the view from affiliates involves asserting the importance of not limiting OCoP activities with respect to sharing knowledge with specific affiliates. Collaboration establishes that knowledge sharing is important to create an organisational culture. Co2-R21 comments:

[I]f such a group belong to one affiliate, the benefit will be limited to this one, not expanded to others as when it is an independent entity.

Co2-R21 – General Manager at Affiliate

An important point, which can be inferred from the above arguments, is that when participation in OCoPs is limited to specific people assigned officially by the company, this encourages the creation of a knowledge sharing culture. The knowledge sharing culture within the company will probably be shaped, either by the company wishing to engage in OCoP activities, or by describing the attitudes of individuals, who will decide with whom to share it. Top management should encourage employees to achieve the company's organisational value and create a knowledge sharing culture openly through the OCoPs.

Another point raised by the participants from Co2 was that the attitudes of individuals' might impede a knowledge sharing culture when a company works on a global scale in different regions, as some technical issues might arise preventing employees from one region sharing information with those in other regions; such as, legal restrictions associated with information transfer across regions. For example, Co2-R13 says that the company could have joint ventures with companies in America or Europe that would allow them to share certain technology only. This makes it impossible to implement the use of this category of technology across the company.

There is no problem with company policy, but sometimes there are legal restrictions in sharing information across regions. Sometimes you cannot

share technology because you have an agreement with the company that provided [the technology], or that gave you the licence for this technology.

Co2-R13 - Talent Manager

Co2-R13 states that employees in MCE are aware of the legal restrictions imposed on them as part of the joint venture agreement. Co2-R21, who is a general manager of an affiliate, agrees with Co2-R13 regarding taking into account the legal issues, particularly between companies in a partnership, where certain kinds of information sharing are restricted. Therefore, he suggests that the company should educate its employees by delivering training courses about legal issues that prevent them from sharing information beyond the point where it is still legal. According to Co2-R21, this will enlighten employees, especially OCoPs' members and help them to recognise the information that they are not allowed to share, which will in turn effectively stimulate a culture of knowledge sharing across the company.

Although sharing knowledge is a fundamental process designed to improve both employees' and companies' performance, it can be seen as an issue in terms of loss of market share when employees share information with those outside the company working in the same field. Co2-R22, who also works at the headquarters, claims that knowledge sharing between employees can be seen as an issue that might affect investment issues, possibly leading to the company losing access to a target market.

Knowledge sharing can be seen an issue within the company and depends on investment issues because the company does not want to lose its position in the market (target market) by sharing important information. Therefore, knowledge is shared within very limited boundaries.

Co2-R22 – Director

In light of the intense competition between companies in the business environment, Co2-R22's opinion is unsurprising, as the company limits the sharing of knowledge within its boundaries, although this could affect the knowledge sharing culture of its employees particularly OCoPs members. This was apparent, as some participants' reported that establishing OCoPs or sharing knowledge is a sensitive process in a business setting where sharing sensitive information could affect a company's strategy.

However, it is clear that Co2 still faces some barriers that need to be resolved before instituting OCoPs within its boundaries. The recent global expansion of Co2 has led the company to face these challenges as now competes on the global scale. However, as was

argued by Annabi et al. (2012) changes in the organisational culture are required at all levels at the firm, the company can develop its policies in relation to OCoPs' effectiveness by allowing employees to participate in OCoPs based on mutual interest.

5.4.5 Recognition and appreciation are better rewards than financial awards for OCoPs

Interviews with participants from Co2 revealed that rewards could play a catalytic role in improving employees' performance and in increasing their level of participation in OCoPs' activities. In the present research, the view that recognition and appreciation are seen as the important elements of reward was repeated frequently during the interviews conducted at both companies Co1 and Co2. In Co1, the OCoPs' members mainly received appreciation from the direct manager cordially, but not officially. Participants from Co2 believe that facilitating OCoPs require a sort of system to provide rewards in the form of recognition and appreciation, particularly from top management. Therefore, it was agreed by the participants that the appreciation of top management, regardless of the methods used to demonstrate it, would have a positive impact on individual's contributions to OCoPs. The data shows that when members are appreciated for their contribution to OCoPs, this will encourage other members to imitate them.

When you have a team and you recognise one of the team for doing something you are actually motivating the other members to do the same, so it is very important to recognise the achiever, the best achiever. The other thing is that when you recognise the people's work and effort, this helps retain people with you; if you do not recognise them... you know most people like recognition, like to be visible and for their work to be announced as in newsletters for example.

Co2-R16 – Experts Group leader

Having faith that employees will understand the value of their contribution will contribute to the company in terms of creating positive experiences for individuals. It appears that appreciation of what an employee does when engaged in group activities is a form of non-financial reward, whereby the company views a person's knowledge and experience as important to the company. According to Co2-R17, when a member of the OCoP is rewarded by the Vice President of the company, this alters the attitude of employees toward cooperating and engaging in the OCoPs activities.

[The sentiment] 'I do appreciate what [you] have done for me' is a reward, a kind of appreciation. [This means] they respect you as a person and let you feel and believe in your value to them. It made me feel that the company wouldn't cope without me. This sort of attitude will make a person work more than he's expected [to] and [be] above average. But if you prevent him from doing anything and keep on giving orders that would not work.

Co2-R17 – Experts Group Leader

Respect and appreciation can be seen as important factors from the standpoint of Co2-R17. Co2-R17 has been working at the company for more than 15 years. His first job was as a technician, but with hard work and dedication he became a knowledgeable person, engaged in 'non-destructive testing' across the company and its regions. In addition, he was assigned as leader of one of the OCoPs at the company, as he always attributes the success of OCoPs to a culture of respect and appreciation between the direct manager and his subordinates. This was perhaps influenced by the prevailing organisational culture that put people's dignity and respect for them at the forefront of the relations in the workplace; this is an important aspect of the Saudi business culture. Recognition from direct managers of members' work in OCoPs plays a substantial role, because being given the opportunity to participate means a lot to them.

The participants illustrated that the company had begun to recognise active OCoPs and reward them based on their productivity. It seems that recognition by the company of the dynamic group's activities gave a motivational boost to members within the community, particularly when rewarded by top management. Co2-R16, who leads an OCoP, believes that the employees from the plant who were designated by the management feel that this is recognition by their affiliate, as they were chosen as experts in their field. A study by Danish and Usman (2010) provided insight revealing that recognition and appreciation are the greatest needs according to most experts, whereas rewards in the form of financial compensation are rarely an effective motivator when used in isolation. Moreover, members would feel that their contribution would be relevant at the global level of the company and not limited to affiliates. Hence, Co2-R16 does not feel that financial reward is important to identify achievers in the group. He agrees with Co2-R17 that recognition of members' achievements would have a substantial impact not only the achiever but also on the team members, particularly when the person receives appreciation at the year-end meeting from

the company's Executive leaders; this is considered high recognition, not just by the affiliate but also within the company as a whole.

I think what is important for an individual is not the financial reward, but the recognition of his achievement. For example, executives reward individuals at the year-end meeting. Thus, he becomes very visible when seeing that people appreciate his efforts and what he has achieved, and this encourages him to work harder the following year. The financial [reward] for me I think is a secondary, not a primary, way of rewarding the expert.

Co2-R16-Experts Group Leader

It is likely that the financial reward is not always a motivational factor for people sharing knowledge. In Co2, people prefer non-financial rewards in the form of appreciation of their contribution to the OCoPs. Oliver and Kandadi (2006) recommend that indirect rewards such as appreciation and recognition play a greater role than monetary incentives. As a research scientist, Co2-R10 prefers appreciation in the form of the publication of his research.

I would prefer not to be monetarily rewarded, but I would prefer [the reward] to be in the form of a publication, visible to people, in a newsletter. People appreciate [this] more [than] traditional rewards... dinner and money.

Co2-R10 – KM leader

It is possible that Co2-R10's view is affected by his experience as a scientist, whose work is largely dependent on ongoing research that builds new opportunities for the company. Rewarding experts in OCoPs by, for instance, publishing the works of members who have participated actively in OCoPs in Co2's magazine or weekly newsletter would increase recognition of OCoPs. In addition, recognition by the company would help others to benefit from the expertise held in the OCoPs, promoting knowledge sharing. This would then create a win-win situation for the OCoPs' members and the company as a whole.

Overall, regarding the rewards system, Co2 does not appear to have any formal mechanism in place to provide financial rewards to the members of the OCoPs, but non-financial rewards are apparent, such as presenting the work of active members during the annual meetings between senior managers. Being a member of the OCoPs and receiving appreciation for efforts made by the group from top management would ensure OCoPs' activities would be recognised widely across the company.

5.5 Summary

As discussed previously, Co2 has recently implemented OCoPs but refers to them as 'Expert Groups'. OCoPs are purposefully organised and the company decides on employees' participation in the OCoP, according to their knowledge, experience and understanding of the company's operations. The global reach and geographical distribution of the company can influence its awareness of how to enhance its OCoPs. Top-down communication is the dominant aspect of Co2's decision-making. This has impacted on the establishment and facilitation of OCoPs. Any intention to establish OCoPs has to get the approval of the management. There is a similar situation in Co1. Despite control being considered an influencing factor affecting OCoP activities, some importance is given to involving some experts in helping to formulate business objectives. It can therefore be concluded that engaging experts from OCoPs in the decision-making process can help communities to work towards business objectives and mitigate the 'autonomy' element inherent in OCoPs. This case study has also revealed that including OCoPs within the organisational structure would limit the autonomy of their activities and deter innovators. If OCoPs are arranged hierarchically, they will only include people who work within the MCE, but not those on worksites who deal practically with various daily issues. Some issues associated with restricting the exchange of information could limit the promotion of the culture of knowledge sharing, which might also negatively affect the OCoPs. Finally, Co2 shares similar views with Co1 regarding the formation of a formalised reward system for OCoPs, in order to widely recognise their activities across the company. However, rewarding in the form of appreciation and recognition is preferred over monetary rewards.

CHAPTER 6: CASE STUDY THREE: FINDINGS AND DISCUSSION ABOUT OCoPs WITHIN CO3 (FAMILY BUSINESS)

6.0 Introduction

This chapter will focus on a company that does not currently employ OCoPs, in order to establish the challenges and barriers that enable or disable the introduction of OCoPs. This case study will firstly illuminate the aspects that encourage or discourage knowledge sharing within this company. Secondly, it will identify the obstacles faced during the establishment of OCoPs; and thirdly, it will demonstrate a number of different perspectives from participants working in separate cities, but within the Operation and Maintenance sections of the same company, and who have demonstrated an interest in establishing OCoPs within their departments.

The chapter will further examine perspectives concerning the introduction of OCoPs as a KM initiative, and the ways in which this approach to knowledge sharing is perceived by employees within the company. It should be noted that the company is a family business, and that interviews were conducted with lower and middle management personnel working in two different cities in the Western province of Saudi Arabia. It is essential for the present research to demonstrate the perspective of managers in relation to the facilitation of an informal knowledge sharing initiative and learning process. This discussion will focus on five main themes identified when collecting the case study data, (1) highlighting the nature of a family business; (2) understanding the status of knowledge sharing within the company; (3) KM initiatives are not seen as important for all businesses; (4) establishing that OCoPs are formalised within the organisational structure; and (5) examining the responsibilities of managers to stimulate knowledge sharing culture within the company (see Appendix G for the final framework of themes and sub-themes for Co3). Table 10 provides details of the participants interviewed at Co3.

Table 10: Details of the interview participants from Co3

Participants' details from Co3 (Family Business)		
Interviewee's Code	Job title	Experience with OCoPs
Co3-R23	Head of Recruitment	No
Co3-R24	International Employment Manager	No
Co3-R25	Project Manager	No
Co3-R26	Project Manager	No, but aware about it
Co3-R27	Assistant Project Manager	No
Co3-R28	Mechanical Engineering Head Department	No
Co3-R29	Senior Project Manager	No
Co3-R30	Head of Information Technology	No, but aware about it
Co3-R31	Electrical Engineering Head Department	No

6.1 Nature of the work of the family business

In the context of this case study, the data reveals that working for a construction company (and in particular a large family business) is characterised by two key factors related to the implementation of any project: (1) time and (2) work pressure. These two factors are likely to be particularly prevalent in family firms, as the participants are of the opinion that it may disable cultivating OCoPs in such a work environment. Although (as noted by a number of participants in Co1 and Co2 these two factors are also associated with non-family businesses, it appears that they have a considerable impact on shaping the participants' perspective concerning the potential for establishing OCoPs. It was noted by all participants that influential factors in forming their views of the need for such OCoPs in a business firm include long working hours, heavy workload and work pressure. For example, Co3-R23 (a recruitment manager) notes the following factors impacting on the work:

One of the things is related to the nature of the family business, in particular, the construction industry, where everything has to be done swiftly and within a limited time.

Co3-R23 – Head of Recruitment

Co3-R23 is a senior manager, working closely with the upper level of decision-making. During his interview, he noted that the HR department in his firm had only recently been

established, with the aim of organising the working environment to work harmoniously with the firm's general administration, i.e. the firm's headquarters. In the context of this case study, it is likely that Co3 is seeking to maintain its relationship with its customers by delivering its projects based on the two elements perceived by Co3-R23. Thus, it appears that the influence of these two factors (i.e. rapid delivery within a limited time) can be associated with Co3 being a large business with offices distributed in a number of different regions. A possible factor is the need of the owners to maintain the reputation of their company (with government in particular), and therefore view the efficient delivery of projects as crucial. A review of the company's website reveals that this company is currently awarded the majority of the major construction contracts for the Saudi government, and takes responsibility for accomplishing these projects based on a rapid and a prompt delivery of high quality work. Co3-R24 (who works closely with Co3-R23) further echoes this point, stating:

Working at that exact time and delivering excellent quality is what is required. It does not matter what procedures or means you use to deliver this task; it is your responsibility to deliver the final project within the time allocated, and with high quality. Thus, the nature of our work depends mainly on delivering on time. We receive directions from upper management, and top management takes projects from the government.

Co3-R24 - International Employment Manager

One of many governmental projects on which Co3 is currently working is the extension of the two Holy Mosques in Makkah and Al-Madinah. When the company receives a major project, it allocates an adequate number of workers, selecting the most qualified, as established by means of practical tests, which follow specific criteria for suitability to the job. Those selected are then immediately sent to work on the project following the prerequisite training programme to maintain the quality of their work. Co3-R24 takes this obligation seriously, as in some cases there is a need to recruit a large numbers of labourers for a major construction project in short amount of time. It appears that the projects received from the Saudi government are given a significant priority, which influences the decisions of the company's owners, including viewing all other work as of secondary importance. It is therefore unsurprising that Co3-R24 highlights the element of time associated with projects provided by the government. In addition, it is likely that the decisions are made by a higher level of management, and therefore the limited time required to complete the project may not allow an employee to consider participating in OCoPs in order to share their thoughts. Seba

et al. (2012) conducted a study within a Gulf State, and raised this issue, stating that the dynamics of work and work pressure lead to a lack of time to enhance knowledge sharing in the organisation.

In addition, a number of participants reveal clear concerns relating to the political movement known as the Arab Spring, which arose independently in a number of locations, before spreading across the Arab world in 2011. Co3-R23 is of the opinion that this is due to the majority Co3's employees being unskilled workers from different backgrounds and nationalities. He comments that:

Establishing [O]CoPs is not preferable, because the neighbouring countries of Saudi Arabia are in turmoil and most of our workers are from different nationalities and have very basic education or are almost without educational qualifications. Therefore, political situations are affecting the establishment of informal networks such [O]CoPs, which may lead to the formation of parties based on nationality or ethnic affiliation but not due to the interest in work. Current political events in Egypt have affected the relationship between employees, who argue with each other based on their party affiliation. These low-skilled workers may not understand the importance of establishing informal networks for knowledge sharing such as [O]CoPs.

Co3-R23 – Head of Recruitment

Co3-R23's concerns relating to such political issues can indicate why he did not give the researcher permission to record his interview, i.e. he wished to express his views freely and openly, particularly in relation to political issues, as noted above. Co3-R23's perspective is compatible with the explanation by Co3-R26 in Section 6.2.2, who works in a separate city to Co3-R23, and deals directly with the workers. In the context of this current study (i.e. the construction industry), it is likely that in locations at which Co3 employs a large number of low-skilled workers, such workers are focused on fulfilling their physical needs (e.g. food and money) rather than developing skills at work. Co3-R28 (the head of the Mechanical Engineering Department in the operation and maintenance section) notes that the simplicity of a worker's needs impacts on his thinking, and leads to the majority of his thoughts being focussed solely on issues related to day-to-day life and the salary at the end of the month. Co3-R28 elucidates that:

A technician has very simple things [to think about] such as salary, overtime pay, a comfortable house and taking time off work. If he needs to see a doctor, he will ask for two or three days' sick leave; if he wants to buy something he will ask to be excused.

Co3-R28 – ME Head Department

Schlögel and Weber (2015) state that a company pays the least attention, and gives the least support, to its low-skilled workers. In the three cases studied, the factor of middle management has been identified as crucial, including having a positive or negative impact on establishing OCoPs (i.e. Co3), or facilitating OCoPs' activities (i.e. Co1 and Co2). One possible explanation for this finding could be a lack of enthusiasm among middle management for these forms of informal groups, which could deviate from the purpose for which they have been established, thus influencing the flow of work. Co3-R24 (a middle manager) states that:

I say it is difficult to implement [O]CoPs here due to the nature of the work, and each person at a higher level will think the same. Our work is changeable, it is not like a production factory, and projects are variable in their nature. Our work depends on the speed of completion of work. If you form a team [of people] for exchanging experiences among themselves, and then I receive a task that I have to finish in a very short time, I will find myself compelled to stop this group [OCoP] and to assign them new tasks.

Co3-R24 - International Employment Manager

It appears that the primary focus within Co3 is on finishing work quickly and efficiently, and knowledge sharing is not considered essential. During this case study, the researcher noted that participants working on projects revealed a greater appreciation of the benefits of knowledge sharing than those working at headquarters. It is likely that the decisions of top management impose standards on lower level employees to deliver the projects on time, regardless of the methods used.

This case elucidates the nature of the work in Co3, and the role played by the type of business in the process of establishing OCoPs within a company. The impact of higher-level management can be seen from Co3-R24's standpoint concerning the establishment of OCoPs. Co3-R23 is his direct manager, and he also considers that, given the nature of their work, it is

unfeasible to cultivate OCoPs. This may have led Co3-R24 to believe that those at the upper level of management would share his point of view regarding the establishment of social groups, i.e. OCoPs. Although both Co3-R23 and Co3-R24 conclude that it is unfeasible to establish OCoPs within Co3 (potentially from an administrative standpoint, as both work in the same department in the same city), Co3-R25 (whose background is in Electrical Engineering) considers it to be technically possible to establish OCoPs in his department, and demonstrates an interest in doing so.

6.1.1 Impact of time and work pressure on establishing OCoPs

In relation to the previous section (in which the nature of work in Co3 was seen to impact on the formation of knowledge sharing initiatives), it was noted by many participants during the discussion that pressures of time and workload are two major factors to consider when establishing OCoPs within a company. In comparison to the other two case studies, participants from Co1 (unlike a number of participants from Co2) did not consider these two elements to be a factor when involving individuals in OCoP activities. However, in Co3, these two elements are considered to have a considerable impact, acting against the establishment of such OCoPs, as well as the difficulties (for employees in particular) of retaining the same job over a long period of time. Co3-R23 (who works at middle management level) notes that:

Establishing [O]CoPs or informal networks is difficult, because of the time factor and work pressure, as well as the political issues in the region. Most of the workers are working here temporarily, and have a low level of education.

Co3-R23 – Head of Recruitment

A similar opinion is also expressed by Co3-R24, who points out that:

There is no time; the day starts, and you will see it runs swiftly. Any directions or orders from [top management] mean that we are time-limited and need rapid action. The standards by which we measure our work are time and quality.

Co3-R24 - International Employment Manager

It is likely that working in the headquarters of Co3 may influence the work process, i.e. the owners may request a rapid response to the need of clients. Thus, Co3-R24's point of view is

influenced by the way in which Co3 works on contracts with the owners of the construction projects undertaken, i.e. the company needs to sign contracts with the client demanding an adherence to delivering the project on time. Co3 does not appear to have the mindset to consider OCoPs as an entity for knowledge sharing, despite all ongoing upgrades, and the reorganisation of its HR department as an independent organisation specialising in recruitment and employment. Co3-R24 states that he does not subscribe to this view, because he not only has to deal with different nationalities and backgrounds, but his options are also influenced by Co3's work style, in which the tasks of employees are well defined and there is no leeway given to expand upon tasks.

A further point of interest is put by Co3-R26, who considers the lack of time to be an obstacle resulting from their heavy workload, particularly during the busy times of year for their departments (e.g. Ramadan Month and Eid), but still disagrees with the argument outlined above:

I consider [lack of] time an obstacle because we get very busy particularly in the Season, which is the busiest time of the year. [But] I think it is a good time for sharing expertise. We could say that [lack of] time is an obstacle, but it is not completely true, as we still have time to do everything else. I do not know if anyone would agree with me on that.

Co3-R26 – Project Manager

It appears that, in order to improve their working performance, individuals need opportunities to meet and exchange ideas. However, it also appears that the upper echelons of a company might only be led to consider such knowledge sharing initiatives by project managers encouraging their staff to form such initiatives, to demonstrate their effectiveness. Managers (and particularly those with authority) should thus be given the opportunity to implement such knowledge sharing initiatives within a department in order to establish any advantages (or disadvantages) of their implementation.

Thus, it can be seen that, although the views expressed above do not consider these two factors (i.e. long working hours and pressure of work) as enablers in forming OCoPs within a company, Co3-R25 (who works in different city from that of Co3-R23 and Co3-R24) disagrees. He notes that:

It is not true that I cannot establish an [O]CoP. Yes, I am busy, but if I set a certain goal, I can achieve it. It is impossible to work eight hours and not have time to spend in unscheduled meetings.

Co3-R25 - Project Manager

In light of the above comments, it can be concluded that even when managers are not against the idea of establishing OCoPs, such implementation can be prevented by the number of tasks imposed by top management on those in lower positions. Hildreth and Kimble (2004) have also identified this issue, stating that where there is no clear value to the organisation in establishing OCoPs, managers may not support such KM initiatives.

6.2 Status of knowledge sharing within the company

Prior to revealing the views expressed by the participants in relation to the opportunities and challenges faced when establishing OCoPs within Co3, it is important to highlight the status of knowledge sharing existing within the company, as this is considered an incentive to forming an OCoP. In order to establish the potential to establish OCoPs within the company, it is first significant to discuss the opportunities and challenges relating to the ability to foster knowledge sharing within the context of this case study. Love (2009) states clearly that the challenge for construction organisations such as Co3 is to: (1) encourage individuals to participate in an OCoP; and (2) setting the boundaries holding it together. Co3 works within the labour-intensive construction industry, and does not appear to consider knowledge sharing as fundamentally important. The research findings regarding the status of knowledge sharing in Co3 has identified three aspects: firstly, on-job-training is perceived as a knowledge sharing activity; secondly, the work routine does not require knowledge sharing; and thirdly, attitude impacts negatively on knowledge sharing. These factors will be discussed in further detail in the following subsections.

6.2.1 In-work-training considered as a knowledge sharing activity

It appears that Co3 primarily supports knowledge sharing through formal structured groups (i.e. training programmes designed by the company), rather than initiating unstructured networks (i.e. OCoPs). Although participants are in agreement concerning the failure of the company to consider knowledge sharing, their views depend on a variety of rationales. Co3-R24 (who is responsible for recruiting workers from outside Saudi Arabia) explains the employment process for these workers as follows:

The standard for a labourer in the market [is that he] can place ten tiles in an hour, but here in the company we have someone who can apply twenty tiles in just half an hour. The delivery is different, the quality is different, and the performance of the person is different. We [are] talk[ing about those ranging from] unskilled people, through semi-skilled, to the manager. All are [of] different [standards] from [that of] the market.

Co3-R24 – International Employment Manager

There is potential for older workers in Co3 to support newcomers on site. The training courses have a crucial impact on the way in which Co3 employees view the issue of knowledge sharing within the company. However, both Co3-R23 and Co3-R27 are of the view that it is less efficient to train a new employee than the use of observation and coaching, during which the new employee is able to ask questions and learn immediately from experienced employees. These views affirm Lave and Wenger's (1990) rejection of isolating knowledge from practice, as practice is central to understanding work (Brown and Duguid, 1991). It is likely that this form of training allows new employees to team up with expert employees inside the company. However, Co3-R27 (who is an assistant project manager) claims that the company is, in practice, undertaking knowledge sharing through this form of training, regardless of whether it is formally viewed as training. Love's (2009) challenge to construction organisations is not necessarily to use the forms of OCoPs, but rather the ways in which such companies employ OCoPs within the project settings:

When it comes to knowledge sharing, we do it practically, and even we do not realise it. Because from time to time we do have to train [formally]! However, [at] the moment, the owners [are] restricted to on-the-job-training only in the system. That is how knowledge is shared. If any new employee needs training for a three-month period to become familiarised with the system, he can have such training, or what he needs is supplied to him according to his abilities. So this is how we do knowledge sharing.

Co3-R27 – Assistant Project Manager

From this statement of Co3-R27, it appears that knowledge sharing is built into the employment system for new employees. In addition, it appears that training programmes are

able to increase awareness concerning knowledge sharing within Co3. Thus, Co3-R27 noted the importance of training programmes a number of times during the interview, viewing them as the only medium of social exchange through which the company is able to introduce the concept of OCoPs into the minds of individuals. It can be then deduced that, due to Co3 preferring not to establish informal forms of TCoPs; OCoPs have an opportunity to increase within the company, along with being intentionally established and developed to enable a free exchange of expertise and in-work-training programmes. Establishing OCoPs within the company does not imply that they are emerging as a replacement for traditional work structures (e.g. training programmes), but that they should be rather viewed as complementing training programmes, i.e. adding new dimensions to work and learning (Smith and McKeen, 2004).

The practice of knowledge sharing within the company is department-related. For example, Co3-R25 (an operating and maintenance project manager, working in the same location as Co3-R27) states that his heads of units are all non-Saudis. However, he does not see any issue in relation to the sharing of knowledge within his department, either at the level of the heads of units or among lower level employees.

In general, I do not know how knowledge sharing behaves in the company. But within my department, I do not see any feuds regarding nationalities, either between my employees, or with their direct managers who are not Saudis. Their offices are open and they share knowledge with everyone, both Saudi or non-Saudi.

Co3-R25 – Project Manager

Co3-R25 has worked for approximately seven years for this company, and his standpoint draws on his past working experience, including observations he has made while working in other companies. It is likely that each business unit has its own approach in place to share knowledge, but these are not identified under a common KM umbrella. Michailova and Minbaeva (2012) indicate that the embraced value of the exchange of ideas among employees (both within and across departments) positively influences knowledge sharing. However, Co3-R25 notes a significant issue regarding Co3, due to his belief that employees of the company acknowledge the sanctity of this place. He comments:

I do not know, perhaps because of the blessing of this city, people sense in particular that we work here in the Prophet's Mosque (PBUH). People

may react with each other differently; I do not know, maybe because of the place. I do not have any specific answer except the possibility of the sanctity of this place.

Co3-R25 – Project Manager

Co3-R25 relates the context in which employees work to their willingness to share experience, and feels that respect for a holy place may have a positive impact on their methods of sharing knowledge. It appears that discerning the sanctity of a place encourages employees to exchange experiences and knowledge as a sign of respect for that holy place. Practicing this respect on the ground, and sharing knowledge with others is important, as individuals working in the Prophet's Mosque would show respect to their Prophet, who said "None of you will have faith till he wishes for his (Muslim) brother what he likes for himself" (Reported in Bukhari, p. 14).

6.2.2 Work routine does not require knowledge sharing

Companies undertaking routine tasks may not share an identical perspective to those with work settings that value knowledge sharing activities (e.g. OCoPs) (Lund and Magnusson, 2012). The operations of Co1 and Co2 take place on a global scale, thus leading to a need for the social dynamics of knowledge sharing to enhance mutual learning, and exchange expertise, in order to ensure continuous development of their businesses (Pyrko and Dörfler, 2013). Co3-R23 (a head of recruitment in the HR department) disagrees with this view, considering knowledge sharing to be unfeasible, due to the high percentage of working class employees among the blue-collar-workers employed by the company:

In terms of the importance of knowledge sharing, I do not take too much care about sharing knowledge, because most (90%) of the employees in the company are low-skilled craftsmen, so for their types of work, or projects, it is difficult to establish knowledge networks.

Co3-R23 – Head of Recruitment

Co3-R23's role as a head of the recruitment department has clearly influenced his opinion of the impact of work routines on knowledge sharing. At the same time, this is an argument put forward by many managers, who express uncertainty concerning the importance of knowledge sharing for their company's working class employees. In comparison to Co2, Co2 clearly identifies its organisational values, of which one is to encourage knowledge sharing. The absence of such vision amongst top management regarding the importance of knowledge

sharing can impact on an entire organisation, along with their perception of the benefits forming of such OCoPs. It appears that managers in Co3 have little interest in putting in place structured knowledge sharing networks, such as OCoPs, claiming that such networking would prove challenging for their artisans. Construction companies consist of project-oriented teams, generally employed for short-term and task-focused work, which can inhibit KM initiatives (Kanapeckiene et al., 2010). However, as noted in the section above, it has been observed that the more experienced employees share their knowledge with the less experienced.

Despite the positive aspects that can be gained by establishing knowledge sharing initiatives such as OCoPs, it appears that the implementation of such initiatives may be appropriate to specific work environments (i.e. building construction), while not for routine work (i.e. within the operation and maintenance section). Love (2009, p. 370) indicates that it is important in construction companies that OCoPs focus on strategically important issues, for which a core group can be established. It can be argued that OCoPs tend to be more successful when their establishments are linked to the core business of the company, as seen in Co2. Thus, Co3-R28 justifies his opinion as being related to the lack of any significant change of tasks (i.e. due to the preventive maintenance applied in this work), apart from in the rare event of a malfunction:

If we expect five or six breakdowns, we [would have] anticipated [them] and equipped [ourselves] with spare parts. Whereas, in building construction, there are several tasks and changes to these tasks. For example, they build the basement, then move to the first floor, and then the second and so on. After that, [they] install electricity and air conditioning. So many things happen, and these people can exchange their experience and learn from mistakes on each floor they build and so avoid any repetition of the same mistake. The worker faces this problem because he does not consider the safety issues, and so on. Our work in the operation and maintenance section does not have these occurrences; it is a routine task.

Co3-R28 – ME Head Department

Co3-R26 has five years' work experience in the company, of which three were as a cleaning project manager. He argues that the nature of the work in the operation and maintenance

section has advantages, and high skills are not required. This is due to the work being focussed on cleaning carpets and polishing ceiling pendants by hand, and he therefore feels there is no need for knowledge sharing. Schlögel and Weber (2015) consider this view to be problematic, as it results in low-skilled workers receiving least attention and being given the least support within a company framework. However, Co3-R26 states that, if anything goes wrong with the same work in a different location, it is the superintendent's responsibility as a moderator to share this information with other groups.

We have this advantage, as our work does not require high levels of skills or technology. For example, the people I manage do manual tasks. As a manager, it is not difficult to understand their work. If there is anything to be shared, I can do it at the workplace. But there is a superintendent who supervises all the teams that do the same jobs at the same time. If he sees a team not doing something correctly, he will take on the role of sharing such information between teams.

Co3-R26 – Project Manager

Project managers appear to have a similar attitude towards fostering knowledge sharing among the working class, possibly due to the majority of employees in this construction company being unskilled or low-skilled, and working in shifts on the same duties. Moreover, a newcomer will undergo in-work-training, acquiring the necessary skills through experience. Thus, the company is unaware of any new information to be shared, as they consider such workers to be only following their training and following a work routine.

As seen previously, a work routine has a direct impact on the sharing of knowledge among unskilled workers. Co3-R26 points out that knowledge sharing can be observed at peak times, and particularly among higher level employees, i.e. project managers. He states that meetings at which such knowledge and experience are exchanged are more active during specific seasons, including the Ramadan month or the Hajj (pilgrimage) season at the Prophet's Mosque, when the Hajj to Makkah is over. He is of the view that such meetings would benefit from the cross-fertilisation of ideas and the sharing of experience, which could assist all departments with proposing solutions for any difficulties:

This kind of exchange of experience and information can be found at our level, as managers, particularly during the 'seasons'. We have daily meetings at peak times at work, where we can discuss all the problems

and solutions that we came across during that day, and each member of a section presents his suggestion, or a solution from his experience, to another section and expresses his opinions freely.

Co3-R26 – Project Manager

The need for knowledge sharing appears to be linked to the position of the employee within the company's hierarchy. However, it appears that companies engaging in such informal meeting can develop OCoPs. Smith and McKeen (2004) suggest that a company can identify an informal meeting already taking place around the organisation's core businesses, assisting them to work together as OCoPs. It can be deduced that, in the context of this current case study, the desire to share knowledge could enable the establishment of OCoPs as an initial step, and as a self-organised group among project managers, in which mutual responsibilities (i.e. the second characteristic of TCoPs previously outlined in Section 2.2.1) can bring such managers together to share any difficulties. Once the concept of the use of OCoPs becomes acceptable at the level of top management, the group can (as in the both Co1 and Co2) evolve and be given additional rules and procedures for their establishment.

6.2.3 Attitude impacts negatively on knowledge sharing

Although attitude to share knowledge was not acknowledged among the participants from Co1 as being an issue for OCoPs, a number of participants from Co2 identified this as an issue relating to legitimacy in relation to the sharing of information concerning, or experience of, a specific technology. This is also seen as a barrier to establishing OCoPs in Co3. The issue of attitude arose during a discussion of the managers' views regarding the reasons behind the lack of knowledge sharing. It appears that Co3 still requires additional efforts to reinforce the concept of knowledge sharing within its boundaries. The analysis of interview transcripts illustrates that employees' attitude towards knowledge sharing varies according to their situation and position. In addition, there also appears to be a link between the amount of knowledge acquired by an employee and their prospect for promotion. Al-Alawi et al. (2007) state that knowledge sharing can be an internal characteristic related to individual attitude, and therefore plays a substantial role in knowledge sharing behaviour. Co3-R23 notes that:

The problem is that some employees are conservative in terms of sharing knowledge, and the reasons for this are as follows: firstly, the possibility of being promoted after gaining the knowledge. Secondly, using the

information against the person. Thirdly, the concept is absent from senior management.

Co3-R23 - Head of Recruitment

Co3-R23's point of view is, to some extent, shared by Co3-R29:

Knowledge sharing culture is not acceptable in our environment, as the individual may be afraid to lose the advantage of possessing knowledge, and may wish to be distinguished from others by this knowledge.

Co3-R29 – Senior Project Manager

Though Co3-R29 links attitude to business culture, he notes the ways in which personality impacts knowledge sharing as follows:

Personality impacts particularly among engineers, who may be afraid of losing unique information through knowledge sharing, which may have a negative impact on their career, such as losing a potential promotion.

Co3-R29 – Senior Project Manager

Despite Co3-R23 and Co3-R29 working in separate locations, their views can be considered as representative of middle managers. Co3-R23 is Head of Recruitment for the entire company, and linked directly to the Deputy Director of Human Resources. Co3-R29 is the main principal for all projects within the Sacred Mosque in Al-Madinah.

The perception that emerges in the interviews of the relationship between promotion and the sharing of knowledge is likely to have been influenced by the working atmosphere within the company. This indicates that the employees following training programmes have the required support while they undergo training, being trained by experts in the company, who ensure that new employees meet the required criteria for their post. This is noted in the previous section in the discussion concerning low-skilled employees.

However, this is not the same for those employees in higher positions within the company. It is the attitude of employees, along with the local culture, that has a noticeable impact on knowledge sharing. The statements made by Co3-R23 and Co3-R29 indicate that some employees are hesitant about sharing their knowledge with colleagues, as they feel this knowledge forms their path to promotion. DeTienne et al. (2004) have identified that employees who fear that sharing their knowledge will have negative effects on their position

or career development are likely to distrust the company and to be averse to sharing any knowledge they possess.

As discussed above, the element of attitude forms a prominent aspect noted on a number of occasions during the interviews by several of the participants in this case study, including during the stage of requesting permission to interview participants. For example, Co3-R28 (a head of a department) contacted Co3-R29 (his direct manager) to establish whether he had permission to meet the researcher and discuss the research. Co3-R28 notes the reason being as follows:

I got verbal permission from my direct boss to meet you to protect myself legally. I have been working here for about nineteen years. When I need permission for anything beyond the boundaries of Al-Haram [The Prophet Mosque], I ask for permission.

Co3-R28 – ME Head Department

Attitude appears to have an impact on shaping an individual's perception of knowledge sharing. Thus, Co3-R28 considers that it is impossible to establish OCoPs without obtaining a formal confirmation from management. It is notable that, although the above opinions reflect only the views of managers working at different positions in different cities, the views of participants working at the headquarters can be seen as potentially influenced by close observation of the top management's attitude towards knowledge sharing. By contrast, participants working in the operation and maintenance section of the company in cities other than Al-Madinah attribute the lack of knowledge sharing within the company to the attitudes of managers, as previously noted by Co3-R26. This present case study demonstrates that knowledge sharing activities (such as OCoPs) may not be sustainable in an absence of any positive attitude by middle management, influenced by top management. This perception can therefore affect knowledge sharing among employees, when managers within the company take such an approach (Smith and McKeen, 2007).

6.3. KM initiatives are not seen as important for all businesses

It is beneficial to examine the impact of KM initiatives (i.e. OCoPs) in order to understand the rationale for participants failing to consider knowledge sharing to be of importance. Alsereihy et al. (2012) indicate that a lack of experience in KM practice by top management (including collaboration in KM projects) have a crucial impact on KM initiatives within a company, as demonstrated in Co3. The effective role of the KM department has contributed

positively to configure and support OCoPs activities within both Co1 and Co 2. However, KM is underdeveloped within Co3, due to the time needed for this concept to spread, and for employees to be encouraged to share their experience and ideas in an effective manner. However, the fostering of KM as a concept within the company emerges as an important issue when discussing the feasibility of establishing OCoPs. In this case study, Co3-R24 (an international employment manager at HR) feels that the company has no need to promote internal KM programmes:

I do not think that family businesses need KM programmes; they still need to work to establish associated entities. So, transferring knowledge may exist in businesses that have this sort of culture, such as Proctor and Gamble and Shell.

Co3-R24 – International Employment Manager

It is possible that Co3-R24's point of view could be influenced by his previous work experience, and his current position, as he has worked for Co3 for almost five years, having previously worked for a separate family business for fifteen years. His department handles recruitment from outside Saudi Arabia, including arranging visas from the initial phase to the allocation of employees to the other sections in the company.

In the context of this case study, it appears the company has a number of hierarchical developments. For example, from the field notes, the HR department has been transformed from a small section within each main business operation and has now become a separate organisation. Despite Co3-R24's judgement concerning the futility of establishing a KM department within the business for which he currently works, this may not be appropriate for other businesses operating in different sectors. However, Alsereihy et al. (2012) indicate that the field of construction (i.e. Co3's sector) is lacking in the implementation of KM solutions, due to each construction project being unique, and requiring a new design. Moreover, they argue that, due to internal and external barriers, it may not be practical for some firms to implement KM practices.

It is likely that Co3 views frequent meetings of family members as sufficient for the sharing of knowledge, leading to a lack of any need to establish such an entity for KM to develop or facilitate knowledge sharing initiatives within the company. It is likely that the family engage in conversation during their meetings, allowing their opinions to be exchanged in an informal

manner, and outside workplace settings (Zahra et al., 2007). This is confirmed by Co3-R26 (a project manager) who states that:

For the family business, the situation is relatively different from other companies, because usually the members of the family business have continuous meetings outside the daily work period. So they share knowledge and exchange their opinions and views, and update each other about their company. I think this is the reason that these meetings happen naturally and perhaps reduce the need for KM, or did not ensure a family business was certain to have such a KM centre dedicated to knowledge sharing. Probably if they have upgraded their work, and acquired a large number of contracts, this will highlight the need and they will be forced to establish a KM centre. But currently, they find the family communication concerning their business's issues to be sufficient, and consider there is no need to think about this subject.

Co3-R26 – Project Manager

It therefore appears that the members of this business undertake their own regular meetings to discuss and update each other concerning the issues relating to their company, and consider such meetings as a form of knowledge sharing. However, it is likely that such meetings primarily focus on a discussion of the challenges faced by the company, and how they should be addressed. At the same time, these exchanges are limited to family members, and will therefore only represent a very narrow point of view. This may lead to managers considering it impossible to establish OCoPs in Co3, because it is a family business, as noted by Co3-R24:

Establishing [O]CoPs here is difficult, unless the processes and structure of the company are clear and steady. It would be possible to establish such knowledge sharing initiatives. I think that it [such an initiative] is successful in large companies because they have been structured by institutions specialised in the field of knowledge. It may be easy to transfer knowledge within such a company.

Co3-R24 – International Employment Manager

It appears that the company needs to approach collaboration with non-family members in a strategic manner, in order to ensure it remains sufficiently trustworthy. Encouraging senior

managers to engage in some of these family meetings would enable issues to be highlighted that family members may not be in a position to observe. Thus, the perspectives concerning meetings being held at the higher level among the family members in Co3 act to disable establishing KM initiatives in the company, including the establishment of OCoPs. The following two sub-themes explain how the concept of KM is underdeveloped within this company, as it demands extra effort from both top management and employees to foster the concept of KM, and people have to be encouraged to share their experiences and ideas effectively.

6.3.1 Hiring specialised people in KM to increase attention among top management

In this business, top management plays a crucial role in shaping the pattern and flow of work among company employees. The analysis of the interview transcripts illustrates that the absence of an entity for KM is viewed as crucial in raising awareness of such knowledge sharing initiatives at senior management level. For example, Co3-R23 and Co3-R24 (who both work at company headquarters) claim that member of top management is unaware of the concept. They argue that KM initiatives require specific individuals with the skills to successful set up, lead, and maintain such initiatives. The importance of the presence of specialists in KM to facilitate its initiatives and learning process accords with the findings of Alsereihy et al. (2012), whose study was undertaken within the same context as the present study. They found that a scarcity of KM specialists could lead to a lack of learning processes, and therefore of knowledge sharing. Co3-R24 (who has a qualification in Business Administration) provides an example of this in his explanation of the ways in which the influence of top management affects the business:

I do not think the upper management will think about these initiatives. Knowledge sharing or transfer entails qualified people with experience. Someone may have knowledge and experience, but may not be able to manage this initiative. Thus, top management may not support these initiatives, because it cannot see any feasibility of establishing them, due to the nature of the work.

Co3-R24 – International Employment Manager

In Co3, members of the same family hold the highest executive positions. The current president of this company is a son of the founder of the business, and his brothers are in executive positions. It appears that in Co3 the owners take the majority of the decisions

affecting the business as a whole. Although Co3-R24 does not perceive the existence of any barriers to communication with top management, his view is influenced by his position. It appears that projects delivered for the Saudi government are given a crucial priority that influences the decisions of the company owners, leaving all other tasks as secondary. Lin et al. (2009) indicate that the owner is the decision-maker, acting as both as chairman and CEO of the board. It is therefore not surprising that once again Co3-R24 notes the element of time, specifically in association with government projects.

The presence of employees specialising in KM can assist a company develop its knowledge sharing initiatives, including OCoPs. A comparison of Co1 and Co2 reveals that this factor is important for both companies, enabling them to establish and facilitate the activities of their OCoPs with individuals and departments by focussing primarily on developing KM initiatives. Thus, it is likely that the absence of employees in Co3 specialised in KM has resulted in a lack of awareness of the importance of such skills for top management to enhance knowledge sharing within the company. Co3-R30 (who also works at the company's headquarters) accords with Co3-R23 and Co3-R24, and notes that the first step to implementing a new KM initiative is to bring its importance to the attention of top management.

Top management has to believe in the importance of [the] knowledge sharing idea first; then you can establish such [O]CoPs.

Co3-R30 – Head of IT

Although Co3-R24 argues that implementing OCoPs requires employees with specific characteristics to lead the initiative, the views of Co3-R30 stem from personal experience of encouraging knowledge sharing through informal meetings. He has previously established an informal group within his department to strengthen the relationship between his employees, including the exchange of knowledge and information regarding work issues. He has also organised formal meetings to discuss issues relating to work, although his preference remains for informal meetings. Alongside his primary post, Co3-R30 has an interest in knowledge transfer and establishing methods of establishing active knowledge sharing within the company. Despite their workload leading to difficulties for employees to physically gather during working hours, or outside the company, he remains convinced that utilising technology has the potential to facilitate knowledge sharing. However, it is likely that

knowledge sharing and organisational culture are strongly linked, and that culture can encourage, or inhibit, the creation of knowledge sharing initiatives within the company.

It is significant that Co3-R30 rationalises his preference for a different way of conducting meetings within his department through his conclusion that informal networks are more effective than formal groups in promoting efficiency and interactivity among employees. His justification is that this enables employees to feel more able to exchange ideas with both their managers and colleagues. However, Co3-R30's experience is an individual initiative that requires effort by top management, and which therefore needs to believe in the importance of knowledge sharing prior to implementing OCoPs. It can be deduced that a lack of belief amongst top management of the importance of constructing such knowledge sharing initiatives would prevent the establishment of OCoPs within the company.

6.3.2 Convince practitioners, not top management

Since OCoPs are not yet established in Co3 (although the role of top management remains important), it is vital to convince those who might participate in OCoPs. As noted above, while some participants fail to recognise the importance of establishing OCoPs, others perceive the possibility of establishing OCoPs within their department. Therefore, there are a number of opinions concerning whether it is important for the company's owner, as well as individuals, to have a belief in OCoPs. When top management is convinced of the feasibility of OCoPs, it is necessary for their colleagues (and particularly those in managerial positions with the responsibility for implementing the concept within their departments) to believe in OCoPs, in order to ensure the success of such an initiative. This case study puts forward the argument that it is necessary for project managers to be convinced of the importance of implementing a new idea, due to their ability to encourage their staff to accept such an idea. This is demonstrated by Co3-R26, who states that the purpose of an OCoP will not be attained if project managers who do not believe in their efficacy receive a request from top management for their implementation. This can lead to some managers only implementing such initiatives to satisfy their upper management, rather than to achieve any tangible gains, and effectively share knowledge and expertise with their colleagues. Co3-R26 considers that:

This is a problem for some projects. I go to the top management and convince them of the idea of [O]CoPs and tell them [that] it is a good idea and [would] achieve good results. The problem here is that you only convince top management, but not the relevant personnel. The problem

with initiatives or projects is that you convince management, but not the individuals who are going to put this initiative into practice.

Co3-R26 – Project Manager

Co3-R26's opinion stems from his position in the company as a project manager for the cleaning section, and his daily interaction with those working for him within his department. He is aware of their workload and the expectations of others, (i.e. both top management and visitors to the Prophet's Mosque) of those responsible for the cleanliness of the holy place.

Again, the support demonstrated by managers towards such initiatives is closely related to the nature of work of the department they manage. For example, Co3-R25 (who is also a project manager) strongly supports the establishment of OCoPs within his department:

I think the top management will support such initiatives because they will improve the work environment. Currently, we have a new management, which has a positive attitude toward such KM initiatives and could support [O]CoPs. When this concept spreads across the company, I think there will be support, and the result [will be clearly visible] on the surface.

Co3-R25 – Project Manager

Co3-R25 (who is a mechanical engineer) strongly supports the concept of establishing OCoPs within the company, due to considering that this will assist in promoting the identification of a solution to any issues that might arise. It can be surmised that Co3-R25's viewpoint is influenced by his managerial position as project manager of maintenance and operations in the Prophet's Mosque, dealing with technical issues, i.e. electrical, mechanical, electronic and civil engineering work. The employees of his department range from engineers to technicians and labourers, and it appears that their mindset (and the type of work they undertake) has a significant impact on Co3-R25's decision to increase the effectiveness of his department by accepting the establishment of OCoPs. It can be concluded that, due to the nature of the work within his department (i.e. primarily technical issues), establishing OCoPs will enhance knowledge sharing and the exchange of expertise. Individuals identify items valuable to share depending on their experience, goals, problems and mental frameworks (Smith and McKeen, 2004). Although some of the perspectives noted above (i.e. the opinion expressed by Co3-R24) fail to recognise the possibility of establishing OCoPs within the company, a positive attitude towards improving skills and attitudes leads to the potential to

construct OCoPs. The fact that OCoPs are more valuable when established according to such frameworks of experience and skills, explains why it is only organisations that support professional OCoPs. This has also been observed in the other two case studies: in Co1, ShareK is designed to serve those with engineering backgrounds, while in Co2, Expert Groups primarily focus on experts with accumulated knowledge and experience from a number of different plants.

6.4 OCoPs to be formalised within the organisational structure

It can be concluded that the views of participants concerning the possibility of establishing OCoPs are impacted by the absence of a practical example of the implementation of an OCoP within this company. Both Co3-R25 and Co3-R28 work in the operation and maintenance section in the same city, and are convinced of the need for OCoPs to be formalised. Co3-R25 considers that it is possible to place OCoPs within the organisational structure, and that they would prove to be more effective and meet the company's objectives if included in the International Organisation for Standardisation (ISO) certification. A review of the company's website reveals that Co3 has concentrated its efforts on establishing an efficient quality system (as described in the project quality plan), to which the company is committed, in order to meet the applicable requirements of ISO 9001:2008. According to the ISO website, ISO 9001:2008 is a standard based on a quality management system. Co3-R25 states that:

I don't mind placing [O]CoPs within the structure of the company. We can also include them within the terms of ISO. This ISO certificate will help make [O]CoPs more effective in the organisational structure.

Co3-R25 - Project Manager

Despite Co3-R28 agreeing with Co3-R25 that it could be possible to establish OCoPs within the organisational structure of the company, he believes that their existence and activities could be formally recognised by top management, particularly where there is a greater geographical distance from headquarters.

Co3-R26 (a project manager) would choose to leave OCoPs outside the structure of the company, due to the majority of its employees having a low level of skills. He notes:

I do not encourage them to be within a formal framework, as my people are low-skilled people... I think informality is an additional feature assisting in achieving the goals of its establishment. Of course, this informal way of sharing knowledge may lose some knowledge that affects

the company, or the owner, if it is not documented. However, I am afraid that when it [be]comes formal, it will lose this feature and people will not feel comfortable sharing their experience and knowledge when it is imposed on them. It has to be flexible, and the senior manager who represents the company should be involved in their activities, but not control them.

Co3-R26 – Project Manager

Co3-R26 expresses his views clearly, due to his concerns that OCoPs are given formal tasks once they become institutionalised groups, which is against their primary concept of having a loose structure. He states that, in practice, informal gathering takes place, in which there is a discussion of work-related issues. Such meetings do not take place during working hours, resulting in a lack of work pressure or time limitation, and they are free of any imposition from senior management. It is therefore likely that Co3 is practicing a form of TCoP even if unconsciously, as the basis of this concept is initially and spontaneously established where individuals come together as a result of mutual interest and organise themselves according to their own wishes. It can be deduced that, due to the nature of the work, and type of workforce in the business, the decision is primarily taken by top management, and that OCoPs would be enhanced by being formally structured and having a clear place within the organisational structure. The following sub-theme discusses the impact of centralised decision making on the establishment of OCoPs.

6.4.1 Centralised control of decision making inhibits establishment of OCoPs

The interviews held with those from Co3 appear to reflect the form of centralisation in the hierarchical structure of the company. Participants from Co3 argue that it is more appropriate to formalise OCoPs within their company, with their views possibly arising as a result of the prevailing perception of the centralisation of the decision-making process within the company. The OCoPs in Co1 and Co2, on the other hand, have thrived, despite having different impacts on their KM initiatives. This is due to the facilitating of knowledge sharing practices being less centralised and formalised, allowing employees to exchange expertise through OCoPs implemented at the organisational level. Although the data from Co3 contains accurate observations concerning the possibility of establishing OCoPs within Co3, previous research suggests that, compared to non-family run firms, a family business is less horizontally differentiated and more reliant on informal controls (Daily and Dollinger, 1992).

This phenomenon, however, is not expected to be uniform across all family companies, and the primary method of gaining and sharing knowledge within this company is by means of training programmes, i.e. in-work training, as discussed above. Co3-R27 (an electrical engineer working as an assistant project manager, states that the current structure of the company is based on project teams, and that the company assigns leaders for these projects:

Our structures are team-oriented. In the hierarchy, one is responsible for one's team. The section heads, or the supervisors, should focus on training concerning the concept, and on what it is exactly, and the other requirements to accomplish the work. If you have a good structure, you have a good team.

Co3-R27 – Assistant Project Manager

Co3-R27 has over forty years' work experience, with twelve being in this business. He holds responsibility for all five projects in the Prophet's Mosque in Al-Madinah, along with the general organisation of all projects within the city. It appears that the viewpoint of Co3-R27 is influenced by his position, which leads him to believe that structured teams are more productive. On the other hand, Co3-R27 believes that training programmes constitute a form of knowledge sharing within the company. It appears that the structure of Co3 is more dependent on structured teams with specific objectives.

The data reveals that the leader of a business has an impact on the decision-making process in the company as a whole. While centralised decision-making may resolve a number of issues, it impacts on the flexibility to implement new ideas. Jordan (2008) states that centralised decision-making and ownership tends to lead to top management becoming overburdened. Co3-R23 (a senior manager in HR) argues that new ideas may not achieve success in the company, due to the centralisation within the business. He notes:

Whenever a family business attempts to employ a new idea, they do not succeed, because the company is ultimately centralised and not open-minded. The reason for this is the mentality of the company owners who control the company. It affects both operation and performance.

Co3-R23 – Head of Recruitment

Co3-R23's perception of a lack of success in the application of a new idea has been shaped by his approximate total of fifteen years of experience of working in three family businesses. This work experience is likely to have influenced Co3-R23's view that the working

environment within each family business is very similar. However, it appears that Co3-R23 finds it difficult to make decisions autonomously with respect to his work as the head of recruitment. It is possible that the external environment (in combination with political issues and the corporate culture of the internal environment), has an influence on decision-making in the business. Hence, it appears that potential consequences need to be taken into consideration whenever a new idea is to be applied within the company. Thus, Co3 may not risk establishing such informal entities without both a clear strategy and tangible results, and Co3's owners may lack the time to think strategically and generate new ideas. This centralised organisational structure results in a highly centralised decision-making process, in which the establishment of OCoPs cannot be accepted without their activities being controlled. This research finding is supported by Jordan (2008), who has identified that centralisation of decision-making in family controlled firms acts to inhibit the development of new business ideas. A further study has found that Gulf family firms resist decentralised decision-making, and fail to empower middle management to take independent decisions (Davis et al., 2000).

Co3-R24 (a manager of international employment, who works in the same department as Co3-R23) agrees with this view, stating that, despite the Company President's son (who is highly educated) having recently begun to share some responsibility, the decision-making process remains centralised:

In the family business, it is centralised, and the owners have control. All departments directly follow him. Recently, the tasks have been distributed to his sons, because he is getting older. I have worked in two big family businesses; the environment is more or less the same.

Co3-R24 – International Employment Manager

The opinions expressed by Co3-R23 and Co3-R24 frequently coincide, due to the similarity of their previous work experience in other family businesses. It is understandable that it is family members who take the final decision when it comes to the initiation of any new ideas, however, as this is a large company, with several large projects and affiliates, such a process acts to delay the implementation of new ideas.

6.5 Managers are responsible for stimulating a knowledge sharing culture within the company

As noted earlier, the nature of Co3's work impacts on knowledge sharing between employees, due to everyone within the company having a heavy workload and being focussed on completing their daily tasks. These long working hours have a considerable impact on knowledge sharing. As noted earlier in section 6.3, there is a view that a family business does not need to have KM initiatives, due to the weight of work obligations and casual conversations between family members being sufficient for the exchange of ideas. A knowledge sharing culture could be instituted within the organisation through OCoPs being gradually planted in the core business of the company, as is the case in Co2 (Oliver and Kandadi, 2006). Co3-R26 (as a project manager) claims that the culture of knowledge sharing is not significantly visible as an institutional culture. He comments:

My assessment of knowledge sharing culture as an institutional culture is that it is weak. It can be at the individual level. You will see some people are open-minded and like to share, and others do not need to share for some reason. I think we do not put enough effort into encouraging knowledge sharing within the company. It is important to establish a knowledge sharing culture [O]CoPs.

Co3-R26 – Project Manager

From the above, it appears that the concept of knowledge sharing exists individually among some employees, but it is likely that, in order to establish this attitude as an organisational culture, the company will need to ensure it is created at various organisational levels, both among owners and employees. Putting OCoPs in place would increase awareness of the importance of creating a knowledge sharing culture within the company's boundaries, as a first step to establishing OCoPs. Dubé et al. (2005) indicate that both organisational, and national, culture are of central importance to defining OCoP characteristics, and leading to success during the launch phase.

Co3-R27 (an assistant project manager) provides a different perspective, observing that an interesting characteristic of knowledge is the fact that its value grows when it is shared:

Knowledge sharing doesn't decrease knowledge, this is my creed, but increases it instead. So, by interaction you are also caring, so I think it is just taking [its] time! That's it. I think it's very appreciable.

Co3-R27 – Assistant Project Manager

However, Co3-R26 argues that responsibility for the lack of knowledge sharing between employees rests with managers, who need to create a knowledge sharing culture between themselves and with their heads of departments and team supervisors.

I perceive knowledge sharing is weak in the company because the responsibility rests upon managers. Why? Because I am aware of the work during the discussion with my heads of units within my department, and I understand what is actually happening in the workplace, and, therefore, I can share with them the ideas and thoughts. This in itself would encourage employees to share knowledge.

Co3-R26 – Project Manager

Smith and McKeen (2004) point out that managers need to focus their attention on creating a culture of knowledge sharing in which OCoPs can thrive. It might thus be argued that, in this context, it is essential to cultivate a knowledge sharing culture among managers and employees. The company needs to imbibe the value of creating this culture at all levels of the organisation at which knowledge sharing can be further developed. Managers and employees need to generate a widespread culture of knowledge sharing within the company. This can be undertaken through promoting the establishment of OCoPs, including ensuring their activities and achievements become visible across the company. In general, in cases such as Co3 (i.e. in which project managers create this form of knowledge sharing culture among their staff in project-based works), this would enable an acceptance of the concept of establishing OCoPs as a next step. The next sub-theme discusses how, when the reward system is formalised, this formalisation can disable the knowledge building and sharing culture within the company.

6.5.1 Formalising the reward system can defeat the idea of a knowledge sharing culture

It is notable that each case study has examined the reward system and linked it to OCoPs in a different manner. As previously noted, Co1 has considered that formalising the reward system can increase the level of participation in OCoPs, whereas Co2 rewards by aiming to assist the company to recognise the activities of OCoPs. However, Co3 views this category in a different manner. In the context of this case study, the culture of knowledge sharing remains lacking in sufficient sophistication, and formalising the reward system would limit the concept of promoting knowledge sharing as the first step in accepting the establishment of OCoPs within the company. As previously noted, the awareness of the importance of

knowledge sharing is not well-developed in this business, and the majority of participants from this company state that it may not be beneficial to embed the reward system within the company's culture to support engagement in knowledge sharing initiatives.

Participants from Co3 have identified that the concept of a reward system may not accord with this business, particularly if OCoPs are not formally established. Co3-R27 is aware of the important role played by the reward system in enhancing knowledge sharing, and doubts that applying the reward system in the company will succeed. As an experienced senior employee, Co3-R27 comments that:

[A] reward system will not work here, because people may have a mistrust conception. If some workers are sleeping in their offices and being rewarded more than the hard workers, it is not fair. So we should get rid of such concepts. So that means it is better when we have a reward and punishment policy.

Co3-R27 – Assistant Project Manager

It appears that Co3-R27 does not reject the concept of OCoPs. It is likely that the level of mistrust identified by Co3-R27 relates more closely to the culture of the organisation than it does to the issue of OCoPs. In Co3 (in which the majority of the workforce are low-skilled), a fair system would reward those who work hard and punish the negligent. It is notable that Co3-R27's highlighting of mistrust could explain his concern that, due to the majority of the workforce being low-skilled, this could become counterproductive in the absence of a clear reward system.

However, Co3-R26 is against setting up a reward system for knowledge sharing initiatives, arguing that knowledge sharing should lie at the heart of all work, and that the duties related to this action are not additional. He argues that knowledge sharing and its impact may not be measurable, particularly at the individual level. Co3-R26's view is supported by Riege (2005), who argues that, due to the need for the process to be organic, a reward system can fail to enhance long-term knowledge sharing. Co3-R26 claims that it is far more important to convince individuals to participate in OCoPs than to create a reward system. It is significant that this statement is opposed by the findings of Jean et al. (2011), which state that rewards can have a positive impact on OCoPs members' attitudes towards knowledge sharing. Thus, Co3-R26 is of the opinion that, as project manager, his most important reward is to convince his staff of the usefulness of sharing their knowledge and experience in an effective manner.

There is an issue with measuring the achievements in [O]CoPs, because of the need to be subjective. If I want to make a reward because, for instance, someone is active in knowledge sharing, the question here is what kind of information, [and] how much [of it] he shared? What about quality? What is the impact? Therefore, it is difficult to measure.

Co3-R26 – Project Manager

Co3-R26's standpoint is influenced by his position as a project manager. He views the reward system as defeating the concept of knowledge sharing, as this may lead to the focus being on the reward itself, rather than delivering work of high quality, or sharing useful information. This leads him to believe that creating a knowledge sharing culture is more important than creating a reward system, until the company reaches the level of enhancing knowledge sharing culture, at which point he would consider establishing the reward programme. It is likely that Co3-R26 has concerns about establishing a reward system for OCoPs, due to a fear that if the company should, for any reason, subsequently halt the reward programme, employees could revert to their old behaviours and therefore fail to share knowledge of primary value in OCoPs.

The views of Co3-R26 support the doubts of Co3-R28 (a head of the department in the operation and maintenance section), who states that a reward system designed by the company leads to an issue of how to judge which workers are truly deserving of a reward. This is as a result of management being unable to observe and assess every active person in the workplace. Thus, Co3-R26 and Co3-R28 perceive difficulties in establishing a reward system based on knowledge sharing, even if there is provision for such a course of action in the annual evaluation. Participants from both Co1 and Co2 would like their OCoPs activities to be rewarded as part of the annual evaluation.

Co3-R25 is the only participant to advocate establishing a reward system to stimulate participation in knowledge sharing initiatives, stating that the implementation of OCoPs requires an incentive programme. Co3-R25 also expresses enthusiasm for establishing an OCoP within his department:

If I saw this [O]CoP came up with brilliant ideas, any sort of reward for this group is possible. It does not necessarily have to be a fiscal reward. We can give them a training course outside the city they work in; it would be a sort of recreation. It is a good incentive for the employee to feel he is rewarded.

Co3-R25 - Project Manager

It is notable that, although participants express concerns relating to the feasibility of establishing a reward system for knowledge sharing initiatives such as OCoPs, their doubts are focussed on the implementation of an effective mechanism to apply this system, combined with a lack of trust among employees when a reward system is in the sole control of higher level managers, rather than their own immediate managers. The perception of participants from Co3 accords with Walter et al. (2013), whose study identified that the forming of a reward system for OCoPs in the United Nations Development Programme influenced the behaviour of the OCoP members. However, they also argue that such systems can differ between organisations. It can therefore be argued that a system of rewards could prove significant within Co3, including enabling employees to participate in newly established OCoPs. However, in order to maintain the quality of the knowledge shared during the early stage of establishment of OCoPs, rewards could also be of the non-financial variety, i.e. giving a certificate of appreciation during the company's special occasions (e.g. after completing a specific season).

6.6 Summary

In conclusion, this case study focussing on Co3 has identified a number of different perceptions concerning the role of the three organisational factors that could enable the implementation of OCoPs within the company. The major issues consist of: (1) the impact of pressure on employees relating to time and work; (2) the level of employees' skills; (3) and managers' perceptions of the possibility of cultivating OCoPs. These first two elements (i.e. time and workload) have been observed to have a considerable influence on the views of participants concerning the potential implementation of OCoPs. Co3 demonstrates the influence that can be exerted by top management when it comes to establishing OCoPs. The absence of a KM department has also influenced the facilitation of KM initiatives. However, it has been established that, if middle managers are convinced of the benefits of knowledge sharing, they can play a critical role in promoting its implementation. This has led to the

conclusion that it is crucial to cultivate a culture of knowledge sharing prior to establishing any reward system. The study of Co3 has demonstrated that there is more likelihood of OCoPs being established among those with skills and experience, similar to the position within Co1 and Co2. Finally, it has been established that it is impossible to implement an informal form of OCoPs within an environment characterised by a centralisation of decision-making. This is particularly relevant to family businesses, and to the construction industry in particular.

CHAPTER 7: GENERAL DISCUSSION AND THEORETICAL FRAMEWORK

7.0 Introduction

This chapter will discuss the research findings of the three case studies from which the theoretical framework has been created. The companies studied in this research have identified a number of different factors in relation to the ways the three organisational factors (i.e. top management, structure and culture) enable and disable OCoPs. This diversity has successfully justified the decision to investigate each case study independently. Firstly, there will be a discussion of the three case studies, including the companies' current position in the process within the integrative framework. Secondly, there will be a discussion of the synthesis and analysis of the data to answer the research questions.

7.1 Reflections on the three cases studies concerning the proposed integrative framework

The proposed integrative framework, and the findings of this study, have identified that the three companies under scrutiny have revealed a number of issues from their own contexts. The following discussion of the five processes (establishment, enforcement, recognition, maintenance, and sustainability) in the integrative framework reveals the current phase of each company, and highlights the issues relevant to the three organisational factors and their roles in enabling or disabling OCoPs. As stated above, the individual issues identified have justified studying each case independently. Figure 13 illustrates the current process for the three companies involved in this project.

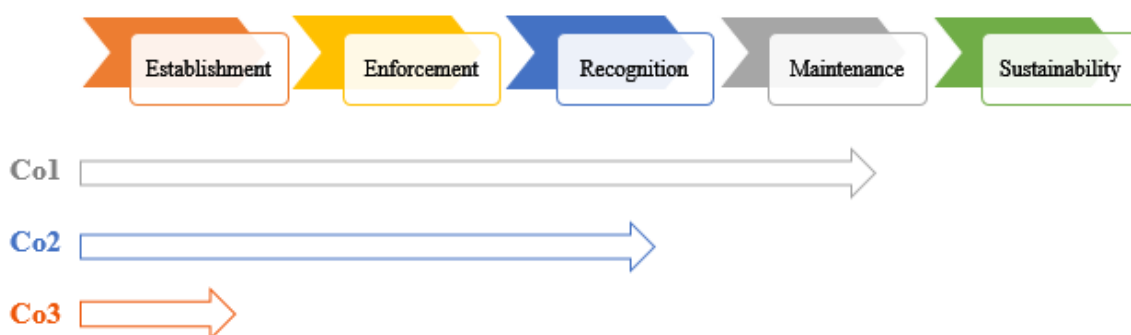


Figure 13: The current process for the three companies in the integrative framework

It has been clarified that Co1 is implementing well-developed OCoPs, and has successfully proceeded through the first three processes, taking into account in-house development of OCoPs in a form of ShareK. Nonetheless, the company needs to maintain the development of its OCoPs and ensure effective sustainability for such knowledge sharing activities across the company. A consideration of factors in the following section would enable the company to ensure sustainability for its OCoPs. Co2 has also successfully accommodated OCoPs within its boundaries, and it is important to take into consideration the factors that enable OCoPs to evolve within the organisation. OCoPs still require additional recognition, particularly at higher management levels. It is vital for sustainability that the company consistently facilitates its OCoPs. Co3 needs to overcome obstacles that hinder establishing knowledge sharing practices (i.e. OCoPs). The factors relating to the establishment process need to be carefully considered if the company seeks to establish OCoPs within its boundaries.

The following section will discuss in detail the five processes within the integrative framework, highlighting the factors enabling the development of OCoPs, from establishment to sustainability.

7.2 The interconnected relationship of the three organisational factors and their enabling of OCoPs' activities: an integrative framework

The focus of this study is to establish the interconnected relationship between the organisational factors of top management, structure and culture, and how they enable OCoPs. The literature review examined the development of OCoPs (see Figure 2, page 26), and explored the way these three organisational factors influenced OCoPs. These were chosen for consideration following an intensive review of the literature, which specified the most prominent organisational factors determining the success and failure of OCoPs. This study supports the conclusion that these three organisational factors are significantly related to enabling OCoPs.

The research findings have identified that these organisational factors overlap, and have a cumulative impact on the activities of OCoPs, with mutually complementary consequences. This study has both confirmed and expanded the findings of previous studies, through the development of a proposed theoretical framework of the interconnected relationship between the three organisational factors enabling the activities of OCoPs. This integrative framework suggests the existence of five processes when the three organisational factors congregate jointly, i.e. the establishment, enforcement, recognition, maintenance, and sustainability of

OCoPs within the company. A number of factors extracted from the current data are significant in establishing different processes, and are not equally important in each single process. Enablers and disablers can assist the development of OCoPs across these five processes. This present study contributes to the existing literature concerning KM and OCoPs by improving understanding of how these three organisational factors enable OCoPs within organisations. Although there has been some discussion of these processes in previous research, to the best knowledge of the current researcher, none have presented OCoPs in an integrative framework or established a clear process to implement OCoPs from the establishment phase to ensure their sustainability. This chapter will outline each process, highlighting the key findings relevant to each process in the framework. These processes are collated from the research findings, in which they were highlighted in their specific contexts by the three cases studies. Figure 14 demonstrates the processes revealing the interconnected relationship of the three organisational factors enabling OCoPs within an organisation. The factors above the processes are enablers and those below are disablers.

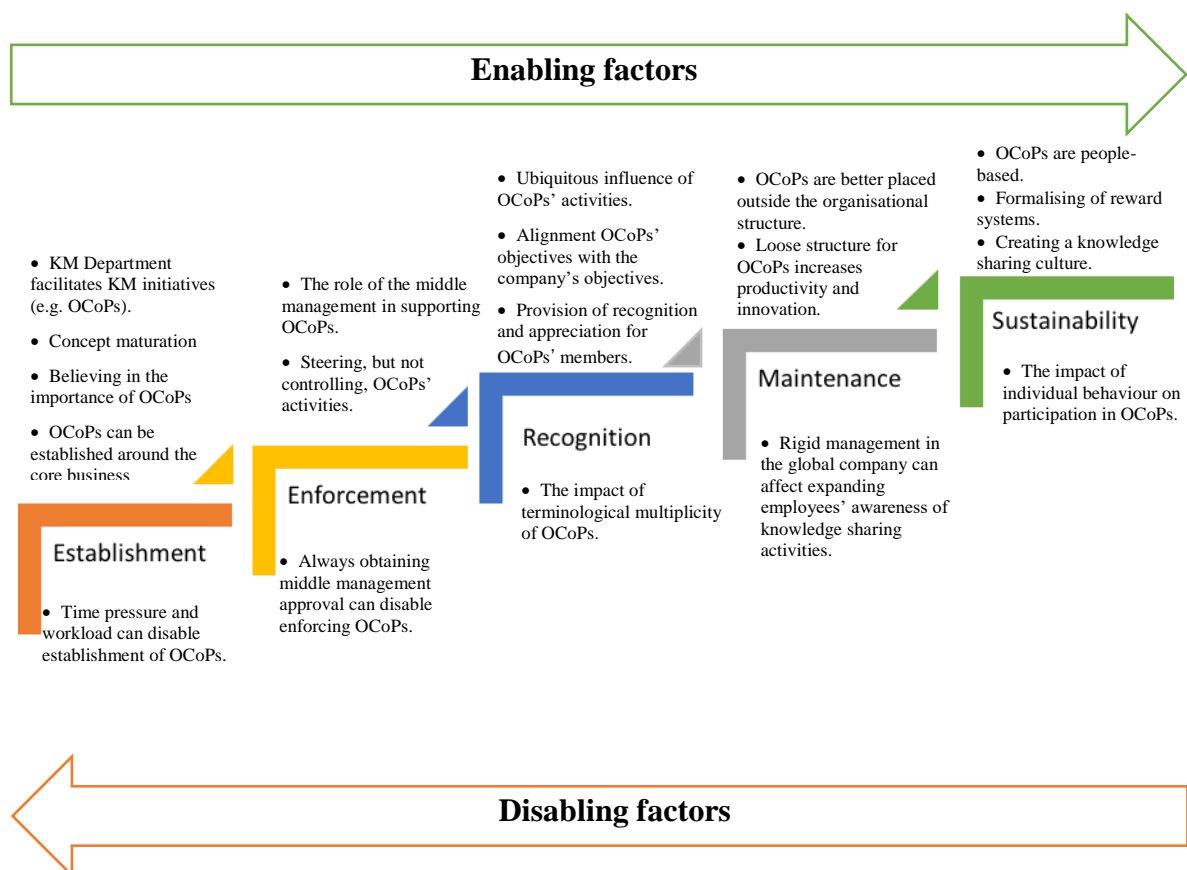


Figure 14: The enabling and disabling factors of the interconnected relationship of the three organisational factors.

7.2.1 Establishment process

The first step in cultivating OCoPs within the company is the establishment process, i.e. the preparation phase to consolidate OCoPs' activities. The research findings of the three cases studied have identified the three main beneficial aspects during the establishment process as being: (1) setting clear rules and procedures; (2) assigning OCoPs' leaders; (3) providing essential resources for OCoPs. Top management plays a vital role in facilitating and supporting the establishment of OCoPs, in particular the provision of guidance for rules and procedures. However, these should not prescribe the details of the OCoPs' activities, but rather provide OCoPs' leaders with resources and coordination (Wenger and Snyder, 2000). It is important for a company to ensure resources and facilities are accessible for members to communicate and interact, either virtually (e.g. through a portal) or face-to-face. The company begins forming OCoPs by assigning experts in their fields as group leaders, who nominate core members with accumulative knowledge and experience to enable effective knowledge sharing and an exchange of ideas. The membership is thus likely to be limited to the core members of OCoPs, as they are responsible for drawing up the basics of their activities (i.e. meetings) and for a specific activity within the group. This first process is important as a starting point for implementing knowledge sharing activities, while establishing an initial clear trajectory can assist in attaining a smooth transition to the next process and facilitate activities with long-term effects.

From the three case studied, five factors were considered capable of enabling or disabling OCoPs during the establishment process. The enabling factors consist of: (1) the role of the KM department in facilitating initiatives such as OCoPs; (2) the role of the concept maturation of OCoPs within the company; (3) believing in the importance of OCoPs; (4) the ability of OCoPs to be established around the core business; and (5) the disabling factor consisting of the influence of time pressure and workload on the formation and running of OCoPs. The sequence of these aspects is logically ordered to enable establishing OCoPs within the company, and are discussed in more detail below.

7.2.1.1 The role of the KM department in the facilitation of KM initiatives (e.g. OCoPs)

This present study argues that the first step to establishing OCoPs is the possession of a department dealing with KM initiatives. The research findings demonstrate that an entity for KM as an important forum is crucial for a company to achieve its initiatives. Both Co1 and Co2 have KM departments that facilitate the sharing of best practice and lessons learned,

whereas Co3 has no company-wide KM unit in place. Alsereihy et al. (2012) indicate that barriers to KM implementation consist of the lack of: (1) vision among top management; (2) technological infrastructure; (3) structure; and (4) a culture congenial to KM. A number of these obstacles have been noted in this current study, particularly in Co3. The type of workforce plays a crucial role in implementing and supporting KM initiatives, as seen in ShareK and Expert Groups as part of OCoPs in Co1 and Co2, respectively, while both appeared to understand the value of KM. Employees in Co1 and Co2 are primarily engineers and technicians, and face a high probability of experiencing unexpected issues in their work, requiring them to exchange their accumulated experience to avoid further issues. Pattinson and Preece (2014) indicate that OCoPs have emerged in response to the need to support the sharing and dissemination of knowledge. In addition, KM enhances innovation and performance where social interaction is also crucial (López-Nicolás and Meroño-Cerdán, 2011). The findings of the current study demonstrate the way OCoPs assist employees to exchange their expertise and establish insights. Both Co1 and Co2 have KM departments to facilitate the development of knowledge sharing activities, i.e. OCoPs.

Hasan and Zhou (2015) investigated KM initiatives in global companies, illustrating two reasons for the variety of adoptions of KM initiatives: (1) the availability of resources for investment in KM initiatives, and (2) the varying importance of KM practices to each organisation. The latter represents the view of Co3, which does not consider KM as important for improving its business. A family business tends to be known for conservative planning and organic expansion, which could limit their growth in comparison to non-family firms (Astrachan, 2010). Furthermore, the primary business of Co3 is construction, which is heavily reliant on a labour-intensive industry, with a workforce lacking the requisite prior experience to establish KM, or knowledge sharing initiatives such as OCoPs, due to the routine nature of their work. However, as suggested by Levy et al. (2010), Co3 can embed KM activities within its work routine, increasing its achievements, as well as employees' performance and professional development.

Co3 demonstrates that OCoPs are most likely to be established for engineering and technical departments, and it therefore needs to implement a clear KM strategy that includes OCoPs. Companies recognise intellectual capital and knowledge related issues through either internal studies (e.g. Co1 and Co2) or collaboration with external organisations (i.e. Co1 collaborating with APQC). Consulting companies fill various hiatuses in firms by providing advice on ways of resolving potential company issues, in particular in relation to KM

practices. Understanding a company's KM needs will assist the design of a specific tool (e.g. OCoPs) to facilitate knowledge sharing. This accords with the findings of Plessis (2008), who established that running surveys prior to the implementation of a KM programme can reveal participants' perceptions and the issues that need to be addressed in their current environment. It is important to articulate the accumulated knowledge in Co1 and Co2, and establish a system to manage this effectively.

The KM department within a company generally plays a vital role in establishing its initiatives, including clear procedures during the establishment of OCoPs. An effective KM entity not only assists in establishing initiatives such as OCoPs, but also promotes knowledge sharing activities across the company. An absence of KM practices can prevent recognition of the importance of supporting KM initiatives, such as OCoPs.

7.2.1.2 The role of concept maturation of OCoPs within the company

This study has illustrated that the maturation of the concept can enable the establishment of OCoPs within a company, and any KM initiatives can be formulated as specialists in this area. Therefore, personnel from Co1 and Co2 involved specifically in KM departments demonstrated a clear understanding of the concept. OCoPs prove more effective when there are explicit procedures with clear roles and responsibilities that also (as in Co1) assist members to understand their exact roles within their OCoPs. Clear instructions can improve the productivity of OCoPs and their contribution to business objectives. Moreover, a clear trajectory for any KM initiative (i.e. best practice and lessons learned for Co1) will clarify the objectives for the establishment of OCoPs. Thus, this study has established the importance of the maturity of the concept of OCoPs in assisting their effective implementation. This clarity is important in the establishment process, enabling those within the company to understand the role they can contribute to their companies through OCoPs.

The research findings also indicate that the maturity of the concept can be more effectively developed within a company operating globally and responding to rapid developments in the company's operational field (i.e. Co1 and Co2). This current study accords with further studies within a growing body of research focusing on established OCoPs within international and multinational companies as a tool for fostering knowledge sharing (Probst and Borzillo, 2008; Corso et al., 2009; Kirkman et al., 2011; Kirkman et al., 2013). This current study not only emphasises the importance of establishing OCoPs for companies operating on a global scale, but also extends its view that OCoPs play a vital role in reducing

the repetition of work in different places, i.e. employees geographically dispersed in affiliates undertaking identical work can be easily connected to exchange experience and knowledge.

In addition, mandatory engagement for core members can increase the importance of OCoPs within the company. Therefore, the research findings suggest that these experts need to devote a part of their working hours to disseminating their experience and knowledge. OCoPs in Co2 are still in their early stage of development, and the research has established its use of the alternative term 'Expert Groups' as a potential reason for lack of maturity of the concept of OCoPs across the company. Thus, the findings from Co2 reveal that, although the term 'OCoPs' appears to be less familiar in business than in academia, it is common practice to establish knowledge sharing networks within a company under alternative titles but with similar functions. Bolisani and Scarso (2014) point out that the lack of agreement concerning the definition of OCoPs among scholars is caused by a focus on a variety of empirical investigations and applications within organisations.

The findings of this study accord with Wenger et al. (2002) concerning the three characteristics regarding TCoPs, suggesting that all OCoPs are social networks intending to facilitate knowledge sharing, but not all social networks are OCoPs, i.e. in Co1, ShareK is an OCoP as it is formed by the company, but participation remains informal and voluntary for non-core members. In Co2, the OCoPs create a form of strategic networks. In Co3, the company relies on training courses, considered formal networks. Consequently, although the present study still asserts the important role of Wenger's three characteristics in assisting OCoPs during the establishment process, it argues that the maturity of the concept can enable understanding of the implementation of these characteristics to be successfully applied within the company. Therefore, the distinctive features of the concept of OCoPs (as presented in Table 1 on page 30), can establish a greater clarity of the concept than TCoPs, where both the organisation and employees are aware of such OCoPs.

7.2.1.3 Believing in the importance of OCoPs

Acknowledging the importance of supporting OCoPs (and fostering knowledge sharing) is the first step to their establishment, while top management and managers need to believe in the value they add to the organisation, particularly at the initial stage.

It was clear in Co2 that senior executives needed to engage with such knowledge sharing initiatives, while the findings from Co3 demonstrated the importance of first promoting a belief in knowledge sharing to foster the learning process and exchange expertise. Co1 has

developed in-house KM tools that enhance the exchange and sharing of knowledge through OCoPs.

Thus, the participants' view of awarding adequate resources to OCoPs is a sign of top management's belief in OCoPs. This not only increases the effectiveness of members, but also enables their work to be recognised across the company and leads to support from different levels in the company, i.e. Co1 promoted knowledge sharing through internal journals, such as the Journal of Technology.

7.2.1.4 OCoPs should be established around the core business of the company

The research findings reveal that those working with the company's core business are more likely to accept OCoPs, which impacts on establishing and recognising OCoPs' activities, particularly by top management. This study views linking the establishment of OCoPs to the core business as satisfying the main business objectives.

The findings also demonstrate that the companies studied are more likely to establish OCoPs effectively when OCoPs have strong ties to the organisation's core business (i.e. Co1 and Co2), ensuring that the added value of OCoPs is linked to business objectives. However, this study has revealed that (particularly in Co1 and Co3), companies primarily support OCoPs made up of experts from its core business (i.e. from engineering and technical backgrounds in Co3). This study has therefore identified the tendency to group OCoPs among employees working in the same technical fields requiring an exchange of expertise. This accords with Verbarg and Andriessen's (2011) view that OCoPs made up of experts are supported with resources as they are expected to develop best practice or innovative solutions.

This study therefore argues that OCoPs can be initially established primarily around the company's core business and can receive adequate support from top management, as their activities contribute to achieving the company's goals. Moreover, this can increase awareness of the critical role of such knowledge sharing activities, thus leading to the acceptance of OCoPs within the organisation.

7.2.1.5 Time pressure and workload can disable the establishment of OCoPs

The interview results reveal that time pressure associated heavy workload impact on the establishment of, and participation in, OCoPs. In the current study, these had little impact on OCoPs' activities within Co1, but had considerable impact on Co2 and Co3, limiting the sharing of knowledge and rendering employees reluctant to participate in informal networks or establish an OCoP. McKeen and Smith (2007) note that KM managers experience

difficulties in convincing employees that time taken from their routine work needs to be spent in participation in informal networks. The influence of time pressure also has an accumulative effect when direct managers (who concentrate predominantly on achieving short-term goals and targets) fail to allow members of OCoPs to engage in knowledge sharing (Oliver and Kandadi, 2006).

Thus, the research findings suggest the importance of devoting adequate working hours (e.g. 30% as presented by Co1-R3 on page 100) to OCoP activities during the establishment phase, in particular for those with a range of responsibility on a global scale.

Summary

In summary: The current study argues that top management plays a substantial role in the early stage of establishing OCoPs. Where there is a pre-existing KM entity, top management can provide support and resources to enhance the exchange of expertise and knowledge sharing among employees. Establishing a clear framework (e.g. the core roles of members) will enable OCoPs to progress and obtain support for their activities, while establishing adequate time for participation can alleviate both time pressure and workload.

7.2.2 Enforcement process

Once established, OCoPs can be reinforced by top and middle management through in-house development, i.e. through supporting KM initiatives within the company. This can convince top managers that OCoPs can be effectively harnessed to benefit the strategic objectives of the organisation (Stuckey and Smith, 2004). The priority is to ensure that OCoPs' objectives comply with the company's targets, while OCoP leaders can share the decision-making process with top management to ensure their activities are consistent with the business plan of the company. Top management is central to this process, in particular in reinforcing the importance of OCoPs.

The three case studies have identified three factors that either enable or disable OCoPs to: (1) gain the support of middle management; (2) steer, but not control, OCoPs' activities; (3) identified one disabling factor, i.e. the constant need to obtain middle management approval. These three factors are discussed in detail below.

7.2.2.1 The influential role of the middle management in supporting OCoPs' activities

Previous studies have primarily focussed on the role of top management in supporting and cultivating OCoPs. However, the findings of this current study have identified the crucial role

of middle management. In the three case studies, middle management consist of a general, or direct, manager positioned between the level of supervisor and executives (Herzig and Jimmieson, 2006), and thus are referred to interchangeably in this current study. The findings from the three companies have identified that the direct manager is a major factor in enabling employees to engage effectively in OCoP activities. Participants from Co3 noted the importance of middle managers' confidence in OCoPs, while those from Co1 also noted the vital role played by their direct manager, including prior to higher level support.

Participants from Co1 expected top management level to offer leadership rather than a managerial approach, thus inspiring groups by allowing a middle manager or OCoP leader to coordinate and facilitate OCoPs' activities.

Managers from Co2, on the other hand, viewed top management as playing a vital role in supporting OCoPs' activities, and influencing the attitudes of managers and employees. A cohesive relationship has thus been established between the support of middle management and employees' positive attitude towards OCoPs' activities, while the attitude of top management can be to encourage or discourage, depending on whether members obtain the support from their direct manager or from the company as a whole. Lank et al. (2008) indicate that the approval of the direct manager is essential, as a certain fraction of an individual's time will be devoted to OCoPs. Supporting or establishing OCoPs is primarily dependent on top management with the power to initiate such groups.

The participants from the three case studies are of the opinion that their direct managers can initiate knowledge sharing groups when there is a clear benefit to the company, but that complete support requires prior approval by top management. It can be argued that well-established OCoPs prefer to be discrete, from a fear that top management might consider OCoPs as time-consuming and have a negative impact on targets (Oliver and Kandadi, 2006). However, core OCoP members, in particular, can demonstrate the benefits received at both the individual and organisational level due to their participation in OCoPs.

It can thus be concluded that, in the enforcement process, the support from both top and middle management are important to allow OCoPs to thrive. This study therefore asserts that the middle management can ensure that OCoPs' activities are compliant with a company's objectives as a result of their closer observation of their activities.

7.2.2.2 Steering but not controlling OCoPs' activities

Participants tended to view control as an influential factor on OCoPs' activities, including the achievement of business goals. This present study contributes to the literature regarding the way organisations address the control and autonomy framework inherent in OCoPs (Borzillo et al., 2011). In the enforcement process, OCoPs do not need to be controlled, but their activities need to be compliant with the company's objectives. Thus, this present study argues that top management style (i.e. top-down) and organisational structure (i.e. centralisation in decision-making) can have a negative impact on the enforcement of professional OCoPs, due to a lack of distinction from the other structured groups (i.e. project teams). Moreover, the research findings assert that control could affect members' performance and limit freethinking and innovation. Thus, this study argues that OCoPs' activities should be steered, rather than controlled, through sharing of the decision-making process between engineers or technicians and top management. This can minimise the need for management control and encourage the self-governance that characterises OCoPs. This will assist in shaping OCoPs' objectives to align with the company's goals. Having managerial and technical knowledge in shaping the wider business objectives could help OCoPs to work consistently with the general trend of the company.

Participants from the three case studies do not advocate a total lack of control from top management. Members of OCoPs have professional experience in their specialist areas, and therefore should be allowed to work in the way they prefer through the allocation of specific working hours. Oliver and Kandadi (2006) have established that new knowledge is established when employees are allotted between 15% and 20% of their working hours for OCoP activities. An attempt by senior management to control OCoPs' activities could lead to either resistance, or to limit innovation, while a general framework of guidance and freedom in the workplace will inspire members to be open-minded and innovative. This study concludes any control of OCoPs' activities by top management could negatively impact the growth of established OCoPs.

Since management style and organisational structure can impact either positively or negatively where the control element can be inherited in such centralised structure, the findings of this present study suggest that OCoPs should be accountable and their activities need to be fine-tuned by top management to ensure quality, productivity and efficiency in terms of their ultimate contribution to the company. This finding introduces a further perception within companies inconsistent with Wenger's (1998) view that mutual

accountability among members of TCoPs is an integral aspect of the practice. This finding is effectively illustrated by Co1, where employee accountability is required for effective participation in OCoP activities, illustrating the inability of top management to recognise that OCoP activities could impact negatively on the commitment of peripheral members in particular.

Notwithstanding, the research findings reveal that OCoPs are more effective in the absence of direct control, as in Co2 and assumed in Co3. Company accountability does not necessitate complete control of OCoPs by top management. This study affirms that successful OCoPs can be established in a way that ensures they are recognised, but not overwhelmed, by the top management.

7.2.2.3 Always obtaining middle management approval can disable enforcing OCoPs

While the role of middle management is crucial, the research findings from the three companies illustrate that constant management approval for OCoPs may influence their activities. OCoPs' activities will be forced to align their works with the company's objectives especially during the establishment process, as the members will be aware of such goals at an early stage.

The research findings reveal an issue of approval from top management that highlights differences between the management styles of Western and Eastern cultures. The three companies studied are based in Saudi Arabia and obtaining management approval was seen as high priority, affecting employees' decisions to establish both intentionally formed OCoPs and self-organised TCoPs. The case studies established that the necessity to obtain management approval to establish OCoPs is both a prevalent perception, and an aspect of culture, as identified in the response from employees in the Gulf State of the United Arab Emirates. Marzoughi (2012) considered the role of projects in strategy implementation, and found only projects that have agreed on their budgets, and are aligned with the strategy of the company, will gain management approval. Marzoughi's study has identified difficulties in obtaining management approval for proposed projects in the business environment of the Gulf States, which can lead to an assumption that OCoPs (being viewed as unstructured groups) would experience even greater difficulties. This affects the cultivation of OCoPs within a company and limits employees' engagement in such non-institutionalised networks. Moreover, this can also influence decisions made by the leaders of OCoPs, who might also be reluctant to implement innovations from OCoPs due to the fear of rejection by top

management, i.e. in Co1. Management's confidence in OCoPs and its role in stimulating knowledge sharing can promote the culture of initiative (as suggested by participants from Co2), particularly among experts who form OCoPs assisting with internal communication and experience sharing for problem solving at work.

The research findings have established that, although knowledge sharing is encouraged (particularly in Co1 and Co2), employees from all three companies consider management approval to be essential. This is explained by Saudi organisational culture that differs from Western culture in having: rigid and formal rules; a greater power divide; a lack of emphasis on individualism; and a greater avoidance of uncertainty (Bjerke and Al-Meer, 1993). Hence, it can be postulated that decision-making in Saudi firms lies primarily with top management.

This study argues the need to change this pattern if the company is required to enhance social interactions and stimulate the exchange of expertise within its boundaries. In particular, this study finds that a constant seeking of the approval from top management is to be discouraged, in order to encourage the culture of initiative for OCoPs and promote effective knowledge sharing. A culture of initiative in which an employee is able to freely express ideas can improve social interaction and facilitate OCoPs as an arena to practice knowledge sharing and exchanging of ideas.

Summary

Top management has the ability to ensure OCoPs are fully accepted, by ensuring their compliance with the organisation's objectives. Middle management also plays a vital role in this process, through allocating adequate time for OCoP activities. This can enable OCoPs to move to the next stage, i.e. recognition.

7.2.3 Recognition process

The process of recognition will ensure that OCoP activities will be disseminated across the organisation. Both top management and organisational structure play substantial roles in encouraging OCoPs' activities and promoting knowledge sharing activities. The recognition process increases awareness of OCoP activities, and increases participation and the visibility of OCoPs in the company. Recognition is significant, as it signifies an acceptance that the organisation considers knowledge is a critical asset that needs to be managed strategically (Wenger, 2011), as OCoPs are a focus of knowledge and expertise. The main activities in this process can range from presenting the work of OCoPs in annual meetings in the presence of senior managers, to internal journals, etc. In this process, members of OCoPs share the

responsibility of presenting their activities at company events (i.e. the AGM) to ensure the company recognises the contribution of OCoPs (McDermott and O'Dell, 2001). If OCoPs are effectively managed by their leaders, and supported by top management, their values will be recognised within the company.

The three case studies have identified four factors enabling and disabling OCoPs: (1) the ubiquitous influence of OCoPs' activities; (2) alignment of OCoPs' objectives with the company's objectives; and (3) provision of recognition and appreciation for OCoPs' members; (4) the negative factor consists of the impact of the multiplicity of terminology in relation to OCoPs. These factors are discussed in detail below.

7.2.3.1 Ubiquitous influence of OCoPs' activities

Once OCoPs achieve this level, their activities need to be well publicised. In this study, participants claim that the company should clearly describe OCoPs within its remit and offer support, while top management should endorse OCoPs' activities in knowledge sharing at different levels in the company. This would transform the attitude of managers and employees.

This current study has identified that the global presence of Co1 and Co2, with multiple operations and affiliates, has led participants at their various sites to speak from personal experience. This provided the research with the insight that OCoPs can receive different levels of support from top management in different locations and contexts, depending on the outcomes and benefits these groups provide to the company. The findings have further established that, due to companies being for-profit organisations, OCoPs will receive different levels of support from top management depending on the tangible profit-related outcomes of their activities. DeTienne et al. (2004) state that senior managers are less likely to support such initiatives if the returns cannot be quantified.

Thus, the participants from Co2 focus on top management's role in aligning OCoPs' activities with the company's objectives to sustain a competitive advantage in the petrochemical market, thus highlighting a potential reason for a lack of support. Annabi et al. (2012) investigated the contributions of fifty-four OCoPs to business objectives within a multinational engineering firm, suggesting that each member of top management should maintain a regularly updated blog defining their strategic enterprises and priorities. They argue this will assist OCoPs to accord with the strategic objectives of the company, along with collaboration with top management.

7.2.3.2 Alignment of OCoPs' activities with the company's objectives

Much of the literature reviewed has illustrated the importance of aligning OCoPs' activities within business objectives (Annabi et al., 2012). This present study argues that OCoPs' objectives should be formulated alongside the company's business plan, i.e. at the beginning of each year. A KM leader (Co2-R10) from Co2 views it as impractical to form OCoPs without setting objectives, if members require support from top management, who are able to organise regular formal reviews to ensure that OCoPs' activities accord with the company's strategy. Thus, managers at various levels prefer a strategic plan and clear function for OCoP activities, to leverage knowledge sharing and the exchange of expertise, while an alignment with business objectives can convince top management to offer support and increase the level of recognition within the company.

Employees may still have common interests and objectives, and therefore can establish their own network if the objectives of their group are aligned with the overall objectives of the company. This is illustrated in Co1, where the OCoP's leader employs this approach by filling out the charter form as an initial step to forming an OCoP, and ensuring activities of the OCoP are defined clearly and aligned with business goals. By contrast, members in Co2 are officially assigned, so potentially restricting participation in the knowledge domain. Top management in Co3 appear to support formal knowledge sharing primarily with clear objectives. These findings generally confirm those of Pattinson and Preece (2014) that managers tend to support OCoPs aligned with the company's commercial goals. However, this could inhibit the cultivating or establishing of OCoPs by restricting the knowledge domain. Again, the feasibility of establishing OCoPs' activities vary between companies according to the expected end-objectives, i.e. Co1 and Co2, for whom the establishing of informal networks does not seem as important as for Co3. Such goals are necessary to attract isolated employees and company departments into participation in dynamic social interaction.

7.2.3.3 Provision of recognition and appreciation for OCoPs' members

The research findings illustrate that the most effective incentives provided by top or middle management to stimulate participation in OCoPs are recognition and appreciation. Although (as noted by many respondents) these are an aspect of the reward system, it is important to discuss these aspects separately, as they impact on different processes. In Co1 and Co2, the core members of OCoPs have accumulated knowledge and work experience, and devote part

of their daily work to OCoPs and thus experience appreciation and recognition for their efforts.

Ideally, such appreciation and recognition can encourage members of OCoPs to participate effectively in their groups' activities. Moreover, the feasibility of OCoPs is confirmed when a member's work is appreciated, particularly by top management. This appreciation encourages members to devote more time for OCoPs' activities, and can alleviate any negative attitude from their immediate manager.

It can thus be argued that in the companies studied, there tended to be individual attitudes in response to the reward type among employees, i.e. some were motivated by social rewards (such as praise or recognition) rather than the fiscal rewards noted by participants from Co1 and Co2.

7.2.3.4 The impact of terminological multiplicity of OCoPs

This study has clarified that the term 'OCoPs' has been defined differently by the participants of Co1 to those of Co2, adding to the terminological multiplicity related to this term. There is a need for caution when it comes to terminology, as some terms may denote a similar phenomenon (i.e. in Co1), or OCoPs may be given a different title, i.e. Expert Groups in Co2. This finding is confirmed by Andriessen (2005) who argues that, since every firm prefers to use its own concept, many terms are invented. Therefore, this study argues the need for a clear definition of KM initiatives. Titles (e.g. ShareK or Expert Groups) can be utilised to stimulate participation while emphasising that they are part of OCoPs. The features of OCoPs (presented in Table 1 on page 30) can assist in situating OCoPs within a company.

This ambiguity in definition is confirmed by Bolisani and Scarso (2014), and even when the original definition by Wenger et al. (2002) has been changed over time, TCoPs have been interpreted in different ways by practitioners and academic researchers. Thus, the notion of TCoPs may be adapted into various organisational forms where transformation in the terminology causes confusion and lack of consensus.

Thus, as argued in the findings sections, it is difficult for practitioners to give a unified definition for OCoPs, as the term is less used in business than in academia. This study therefore emphasises the need for a unified concept of OCoPs among academics to ensure a consistent process and clear application for practitioners. This present study therefore encourages researchers in the KM field to use a unified concept of OCoPs as suggested by Kirkman et al. (2011) and Kirkman et al. (2013). Wenger (2010) claims that practitioners

have a positive view of the concept in theory, but find it difficult to apply in practice. With this new development of the notion of 'CoPs', this present study hopes to contribute to the literature by unifying the notion of intentionally established OCoPs, and emphasises the need to term them OCoPs to distinguish them from TCoPs in academia.

This study has established that the participants feel OCoPs can be defined in accordance with KM (Bolisani and Scarso, 2014), i.e. specialists from different knowledge areas, assigned according to expertise, to facilitate problem-solving or avoidance.

In summary, the concept of OCoPs is relatively new in the literature, and has developed from being TCoPs to OCoPs, by which companies seeking to utilise their feature of bringing together specialists working in different locations to share their knowledge and experience. Companies utilise the concept as a knowledge sharing tool, but apply OCoPs in the manner they prefer. Thus, the multiplicity of concepts of OCoPs can impact negatively on their recognition during the establishment process. Even when the company employs different titles, it remains important to link these groups directly to the complete system of OCoPs within the company, which will also facilitate their implementation.

Summary

The influence of OCoPs throughout a company will contribute to the strategic corporate business plan and an increase in productivity, and become aligned with the overall goals of the organisation. In addition, creating a business culture that appreciates knowledge sharing practices can aid OCoPs to thrive, thus reflecting positively on their activities, which can subsequently be recognised at an organisational level. The multiplicity of the concept within a company can be the main obstacle in the recognition process. By reaching this level, OCoPs will then require maintenance in order to remain on the right trajectory.

7.2.4 Maintenance process

The maintenance process is principally concerned with organisational structure, i.e. OCoPs can thrive in a loose, and less centralised, structure. Furthermore, it is important to maintain the effectiveness of such knowledge sharing activities within an organisation. Forming a shared repertoire of resources (i.e. tools or documents) is essential for maintaining OCoPs' activities. The company can facilitate such knowledge sharing pools within its boundaries, and OCoP members are responsible for activating their OCoPs. The maintenance process is important to ensure OCoPs produce effective outcomes.

The research findings from the three case studies have identified three factors enabling or disabling OCoPs: (1) They are more effective when outside the organisational structure; and (2) a loose structure increases productivity and innovation; the disabling factor being (3), a rigid structure, which impacts on expanding employees' awareness of knowledge sharing activities, as discussed below.

7.2.4.1 OCoPs are better placed outside organisational structure

Participants from the three companies differ in opinion when it comes to locating OCoPs within the structure of the company and awarding them hierarchical positions. The research findings reveal an almost unanimous consensus that OCoPs should not be given a restrictive structure, and that the main purpose of establishing OCoPs is to enhance knowledge sharing and expertise exchange within a company. The research findings illustrate that a concern of participants from Co1 and Co2 was that different global sites, including employees of different cultural backgrounds, may lead to different views concerning the feasibility of integrating OCoPs within the company's hierarchy, i.e. neither ShareK in Co1 and Expert Groups in Co2, were placed within the formal structure of the company.

Moreover, those in Co2 who believe that OCoPs should not be placed within the organisational structure note that decisions are tightly driven in a top-down manner, which discourages knowledge sharing. In Co2, OCoPs are formed of experts from different affiliates, and restricting their meetings within a formal framework would restrict their freedom through upper management decisions. Chen and Huang (2007) affirm that KM initiatives will be enhanced when the characteristics of organisational structure are less centralised and formalised.

In both Co1 and Co2, OCoPs consist of key experts and scientists, who find OCoPs being formed as self-governing entities distinguishes them from other structured groups and stimulates innovative thinking. Co2-R18 (a Project Leader) demonstrates his dissatisfaction with the current management style, believing that the company should minimise its supreme authority in decisions and allow managers at lower levels to choose appropriate methods to promote the effective sharing of knowledge and exchanging of ideas. This finding confirms that of Oliver and Kandadi (2006), who affirm that empowering employees with a certain degree of autonomy can lead to a flexible knowledge culture. This current study thus argues that keeping OCoPs outside company structure can maintain free communication and interaction among members, and enhance innovative ideas through a sense of autonomy,

while accepting the need to bear in mind that OCoP activities need to align with the company's objectives.

Therefore, the present study argues that centralised decision-making indirectly influences the flexibility to implement OCoPs, or to allow members to work freely, i.e. restrict the selection of members from the same plant or worksite.

7.2.4.2 Loose structure for OCoPs increases productivity and innovation

The three companies involved in this study reveal that the structure of the company can enable or hinder OCoPs. Therefore, the present study argues that centralisation of decision-making indirectly impacts on the flexibility to maintain OCoPs, or to allow their members to work freely, while a formal structure for OCoPs may restrict the selection of members from the same plant or worksite.

The research findings demonstrate that the experts making up OCoPs prefer to work independently from a hierarchical structure. This finding is not in accordance with those studies that call for integration of OCoPs into the formal organisational structure, i.e. Annabi et al. (2012) and Yamklin and Igel (2012). Decreased flexibility in the organisational structure could thus result in restricting OCoPs' activities, with a negative impact on the sharing of expertise or ideas. Ensuring autonomy for OCoP members can therefore encourage innovation and success.

As previously noted, the concept of OCoPs is mature in Co1, and still in its early stages of development in Co2, and as yet unknown in Co3. The research findings support the opinion of Nonaka and Takeuchi (1995) that knowledge is the primary ingredient of innovation and organisational competitiveness, i.e. knowledge sharing is the main vehicle for OCoPs, enhancing innovation processes and resulting in positive outcomes (Jeon et al., 2011; Harvey et al., 2013; Wenger et al., 2002).

7.2.4.3 Rigid structure in global companies can impact on the expansion of employees' awareness of knowledge sharing activities

Rigid management structure is unable to maintain the development of OCoPs, and therefore impacts on the awareness of the importance of OCoPs as a tool for knowledge sharing within a company. This current research demonstrates that, when it comes to business on a global scale, the awareness of the importance of sharing knowledge has an impact on the company's acceptance of KM initiatives, i.e. OCoPs. Although the participants agree on the importance of OCoPs as a tool for knowledge sharing within their companies, their perception differs

according to their profession and position. The global reach and geographical distribution of Co1 and Co2 influences their awareness of the need to enhance ShareK or Expert Groups through KM initiatives. Establishing OCoPs facilitates organisational knowledge sharing and improves business performance, which is considered one of the most effective elements of KM strategies (Bolisani and Scarso, 2014), particularly for geographically dispersed companies.

However, top management plays a crucial role in supporting OCoP activities. In Co2, for example, the company practices a different style of management, which changes according to the situation to be managed. It might thus be argued that, in the context of this current research (and considering the new global orientation of some companies), the three companies should be flexible and operate with a global mindset. In such situations, employees could view cultural and geographic diversity as opportunities to be exploited, and thus adopt successful practices and ideas. At the level of top management, the cultivation of a global mindset is a prerequisite to becoming a global company, in particular as a number of executives are from outside the company's home territory. It thus becomes clear that a new managerial mind-set is required to transform the country into a knowledge-based economy, in keeping with the practical politics of the government of Saudi Arabia (The World Bank, 2013).

Summary

A company can set up a system within its structure to promote social networks, but without including too much detail to hinder the work process of OCoPs, which have no need of a hierarchical system, or to be restricted by formal tasks within the organisational structure of the company. Flexibility in organisational structure can therefore enable the development of OCoPs, and impact on their sustainability, as discussed below.

7.2.5 Sustainability process

Sustainability is the final process in this framework by which the OCoPs continue their activities within a company, including establishing well-defined objectives contributing directly to the company. As indicated by McDermott and Archibald (2010), the most effective and sustainable OCoPs tackle real problems and focus on the main organisational matters. In this process, the company looks beyond managing its OCoPs, to using them to improve both its knowledge base, and the quality of knowledge shared between members. Thus, the three organisational factors play complementary roles in enabling OCoP

sustainability. Nevertheless, the role of organisational culture is crucial, as OCoPs are primarily configured to foster tacit knowledge sharing within the company, and therefore creating the organisational culture that maintains participation in OCoPs can sustain their active involvement. It is primarily the responsibility of top management to sustain OCoP activities within company's boundaries, while OCoP members are responsible for producing outcomes contributing to the company's business plan. The level of sustainability can be an indicator that OCoPs are well-situated and advanced in the application, and have a significant degree of successful outcomes, resulting in benefit to the company and its personnel. OCoPs thus need to have optimal interaction and improvement of their relationships with other entities, i.e. affiliates.

The three cases studies have identified three factors enabling sustainability for OCoPs: (1) to be people-based; (2) to formalise reward systems; and (3) to create a knowledge sharing culture. The disabling factor being (4), the impact of individual behaviour on participation in OCoPs, as discussed below.

7.2.5.1 OCoPs are people-based

In the context of this study (and in response to Wang and Noe's (2010) suggestion to conduct further studies to improve understanding knowledge sharing in OCoPs in different cultural and social contexts), Ali (2009) indicates that Saudi business people are most inclined towards the oral and face-to-face communication, and warmth in interaction, offered by OCoPs. The three case studies reveal that a more positive perception of OCoPs occurs when participation is motivated by those able to encourage group activities and organise face-to-face meetings.

In Co1 (which has well-developed OCoPs), it remained a priority to convince employees of the importance of sharing knowledge prior to constructing an advanced technology system for knowledge sharing. Bolisani and Scarso (2014) note that OCoPs can be viewed from two different perspectives: (1) as a spontaneously emerging social entity (i.e. TCoPs); or (2) as one of the most powerful KM tools requiring close management (i.e. OCoPs). Arling and Chun (2011) note that receiving feedback and assistance through person-to-person sharing, rather than codification-based KMS, is viewed as preferable, and this current research argues that OCoPs are unlikely to thrive in the absence of effective interactivity among members. A number of participants noted the need for active member engagement to build and sustain OCoPs. Accordingly, implementing a sophisticated technology programme for KM may

prove less important than convincing individuals to act positively within OCoPs either physically or virtually. Notably, the research findings do not state the importance of one element over another, and both personnel and technology are viewed as complementary, in particular for large companies with operations and affiliates distributed globally and locally. However, the consequences of focusing on one aspect need to be carefully weighed.

7.2.5.2 Formalising of reward systems

The findings of this present study contribute to suggestions in previous studies (Walter et al., 2013) for additional investigation into the perception of rewards from different organisations and industries, and their impact on increasing the level of participation in OCoP activities. It also contributes a further perception from the business perspective, illustrating that many interviewees distinguish between direct and indirect rewards. Financial reward was not found to be of primary importance to participants, especially those from Co1 and Co2. Members feel more motivated and committed to participate in OCoPs when they are rewarded for their productivity, and having a reward system in place is mutually beneficial to the member and the organisation. Thus, it is important for the company to consider incentivising knowledge sharing within OCoPs, i.e. flexibility of meetings and the ability to deliver presentations to senior managers. Participants' qualifications also appear to impact on the perception of rewards. Thus, this study has illustrated that members of OCoPs from Co1 and Co2 are primarily experts with academic qualifications, while in Co2, most are either highly qualified academically (e.g. Ph.D.) or have intensive and rich work experience in their field, and that they are more concerned with appreciation and non-financial recognition. On the other hand, participants from Co1 are at the maintenance process stage and therefore open to considering potential sustainability enablers as more serious options. They make fewer references to non-financial appreciation, as this recognition has been already been resolved.

This highlights the need to configure a formal process for reward systems, to create standards for which members of OCoPs can be evaluated as an appropriate element of performance appraisals in the company, and thus limit improvised judgements of immediate managers. This is in line with authors such as Oliver and Kandadi (2006), who suggest that organisations should have a reward system in the form of formal processes, including a standard overall performance appraisal. This current study argues that the original definition of TCoPs would go against the idea of the reward system, as it can be assumed that OCoP members are not volunteers. However, reward systems should be implemented for OCoPs to be more recognised by both top and middle management. OCoPs would therefore prove more

successful in Co3 if the company creates a culture of knowledge prior to their establishment, along with the setting up of a formal reward system. In Co1 and Co2, OCoP members should be rewarded to increase the level of participation and knowledge sharing.

7.2.5.3 Creating a knowledge sharing culture

Creating a culture of knowledge sharing is therefore important to assist OCoPs to thrive. The research findings affirm that the exchange of ideas and the sharing of knowledge could be more active within OCoPs when this culture is put into practice, and when that practice becomes a habit in the company. These findings imply that a well-developed knowledge sharing culture could assist the formation of such OCoPs. The research findings have revealed that OCoPs in Co1 and Co2 were established to enhance knowledge sharing within the company, including exchanges of expertise and assist the companies to deal with business issues. Thus, raising awareness of the importance of a knowledge sharing culture was seen as important in this study.

However, the analysis of interview transcripts revealed a number of specific issues regarding the knowledge sharing culture in the three companies. In Co1 and Co2, the findings revealed that the culture of knowledge sharing is more developed in technical and engineering fields, whereas in Co3 personal attitudes and political issues inhabit the cultivation of a knowledge sharing culture. The findings also reveal that the nature, and resulting time-pressures, of work in Co3 supports a knowledge sharing culture.

In this current study, it was noted that KM initiatives in Co1 and Co2 form a long-term strategy for achieving knowledge sharing goals within the company. However, the research findings also reveal that a knowledge sharing culture has gradually been extended to the complete organisation through ShareK (Co1) and Expert Groups (Co2) as KM practices. Issue arise when senior management are short-sighted and focus on cost cutting measures to improve the company's productivity, rather than continuing to invest in KM initiatives, such as OCoPs, to ensure their sustainability (Hasan and Zhou, 2015).

Thus, the research findings from the three case studies illustrate the significant role of the top management in encouraging a knowledge sharing culture within the company. This study is also significant in that it reconfirms that cultivating a knowledge sharing culture should be perceived as a factor in the success of a company, as well as an employee, and (since employees form an aspect of the complete system) individual success contributes to the success of the whole.

7.2.5.4 The impact of individual behaviour on participation in OCoPs

The research findings illustrate that individual behaviour can be a disabling factor in sustaining the level of participation in OCoPs. It can be argued that OCoPs should not be influenced by personality traits, as members focus on their mutual interests (Wenger, 2004). Fear of sharing knowledge within OCoPs will not promote the sustainability of the group.

In the context of this current study, the behaviours of employees toward knowledge sharing activities have a bearing on the general culture of firms. Thus, many conservative employees are able to create a culture of conservatism within their organisations. Those conservative employees demonstrating no desire to share their knowledge attributed their reluctance to fear of losing an opportunity to obtain a promotion, or that the information they shared could be used against them. This current study argues that OCoPs have a social configuration and therefore the company needs to create a collaborative environment by embedding knowledge sharing activities within employee's annual tasks.

Moreover, it can be argued that the lack of effective knowledge sharing media (e.g. OCoPs) within a company can lead to a low level of interaction. To maintain OCoPs' sustainability within a company, top management encourages employees from different departments to break down barriers, mentality and habits, and to interact with each other. The human factor is therefore a key factor.

In this process, sustaining a knowledge sharing culture is crucial for OCoPs, and therefore building organisational trust can promote belief in OCoPs' integrity in relation to knowledge sharing. Thus, although the element of trust between OCoP members is not an internal issue within the companies studied, in Co2 and Co3, trust was primarily considered as influencing the relationship with external entities, i.e. affiliates and government. In Co2, for instance, the findings illustrate that plants or affiliates to which the members belong enables participation in OCoPs, as these affiliates are confident of obtaining added value due to the knowledge acquired from these groups. Thus, the findings affirm that mutual trust between these groups, and its reflection on their partners (e.g. government, as for Co3) are important as leverage for the outcomes of their activities, and to ensure the continuity of employee membership in the OCoPs in the affiliates.

The findings have not established trust as a significant challenge for the companies studied, although this is inconsistent with other studies, which have found that a level of trust between members is necessary for long-term relationships (Wenger et al., 2002; Wenger, 2004;

Zboralski, 2009). It is possible that officials assigned by the company to recruit members, and organise face-to-face meetings, play an essential role in building trust between OCoP members, i.e. in Co1 and Co2. OCoPs are effective tools for capturing and exchanging both explicit and tacit knowledge (Yamklin and Igel, 2012), with virtual communication being of particular importance for those OCoPs whose members are widely distributed geographically, although the findings also reveal that face-to-face meetings are indispensable to OCoPs.

The potential barrier of a lack of knowledge concerning OCoPs among employees cannot be ignored. The research findings reveal that some employees have little enthusiasm to participate effectively, or to share their knowledge and expertise with others in OCoPs, due to: (1) fear of sharing incorrect information; (2) a wish to avoid exposure to technical or legal problems; and (3) language barriers. Bandura (1982) indicates that if individuals lack confidence in their ability to share knowledge, they are unlikely to perform well, particularly when knowledge sharing is not mandatory, as would be the case in OCoPs. The factor of organisational culture is particularly significant in the case of Co2, in which the company's global presence imparts cultural diversity, with a mixture of nationalities and languages influencing knowledge sharing. Despite this, many of the research participants speak English, at various levels of fluency, and English forms the common language between large organisations with international activities (Neeley, 2012).

This current study has also established organisational culture to be influenced by national culture. This is illustrated by the reluctance (in Arab culture, in particular) to shoulder blame, leading to an avoidance of asking questions, particularly during informal interactions, in which individuals may suspect they could be blamed for a lack of knowledge. Therefore, it appears that informal entities, such as OCoPs, offer greater opportunities for those who benefit from a relaxed and informal setting, in which knowledge can be gained without embarrassment. This study suggests that companies should develop the 'no blame' culture that characterises OCoPs, and which can positively influence interpersonal trust among employees within the company. This highlights the reason the employees in this current study experience participation in informal entities (such as OCoPs) as less taxing.

Summary

Engaging people effectively in OCoPs is vital to sustain group activities. Creating a knowledge sharing culture and formalising a reward system would enable sustenance of

OCoPs' activities. Individuals' behaviour, in terms of their attitude toward sharing knowledge can disable the sustainability of OCoPs.

7.3 Chapter summary

This chapter has established that the development of a culture of knowledge sharing within a company will assist in creating an organisational culture that promotes a knowledge sharing environment. This study further suggests that OCoPs are able to work under the company's KM department, as it forms the pool for any KM initiative. This can achieve sustainability for OCoPs and manage them purposefully. Conventional organisational structures need to be transformed in order to support the development of a knowledge sharing culture (Oliver and Kandadi, 2006). However, implementing OCoPs within the company should proactively pave the way for employees to raise awareness concerning the importance of knowledge sharing practices, both for the individual and the company. This leads to a need for a reward system for OCoPs that are either extrinsic (i.e. concrete rewards) or intrinsic (i.e. an appreciation and recognition of employees' activities in OCoPs). The following chapter will present the conclusions and implications of the study, and will summarise the main findings from the three companies while addressing the research questions.

CHAPTER 8: CONCLUSIONS AND RECOMMENDATIONS

8.0 Introduction

This study has explored how three organisational factors – *top management, culture and structure* – enable OCoPs within organisations. It identified various perceptions about the nature of the OCoPs implemented within business organisations in Saudi Arabia, and sought to ascertain whether OCoPs are considered to be a tool that facilitates knowledge sharing and expertise exchange within the company. The theoretical literature on OCoPs, specifically in the context of Saudi Arabia, is inconclusive on several vital questions. This chapter presents a summary of the major research findings relating to the research questions. Furthermore, a set of practical recommendations that could assist the companies which participated in the study to overcome challenges and set up internal OCoPs are provided. Moreover, the chapter discusses the contribution of this research to the theory of KM and OCoPs and related potential practice implications. Finally, the chapter concludes with a discussion of the limitations of the study and suggestions for future research.

8.1 Summary of the key research findings

A review of the existing literature regarding OCoPs identified gaps in the current knowledge as discussed in Chapter 2. KM initiatives have come to play a crucial role for many companies in fostering knowledge sharing among employees. This requires that organisations seek to implement new methods by which knowledge and learning can be managed; such as OCoPs. In the introduction to this thesis, it was explained that previous research had investigated the internal factors linked to OCoPs (e.g. size, members' commitments, and level of participation). However, it also identified that there remains a need to understand the ways in which the three organisational factors (i.e. top management, structure and culture) enable OCoPs' activities within organisations. Hence, this research explored the links between the three aforementioned organisational factors, and the manner in which they enable OCoPs' activities within organisations.

The first objective was to explore whether top management perceives OCoPs as a valid tool within their organisation to improve business activities. The second objective sought to explore top management's attitudes to OCoPs. The third objective aimed to investigate the culture of the company with regard to knowledge sharing through informal structures, such as OCoPs. The fourth objective was to investigate individuals' attitudes to their involvement in OCoPs. The fifth objective was to find out how different types of organisational structure (i.e.

formalised and centralised structures) influence OCoPs' activities. The last objective also aimed to explore the existing nature of OCoPs in Saudi Arabian organisations, to identify the challenges they face for the future.

To meet the objectives of the current study, two main research questions were formulated. This section highlights the main empirical findings presented from the three case studies on the perception of knowledge sharing through OCoPs and how the three aforementioned organisational factors affect OCoPs within organisations. This section will synthesise the empirical findings and seek to answer the research questions put by the study, thus helping to address the information gaps identified in the literature.

8.1.1 Part One: How are OCoPs seen as a tool for knowledge sharing within organisations?

The study addressed this first research question by outlining various perspectives through which the three companies involved in this study perceive OCoPs as a tool for knowledge sharing within their boundaries. This first research question attempted to fulfil the first objective, that is, to find out the companies' perspectives on the feasibility of using OCoPs as to share knowledge and practices within organisations in different cultural and social contexts. The study considered several aspects when addressing this research question, including the concept maturation of OCoPs within the company; terminological multiplicity of OCoPs; the role of the KM department toward facilitation of OCoP activities; the impact of core business on OCoP establishment; OCoPs as people-based; and, time pressure and workload.

The empirical evidence obtained by this research showed that the employees in the participating companies are not generally aware of term OCoPs. This is consistent with the argument that OCoPs are a relatively new concept in the region of the Middle East and North Africa (MENA), specifically in business companies in Saudi Arabia. The ambiguity of the notion of OCoPs within the business environment has led OCoPs to be seen and defined differently by different companies. In this study, OCoPs as a term appeared to be less commonly used in business than in academia; the common practice is to set up knowledge sharing networks within the company with titles other than OCoPs. In the current study, OCoPs are defined as a collection of specialists from different knowledge areas who are assigned according to their knowledge, experience and understanding of the company's

various operations and who meet regularly to share their expertise and knowledge and apply it to problem-solving or problem-avoidance within the company.

Both Co1 and Co2 have operations on the global scale whereas Co3 is a large company, in terms of size, within the MENA region. In Co1, OCoPs had been intentionally established in the form of SkareK to achieve knowledge sharing through two main objectives: best practice and lessons learned. Co1 has shown that knowledge sharing is more efficient through OCoPs when the group is clustered around the core disciplines of the company. ShareK is a system, which is an inherent part of an OCoP, designed to help achieve knowledge sharing activities, particularly for Engineering Services. Although OCoPs are well-developed on the ground and are well-defined within Co1, compared to the other two companies, people remain the main vehicle for promoting knowledge sharing, with technology coming in second. Thus, engaging employees to utilise OCoPs based on technology (e.g. ShareK) is seen by this company as being challenging and this affects the sustainability of OCoPs within this company. Even so, in Co1, the idea of setting up OCoPs as a KM initiative is much more advanced than in the other companies, which participated in the study. However, the company needs to ensure that its members and employees are actively involved in the OCoPs by encouraging knowledge sharing through ShareK.

In Co2, OCoPs have been given different titles, for instance, Expert Groups, which has led to the dispersion of the perception of OCoPs within the company. Members of OCoPs are formally assigned by the management according to their accumulated knowledge and experience in the plant's operations. Though the concept of OCoPs is still not widely dispersed within the company, Co2, as was the case with Co1, appreciates such knowledge sharing practices due to the company's global presence that necessitates an improvement in knowledge sharing activities.

Surprisingly, Co3 does not consider OCoPs to be a tool to encourage knowledge sharing within its boundaries. Time pressures and excessive workloads mean that the idea of establishing OCoPs as an extra knowledge sharing practice within the construction industry takes a back burner. Training programmes are the main method implemented to disseminate new knowledge and exchange ideas.

The research findings linked to this first research question address the gaps in literature by examining the development of OCoPs as a tool for knowledge sharing in different organisations which have different contexts (Harvey et al., 2013) and providing a definition

that can help bring some consistency to the definition of OCoPs within organisations (Bolisani and Scarso, 2014), particularly within the business environment (Wolf et al., 2011). Typically, the term OCoPs is now associated with professional, work-oriented groups that may be associated with professional organisations, such as Co1 and Co2 in this study.

8.1.2 Part Two: How do organisational factors enable OCoPs within organisations?

The second research question contributes to a better understanding of how organisational factors enable OCoPs within organisations. The three sub-questions branching out from this main question are: “How does top management enable OCoPs within an organisation?”; “How does organisational structure enable OCoPs within an organisation?”; “How does organisational culture enable OCoPs within an organisation?” Each one of these three organisational factors presents different factors that enabled OCoPs within the companies participating in this study.

How does top management enable OCoPs within an organisation?

This sub-research question fulfils the second and the third objectives of exploring top management’s attitudes to OCoPs and whether the top management perceives OCoPs to be a tool within an organisation which can help improve business activities. The key findings regarding this sub-research question from the three companies revealed some interesting facts in this regard. These facts include the necessity to obtain management approval before forming OCoPs; the influential role of middle management in supporting OCoP activities; the ubiquitous influence of OCoP activities; the necessity to steer but not control OCoP activities; the need to align OCoP activities with business objectives; the need to believe in the importance of OCoPs; and, to have accountability within OCoPs. Though each one of these factors is important when it comes to enabling OCoPs, the most crucial factor identified in this study is ensuring that middle management and top management support OCoP activities.

In Co1, top managers follow the path taken by the OCoP leadership and do not take a managerial role, thus inspiring knowledge sharing and fostering OCoP activities. Although there is no direct control by the top management, it was found that OCoPs are more active when there is external accountability and participation is deemed to be compulsory by the company. This can be done by devoting a percentage of the employees’ working hours to OCoPs and aligning their activities with the business’s objectives.

In Co2, the top management factor played a significant role by ubiquitously presenting OCoP activities across the company. The involvement of and collaboration by top management during discussions and OCoP meetings assisted in shaping OCoPs' activities in terms of achieving business objectives. As the members of the OCoPs are experts, participation in the decision-making process by both members and top management can help to shape OCoPs' activities and ensure that they are aligned with the business plan. Again, Co1 and Co2 share the same perspective in terms of not controlling OCoP activities. Steering OCoPs' activities by engaging them in the decision-making process can be one way of ensuring the autonomy of OCoPs' activities.

Co3, on the other hand, reveals the confidence that the top management has in the ability of the company to establish OCoPs, when compared to Co1 and Co2. Top management's belief in OCoPs as a tool to assist knowledge sharing can change managers and employees' attitudes and encourage them to accept OCoPs within the company. Because of the absence of a KM entity, it may be difficult to cultivate OCoPs within Co3. The main workforce in Co3 is low-skilled workers with work routines for which OCoPs do not seem to be needed. Due to the nature of the work, OCoPs are more likely to be launched by engineers and technicians.

Findings from this research have helped address the issues identified in the literature with regard to how top management can support OCoPs without controlling their activities (Borzillo et al., 2011; Annabi et al., 2012). This study suggests that OCoP activities should not be controlled. Top management can steer OCoPs' activities without destroying their autonomy by engaging members who are experts in technical issues in the decision-making process.

How does organisational structure enable OCoPs within an organisation?

The fourth objective in this research was to find out whether formalised or centralised organisational structures influence OCoP activities. The research findings with respect to this question revealed two main aspects, namely: OCoPs are better placed outside the organisational structure with a loose structure, which increases productivity and innovation; and, reward systems help foster appreciation and recognition. Although the concept of OCoPs is quite controversial, the general opinion of the participants in this study was that OCoPs should not be given an extremely restrictive structure since the main purpose of establishing OCoPs is to encourage KM and exchange of expertise. In Co1, OCoP activities

are placed outside the formal structure of the company to increase their dynamism. Restricting members' activities within a formal structure would hinder the efficiency of OCoPs formed by experts who wish to work freely without too many decisions made for them by people within higher management levels. In Co2, the top-down approach appeared to be dominant. This may limit OCoPs activities when it comes to gaining management approval either from the senior manager or the direct manager. Similarly, in Co3, the organisational structure of the family business is centralised with the decision-making process being highly controlled. This could inhibit the establishment of OCoPs that are independent in their activities. Thus, many participants from Co3 stated that OCoPs should be formalised within the structure of the company in order to be formally recognised by top management.

With respect to formalising a reward system, the participants from the three companies presented diverse views. In Co1, the setting up of a reward system was not a major issue, however formalising OCoPs can help increase the level of participation of employees. Nevertheless, giving rewards which recognise members' efforts in OCoPs is important. Participants from Co1 and Co2 shared the view that appreciation and recognition of OCoPs activities particularly by top management is important. In contrast, participants from Co3 perceive that cultivating a knowledge sharing culture is necessary before setting up a reward system for OCoPs. This study argues that the original definition of TCoPs goes against the idea of a reward system, as OCoPs are comprised of members not volunteers. However, because OCoPs are created by the company reward systems could be implemented in the form of recognition from top and middle management.

This sub-research question addressed issues in the current literature regarding the organisational structure of OCoPs (Annabi et al., 2012). This study reaffirms that centralised and formalised structures within a company do not help in the establishment of OCoPs or in ensuring their sustainability over time. This study found that OCoPs are able to present innovative ideas when they work independently from the hierarchical arrangements or official roles assigned by top management.

How does organisational culture enable OCoPs within an organisation?

This study yielded some interesting information in terms of the fifth and sixth objectives, which sought to investigate the culture of the company with regard to knowledge sharing through unstructured groups such as OCoPs and individuals' attitudes to getting involved in

such groups. The key facts revealed by the three companies that participated in the study were that individuals' motivation and attitude affects OCoP participation, so it is important to make knowledge sharing a habit within the organisation. The study established the fact that each company has its own business culture – presented in different ways – which enables OCoPs within its boundaries. Raising awareness on the importance of instituting a knowledge sharing culture was seen as being important in this study. The findings showed that, in order to stimulate participation in OCoPs, the company should create a culture of knowledge sharing and make knowledge sharing a habit within the company.

The findings of this study satisfied the seventh objective which was to explore the existing nature of OCoPs in Saudi Arabian business organisations and identifying the challenges they face. The empirical findings indicated that Co1 is a large and global company with geographically dispersed activities, which seem to have helped its OCoPs to thrive. It is important to develop a knowledge sharing culture to maintain the sustainability of OCoPs. Within Co2, for instance, whose operations are also on a global scale, knowledge sharing barriers hinder the operation of OCoPs. Findings obtained from Co2 confirm the claim made by some studies that people living within an Arab culture, such as in Saudi Arabia for example, prefer to participate in informal settings such as OCoPs as they feel more comfortable knowing that they would not be blamed for lacking particular knowledge. On the contrary, in Co3 the fear of losing out on opportunities for promotion coupled with the fear of sharing information that could be used against one are the main aspects that affect knowledge sharing. In Co3, trust is considered crucial, especially trust of external partners, such as the government and affiliates, but this is not the case in Co1 and Co2 as they did not see knowledge sharing as an obstacle to trust.

The research findings related to this sub-research question addressed the main issues discussed in the literature review. This study presented a new view on the link between reward systems and organisational culture when it comes to increasing participation in OCoPs (Walter et al., 2013). Moreover, the study has provided a deeper understanding of OCoPs in the hitherto insufficiently researched context of Saudi business organisations.

8.1.3 The interconnected relationship of the three organisational factors and their enabling of OCoP activities - Integrative framework

On the basis of the findings of this research, a framework comprising five processes that can enable OCoPs within an organisation, which takes the interrelationship between the three

organisational factors into account, was developed. This study proposes an integrative framework that contributes to the theory of knowledge management and of communities of practice in particular. This framework suggests diverse processes arise when the three organisational factors intersect. These processes are the *establishment, enforcement, recognition, maintenance, and sustainability* of OCoPs within the organisation, as discussed in Chapter 7. The findings related to the three cases studied support this integrative framework.

8.2 Contributions and implications of the research

8.2.1 New perceptions of OCoPs within organisations – Theoretical contributions

The study made three main sets of theoretical contributions to the existing body of knowledge in the area of knowledge management and communities of practice research in particular. Although the three organisational factors – *top management, structure and culture* – have often been mentioned in communities of practice research, the interaction among these factors has not been sufficiently studied. Thus, some important aspects of OCoPs may have been overlooked in the research. The main theoretical contributions are presented below.

First, the major contribution of this study was to propose a theoretical framework that consists of interdependent processes that enable OCoPs from the organisational perspective. These five processes include *establishment, enforcement, recognition, maintenance and sustainability*. Each process in this framework can help the organisation to recognise the aspects that enable or disable OCoPs in relation to the three organisational factors. Moreover, each process within is designed to help the organisation identify the main OCoP challenges and find ways to overcome them and move on to the next process. This integrative framework was developed by looking at the processes adopted by each company to identify the factors that helped the OCoPs to succeed at each stage. It must be noted that this proposed integrative framework has only been applied to business organisations in Saudi Arabia. Its applicability to different organisational sectors or contexts needs to be established.

Second, the study provides a critical review of the existing literature on OCoPs, leading to a detailed overview of relevant studies from which the research gaps were identified to gain a holistic theoretical framework aimed at enabling OCoPs within organisations. The findings of this study provide empirical support in relation to how three organisational factors – *top management, structure and culture* – enable OCoPs within organisations. The

interrelationship between these three organisational factors, and their significant impact on the business environment, particularly in large companies, suggest some indecision is associated with influences on OCoPs activities. Thus, this study adds a new perspective to the literature about the cumulative impact of the three organisational factors on OCoP activities. The interaction between these three organisational factors is seen as crucial for the success of OCoPs within a company; these factors overlap and impact one another. This study emphasises the fact that OCoPs will be more active within a company when the three organisational factors are taken into consideration together. Moreover, previous studies (e.g. Borzillo, 2009) mainly highlighted the role of top management in supporting OCoPs, whereas the empirical evidence gathered by this study highlights the essential role played by middle management in establishing OCoPs and ensuring their sustainability. It is the crucial role of middle management to assist the members of OCoPs in participating in OCoP activities effectively. Additionally, this study contributes to the literature by putting forward the idea of formalising a reward system for OCoP activities within an organisation. For professional OCoPs, appreciation and recognition are intrinsic rewards, given that OCoPs often comprise experts for whom being appreciated is in itself rewarding.

Third, there is a lack of empirical evidence in the literature on OCoPs within business organisations, especially in the context of Arab states. To the best of the author's knowledge, this study is the first to investigate OCoPs comprehensively and broadly within Saudi Arabian business companies and is thus able to offer a new insight on existing knowledge on OCoPs within non-Western businesses. There are other studies which have investigated OCoPs in Saudi Arabia but these studies have each had a different, specialised focus (e.g. Idris, 2007; Johnson and Khalidi, 2005). This study filled a gap by conducting a qualitative case study in three large business organisations. The empirical findings of the study supported the assumptions in the literature that OCoPs in Arab cultural settings are more desirable in the workplace than formal structured groups (Roberts, 2006). The findings of this research revealed three organisational factors enable OCoPs within a company; but their effectiveness and characteristics differed between companies. Considering the three organisational factors in the three companies presented various results; however, there were some common factors prominent in each company, including but not limited to, the culture of getting management approval before doing anything and the influential role of middle management.

8.2.2 Enabling of OCoP activities – Implications for practice

This study provided a number of practical suggestions to guide business executives, especially those who design KM initiatives, to help them successfully set up OCoPs within their company, which are aligned with strategic business objectives. Moreover, the findings of this research also make a number of suggestions for both practitioners and managers.

Firstly, practising managers should understand and develop a holistic approach to setting up OCoPs. The proposed integrative framework can assist in this regard. The correlated and complementary processes suggested in this study should not be considered in isolation, but rather should be integrated and combined to enable OCoPs, especially in their establishment phase, to leverage, exploit and sustain OCoPs within the company.

Secondly, the vision set out in this study of OCoPs as a tool for knowledge sharing within different sectors and industries is expected to help practitioners understand how OCoPs can be purposefully cultivated within their companies and developed effectively and more productively. Changing the existing corporate attitude towards OCoPs can help give them recognition and garner more support from the organisation, as this is essential to ensure that OCoPs are successfully implemented in a company.

Thirdly, practitioners need to realise that KM practices are necessary for a company. Obtaining adequate support from senior executives will strengthen KM initiatives, which will reflect on the success of their implementation in different organisational forms such as OCoPs. Accordingly, it would be desirable to have a tighter connection between OCoPs and KM strategies to align the group's activities with the specific objectives of the company. Furthermore, a company that intends to establish OCoPs with long-term results in mind can start by creating OCoPs with clear objectives, reviewed and approved by top management, to ensure the sharing of organisational knowledge and improved performance.

Fourthly, as OCoPs take a people-centred approach, the company should have a clear KM strategy with regard to cultivating OCoPs. When a company pays its people attention, this will stimulate a knowledge sharing culture. A company should not focus only on developing technology to enhance learning and exchange knowledge within its boundaries, but also on convincing people to participate in OCoPs and create value. One of the ways to convince employees about the importance of participating in OCoPs is through clearly highlighting the activities of existing OCoPs across the company. This recognition can be either through financial or non-financial rewards.

Fifthly, the success of Saudi Arabian plans to increase the country's global competitiveness depends on Saudi Arabian companies building up a strong knowledge sharing culture to improve performance. Existing literature indicates that there may be a positive relationship between an open work environment structure (e.g. OCoPs) and work performance (e.g. Roberts, 2006; Baker and Sonnenburg, 2013), which would motivate companies to support such informal activities. Hence, the study sought to identify the opportunities and challenges facing Saudi Arabian OCoPs and investigated ways to overcome them. The findings of this study can enable Saudi Arabian business organisations to improve their OCoP implementation and facilitate knowledge sharing, empower OCoP activities and promote tacit knowledge sharing to increase efficiency and productivity.

Moreover, the study could enable Saudi companies to develop strategies to establish informal networks that nurture innovation and creativity and thus increase their global competitiveness and economic success. Furthermore, facilitating set ups such as OCoPs within Saudi business companies would also contribute to cultivating a knowledge sharing culture in line with the Saudi government's policy to transfer its economy into a knowledge-based economy. This study is crucial in the context of the Saudi government's plan to move towards a knowledge-based economy by 2022. According to the World Bank (2013, p.89), Gulf countries, including Saudi Arabia, have put international cooperation at the core of their operations, drawing lessons from past experiences and applying good practices, as they are motivated by the knowledge economy and globalisation where creating dynamic knowledge sharing within companies is a primary mechanism for creating a sustainable competitive advantage. Companies in Saudi Arabia could benefit from insights into the organisational factors – culture, structure and managerial attitudes - that help or hinder OCoP activities. The insights could be about how and why these factors have an impact, and how positive influences can be encouraged and negative ones avoided to create an atmosphere that promotes tacit knowledge sharing and increases efficiency and productivity.

Sixthly, these findings are of value for the local context in Saudi Arabia where the case studies were conducted. The findings point to the need for greater attention to be paid to giving appropriate and adequate support to OCoPs within companies, and for better recognition of OCoP activities within different managerial levels. The findings are also potentially of wider relevance in other cultural settings, particularly in the Gulf countries. The findings of the study may be relevant to all Gulf States because of their similar socio-economic background. The intention is for the insights from this study to not only be of direct

benefit to Saudi Arabia, and countries in a similar situation, but also to offer some general lessons regarding KM, knowledge sharing and the nurturing of intentionally established OCoPs in different contexts.

Seventhly, in the case of the businesses where establishing KM practices may not be possible, the company can use existing human resources management practices to recognise the knowledge contributions of employees and to develop a knowledge sharing culture in the company. This study could help practitioners by providing them with new insights on the challenges and opportunities that businesses face regarding the establishment of OCoPs.

8.3 Recommendations

The following recommendations could advance the implementation of OCoPs within business companies in the context of Saudi Arabia. These recommendations are intended for practitioners.

Firstly, establishing OCoPs that satisfy the core business of the company is important as these can assist in maintaining the sustainability and ensuring the development of the OCoP and the company. However, if a company wishes to stimulate a knowledge sharing culture, it is then important to increase awareness on the advantages of seeding the idea of OCoPs in departments that may not be considered as making part of the core business of the company.

Secondly, the company can brand its OCoPs and give them a more practical title. However, it is important for the company to have a precise definition of its OCoPs in line with the characteristics of OCoPs presented in Table 1 on page 30. This can help distinguish OCoPs from different formal groups (e.g. project teams) or informal networks and ensure that employees across the organisation recognise them and are encouraged to engage actively in them.

Thirdly, embedding OCoPs in the business process and having an annual evaluation can be mutually beneficial for the employees and the company as the employees can feel that their participation in OCoPs is visibly appreciated and accredited.

Fourthly, the company should not only stimulate the establishment of knowledge sharing initiatives but also apply them effectively. To maintain the sustainability of OCoPs, it is important to develop an absorptive capacity of shared knowledge among members to recognise the value of acquiring new knowledge and applying it to the development of the work environment. The benefits that the members receive and their ability to take advantage of innovative ideas raised in the group and transform them into a practical reality will help

improve the management's attitude toward OCoPs and reinforce their activities when their value is realised.

Fifthly, general policies and strategies for OCoPs within the company can be set by providing incentive schemes, recognising OCoP efforts and offering both financial and non-financial rewards.

Sixthly, it can be concluded that the most important challenges that OCoPs face within the company are the lack of appropriate support from top management and the middle management, the absence of cultural awareness within and outside the organisation, and insufficient investment (or no investment at all) in KM infrastructure. To ensure that KM initiatives (e.g. OCoPs) can succeed in the Saudi environment, many of these barriers need to be mitigated. OCoPs members can help management do so by presenting the outcomes of their activities to annual meetings of executives.

8.4 Limitations and future research

Although this research contributes to the body of research, which falls under the domain of knowledge management and communities of practice in particular, with a focus on the interconnected relationship between the three organisational factors and how these enable OCoPs within organisations, it suffers from several limitations which indicate the need for future research.

The first limitation is that not all organisational factors that influence OCoP activities were explored. The research focused on only three: top management, structure and culture. Research focusing on other factors would yield perspectives, which are different from those yielded by this study. These points need further exploration to acquire more varied perspectives. Moreover, several participants commented on issues relating to the role of IT in knowledge sharing within OCoPs. However, the scope of this study was not to investigate this aspect. Further research could compare the impact of IT on knowledge sharing within OCoPs based on face-to-face meetings with those based on virtual meetings and the differences between KMS and VCoPs.

The second limitation is linked to the fact that the study investigated OCoPs in the Saudi context and did not include OCoPs from affiliates in different regions. In fact, during the data collection exercise, the researcher tried to include more varied views from the companies' affiliates that are geographically widely distributed, but that was not possible getting consent proved to be a lengthy procedure and the time period within which this research had to be

carried out was restricted. For example, Co1 and Co2 have affiliates in Europe and, therefore, obtaining different perspectives which would allow a comparison between OCoPs implemented in the Saudi Arabian context and those implemented in Europe would have given a more holistic picture of opportunities and challenges faced by OCoPs in different regions. Other affiliates in various contexts may have had different approaches to establishing and cultivating OCoPs. Future research may be required to investigate this situation.

The third limitation is tied to the milieu of the empirical investigation, which was that of large business organisations in Saudi Arabia. Therefore, the findings may not be applicable to small and medium-sized enterprises (SMEs). Accordingly, future research may be required to investigate the situation in small-and-medium sized firms.

The fourth limitation is that the data was collected primarily through interviews. Though there are other methods through which OCoPs could be studied (e.g. observation and focus groups), this research opted for semi-structured interviews to allow the participants to speak freely to deepen the understanding of OCoPs from the participants' perspectives. However, further research could take the form of a case study using multiple methods (interviews, direct observation and focus groups), to obtain a holistic picture of OCoPs and how their members perceive the three organisational factors evaluated here.

The fifth limitation in this study pertains to the research findings and discussions, where the researcher relied on his interpretation and analysis of the findings. The same findings may be interpreted and discussed differently by other researchers. Moreover, the researcher conducted the study himself. The probability of bias does exist prominently in such situations. Nevertheless, considerable attention was paid to mitigate such bias, by applying triangulation to increase the reliability of the research findings.

8.5 Concluding remarks

This work is the conclusion of a long research journey taken by the researcher. Despite the challenge of having inadequate research experience and the long hours required to complete the qualitative data collection and prepare the thesis, the road was worthwhile. The researcher's greatest gain was the quality research output produced.

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APPENDICES

APPENDIX A: INFORMATION SHEET

INFORMATION SHEET

The title of the study:

The Impact of Organisational Factors on Intentionally Established Communities of Practice within Business Organisations

Dear Participant,

You are being invited to participate in this study as you are a member of a community of practice or a manager who is in a good position to offer insights into this study. Please take time to read the following information and understand the reasons for this research. If you have any questions, please do not hesitate to ask.

The purpose of the study

The study aims to understand the role of organisational factors including culture, structure and top management and their influence on the activities OCoPs that have been intentionally established within the company as a knowledge sharing means. The study is interested in the perspectives of management and OCoPs' members on the opportunities and challenges that OCoPs may face within their company.

Duration of the study

This study is to last for a year, which would include two to three phases of field work. The first phase will include face to face interviews during which notes may need to be taken. Through the year, focus groups will be organized; these will include OCoP members and will reflect on the findings from the previous phases.

The research methods

Three data collection methods will be used in this study. The interviews will be semi-structured and will take approximately 30-40 minutes. However, if you wish to expand on the topic or talk about related ideas, this will be encouraged and more time can be spent. If there are any questions you would rather not answer or do not feel comfortable answering, please say so and we will move on to the next question. The interview will be recorded on tape, and later transcribed into text form.

If you decide to participate, you will be asked to sign a consent form. All information given will be treated confidentially and the names of individuals and companies will be changed to avoid identification. Upon completion of this project, all data will be deleted.

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(Arabic version)

ورقة معلومات عن البحث

عنوان الدراسة:

"تأثير العوامل التنظيمية على مجتمعات الممارسة التي أنشأت عمداً داخل شركات الأعمال"

عزيمي المشارك:

لقد تم دعوتك للمشاركة في هذه الدراسة كأحد المدراء أو المسؤولين في الشركة أو أحد الأعضاء ضمن مجتمع الممارسة، الرجاء أخذ الوقت الكافي لقراءة المعلومات التالية لمعرفة السبب في إجراء هذا البحث. بإمكانك طلب إيضاحات أو معلومات إضافية عن أي شيء مذكور في هذه الإستمارة.

الغرض من الدراسة:

تهدف الدراسة إلى فهم دور العوامل التنظيمية التي تشمل (ثقافة المنظمة، الهيكل التنظيمية والإدارة العليا) وتأثيرها على أنشطة مجتمعات الممارسة التي أنشئت عمداً داخل الشركة كوسيلة لتبادل ومشاركة المعرفة. لذلك يسعى البحث لمعرفة وجهة نظر المديرين وأعضاء مجتمعات الممارسة المشاركين في هذه الدراسة وإعطاء الفرصة لعرض تصوراتهم حول الفرص والتحديات التي قد تواجه أنشطة جماعات الممارسين داخل الشركة.

وقت الدراسة:

الفترة الزمنية لهذه الدراسة تمتد إلى سنة، تشمل مرحلتين إلى ثلاث مراحل للمساعدة في جمع البيانات. المرحلة الأولى عبارة عن إجراء مقابلات مباشرة وكذلك إمكانية تطبيق الملاحظة المباشرة على أداء المجتمعات الممارسة داخل الشركة. خلال السنة، سيتم تنظيم مجموعة تركيز تشمل عدداً من أعضاء مجتمع الممارسة الذين شاركوا في المراحل السابقة من جمع البيانات لمناقشة بعض النتائج وأخذ تصوراتهم حول ذلك.

طرق البحث:

سيتم استخدام ثلاثة أساليب في جمع بيانات هذه الدراسة. المقابلة عبارة عن أسئلة مفتوحة تستغرق ما بين 30-40 دقيقة. مع ذلك بإمكان المشارك التوسع في الوقت والحديث عن الأفكار ذات الصلة بالدراسة. إذا كان هناك أي أسئلة لا ترغب في الإجابة عليها، يرجى توضيح ذلك وسوف ننقل إلى السؤال التالي. سيتم استخدام أداة تسجيل للمقابلة لمساعدة الباحث في كتابة النصوص وتسهيل عملية تحليل البيانات بالإضافة إلى المقابلات، يتضمن البحث القيام بالملاحظة المباشرة فقط على كيفية أداء المجتمعات الممارسة داخل الشركة. أخيراً سيتم تنظيم مجموعة التركيز لمساعدة الباحث في مناقشة الأفكار والآراء بين المشاركين. بعض الصور الفوتوغرافية لاجتماعات الجماعات الممارسة من المرجح أن يتم التقاطها لغرض الدراسة.

في حال قررت المشاركة، سيطلب منكم التوقيع على استمارة الموافقة في هذه الدراسة وسيتم التعامل بخصوصية تامة مع جميع المعلومات المقدمة بما يشمل أسماء الأفراد وشركتهم ولا يحق لأحد الإطلاع على هذه المعلومات باستثناء الباحث ومشرف البحث في الجامعة. سيتم حذف جميع البيانات حال الانتهاء من هذه الدراسة.

بيانات الباحث:

أبوبكر الجويبر، طالب في مرحلة الدكتوراه

كلية نورج لإدارة الأعمال

جامعة إيست انجلترا

نورج، المملكة المتحدة

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<https://www.uea.ac.uk/norwich-business-school>

APPENDIX B: CONSENT FORM FOR PARTICIPANTS

PARTICIPANT CONSENT FORM

Title of the research:

"The Impact of Organisational Factors on Intentionally Established Communities of Practice within Business Organisations"

Participant's Agreement:

I have read the participant information sheet for the above research project and I am aware that my participation in this interview is voluntary. I understand the intent and purpose of this research. If, for any reason, at any time, I wish to stop the interview, I may do so without having to give an explanation. Moreover, I understand that information I give is kept confidential and my identity is protected. Also, all information that I give is used for educational and academic purposes only.

I agree to take part in this above research, and I am willing to (to be ticked):

- Be interviewed by the researcher.
- Have my interview recorded.

The information I provide:

- Could be used by other researchers while my name is removed.
- Could be used by the researcher for another project.
- Only to be used in this study.

I have read the above form and, with the understanding that I can withdraw at any time and for whatever reason, I consent to participate in today's interview.

Name:

Signature:

Date:

Phone:

(Arabic version)

استمارة الموافقة للاشتراك في البحث

عنوان الدراسة:

"تأثير العوامل التنظيمية على مجتمعات الممارسة التي أنشأت عمداً داخل شركات الأعمال "

موافقة المشترك:

لقد قرأت ورقة معلومات البحث أعلاه و فهمت مضمونها، و على علم بأن المشاركة في هذه المقابلة هي أمر طوعي تام و أوافق على المشاركة في هذه المقابلة. كما أعرف تمام المعرفة بأنني حر في الانسحاب من هذا البحث متى شئت و دون إبداء السبب في ذلك. بالإضافة إلى ذلك، أنا أفهم بأن المعلومات التي أقدمها في هذا البحث يتم التعامل بها بشكل سري بما في ذلك المعلومات الشخصية، و أن استخدام البيانات في هذه الدراسة هو فقط للأغراض التعليمية و الأكاديمية.

أوافق على المشاركة في البحث أعلاه و على استعداد (الرجاء الإشارة على الخيارات التالية):

- لإجراء المقابلة مع الباحث. _____

- لتسجيل المقابلة. _____

كذلك أوافق على أن المعلومات في هذا البحث:

- من الممكن استخدامها من قبل باحثين آخرين متى ما تم حذف بياناتي الشخصية. _____

- من الممكن أن تستخدم من قبل الباحث في مشروع آخر. _____

- فقط تستخدم لأغراض هذه الدراسة. _____

الإسم: _____

التوقيع: _____

التاريخ: _____

هاتف الإتصال: _____

APPENDIX C: INTERVIEW PROTOCOL FOR RESEARCH PROJECT

Interviewee profile

Company Name:		
Participant code:		
Interviewee name:	Position:	
Date:	Time:	Place:

Purpose of interview

All interview session began with a brief explanation of key points including research objectives, interview's objective, estimate time for conducting interview, confidentiality of the presented information.

Suggested interview questions

Category	Item	Question
OCoPs within the company	Term	To what extent are CoPs known within the company?
	Activity (s)	What are the main activities distinguishing OCoPs from structured groups (e.g. teamwork, project teams)? (e.g. solving business problem)
	Interactivitiy	How do OCoPs contribute changing knowledge sharing behaviour within the company?
Organisational culture	Knowledge sharing culture	How can knowledge sharing culture impact people's willingness to participate in OCoPs' activities?
	Innovation	How do OCoPs affect innovation?
	Rewards system	How does rewards system affect the level of participant within the community?
Organisational structure	Formalisation & Centralisation	How can OCoPs link to the formal organisational structure? What are the obstacles that prevent OCoPs from being formally structured? Would it be better for an organisation to control An OCoP or it work independently? and why?
Top Management	Top Management Control	How can top management guide CoPs without fully control on their activities?
	Attitude toward change	How does top management perceive the role of OCoPs' contribution to the organisation's performance and objectives? To what extent do you assess the importance of OCoPs as a KM approach promoting the exchange of knowledge and experiences within the company?
	Top Management	How does top management support / encourage OCoPs activities without destroying their self-

	Support	organising processes?
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APPENDIX D: SAMPLE OF DOCUMENT REVIEWS

Document reviews for Co1		
Type of document	Theme/Sub-theme	Review
Company's Citizenship Report (2014)	Knowledge sharing through international cooperation	We maintain a vigilant state of readiness to respond to unintended petroleum releases and conduct periodic field drills to retain our response capability. In 2014, we conducted our first joint oil spill response drill with the Petroleum Association of Japan. The objective of the drill was to improve the collaboration between our two oil spill response associations and to share knowledge and experience
Company's Citizenship Report (2009)	A less centralised approach enables OCoPs activities	[Co1] provides opportunities for workers to share entrepreneurial ideas. Our Idea Management System, an innovative web-based platform, removes formal hierarchy in the creativity process and empowers employees at all levels to contribute ideas
Journal of Technology (2011)	OCoPs emphasise the importance of people in KM	Employees are creating technology and tools to add value for the company.
Annual Review (2014)	Self-motivation for knowledge sharing enable sustaining OCoPs	We support continuous learning and self-development by running the world's largest corporate training program. We also match our younger employees with more experienced mentors to advance their acquisition of technical proficiency.
Co1's website [Access 12 Dec. 2015]	Global cooperation	We contribute to knowledge, research and standards in a number of ways. We are involved in leadership roles through a number of professional groups, including the American Association of Petroleum Geologists (AAPG), American Petroleum Industry (API), the Institute of Electrical and Electronics Engineers (IEEE).....

Document reviews for Co2		
Type of document	Theme/Sub-theme	Review
[Co2] Magazine July/August 2010 Issue 98	Ubiquitous influence of OCoP through leading by example	The achievement of Manufacturing Excellence requires change in all parts of the organisation, and in particular requires that people at all levels and cultures are prepared to share, and more importantly to receive, new practices and techniques.
Annual Report (2014)	Virtual-based communicating companies are applicab for OCoPs	Our technical experts at the Manufacturing Center of Excellence have established a program to identify and address reliability bottlenecks and "performance killers" (that is, factors that adversely affect performance) at a global manufacturing level. This helps us to share lessons learned and eliminate root causes across all sites globally. For example, addressing EO Reactor integrity has avoided annual downtime amounting to SR 400 million
Sustainability Report (2015)	Experts in OCoPs help to enhance a culture of initiative	We look forward to collaborating with academic and industrial associations to share best practices and further develop our supply-chain training.
Co2's website	Creating a no-blame culture	With uncompromising integrity as our foundation we will: Inspire, Engage, Create and Deliver.

Document reviews for Co3		
Type of document	Theme/Sub-theme	Review
The company Brochure	On-job-training considered as knowledge sharing	HRD makes sure that all employees receive appropriate training. Technicians are subjected to tests under each area of expertise. Training is scheduled on a quarterly basis. Different training is scheduled to each group of employees.
Co3's website	Impact of time and work pressure on establishing OCoPs	The company policy is to deliver services in conformance with contract requirements, on time, defect free and at competitive prices to our customers, in order to ensure customer satisfaction.

**APPENDIX E: CHARTER AND AGREEMENT TEMPLATE FOR OIL COMPANY –
CO1**

[YOUR DISCIPLINE] COMMUNITY OF PRACTICE (CoP) CHARTER

CoP Vision

To provide employees across the company with current relevant knowledge that is readily accessible while making it possible for them to reach out to subject matter experts for critical/everyday problems that require quick resolutions.

CoP Objectives

- Build and maintain a Knowledge Base that is continually validated by SME's and kept current for reference and use
- Provide a platform for formal interaction between users and subject matter experts in the form of questions and answers that will eventually help in resolving problems
- Act as a hub for all discussions related to the CoP discipline
- Capture and store all communication between experts and co-workers within the CoP where it is shared in order to minimize the knowledge walkout in the company

CoP Roles & Responsibilities

CoP Sponsor: Division Head or higher

Duties:

- Endorse overall direction and priorities for CoP
- Ensure CoP goals align with business goals and objectives
- Regularly track CoP progress by allocating time for updates at department communication meetings
- Advocate for resources and funding provided to CoP
- Assign primary and backup CoP moderators
- Establish a department level CoP recognition program

CoP Moderator: Domain Special Matter Expert (SME)

Minimum Required Time: 5 hours per week

Duties:

- Ensure SME's respond to user questions within 3 days
- Ensure SME's review user submitted documents
- Encourage peer discussions on the CoP
- Post all related announcements/events on the CoP
- Check and update site content regularly
- Remind SME's of all pending questions/documents
- Escalate cases of long pending user questions/documents to the next level of authority
- Select the most active CoP participants (users and experts) for recognition
- Recommend and facilitate opportunities for face-face collaboration between users and experts

- Report feedback, progress, support needs to sponsor and ES Knowledge Management team
- Provide monthly progress report to sponsor

CoP Core Team: Domain Special Matter Experts (SMEs)

Required Time: Maximum 2 hours per week

Duties:

- Redirect all user technical consultation queries (e-mails and phone calls) to CoP
- Respond to questions received within 3 days
- Review/verify user submitted documents and categorize them accordingly
- Participate in peer discussions
- Participate in face-face collaboration events
- Facilitate identification of best practice's etc.
- Provide feedback to CoP moderator

CoP KM team : ES Knowledge Management team

Minimum Required Time: 80 hours

Duties:

- Jointly develop and maintain CoP charter and agreement
- Create the CoPs with requested structure and user privileges and support knowledge sharing features within with existing IT infrastructure.
- Conduct awareness campaigns across the company (including the plants) to promote CoPs.
- Train and support moderators and experts assigned to the CoPs
- Track and report CoP utilization and activities
- Recommend recognition and rewarding mechanisms
- Conduct and share findings from studies/research related to success with CoP's
- Report all unanswered questions to CE on a weekly basis

CoP Activity Measures

- # of Visits
- # of Posts
- # of Discussions
- # of documents uploaded

Targeted Participants

- [Identify the main groups that will be using the CoP]

CoP Major Milestones / Deliverables and Timelines

Key Milestone/Deliverable	Responsible party	Target
Develop CoP charter and agreement	Jointly	
Select/appoint moderator and SME's	CoP Sponsor	
Introduce the CoP and its objective to users	ES K M team	
Demonstrate working/functions of the CoP to experts and users	ES K M team	
Utilize the CoP for announcements and other communication with users	CoP Moderator	
Track and report CoP utilization on a monthly basis	CoP Moderator	
Recognize dedicated experts/users	CoP Sponsor	

CoP Leadership Team

Role	Name	Organization/Function
CoP Sponsor		
CoP Moderator		
ES Knowledge Management team		
CoP Core Team		

CoP Sponsor

CoP Moderator

ES KM team

APPENDIX F: SAMPLE OF FIELD NOTES

Interviews field work impression Company: Co2 Tuesday and Wednesday, April 15-16, 2014 9:00 am – 14:00 pm. Interviewees: Directors_HQ_Riyadh (R11, R13, R19, & R22)	Researcher's comments
<p>The researcher faced several challenges on the first day of data collection. Firstly, the first two interviews with two directors at Headquarter in Riyadh refused to record their interviews but allow the researcher to take the notes during the interviews. The reason for their refusal to record the interview is that they contacted the organiser from the company if the researcher had a clear consent to record the interviews which put the organiser in an embarrassment situation as they used not to allow for interviews recording but there is no any official prohibiting to do so though the permission letter to conduct the research in their company was clear that all information provided will be dealing confidentially and will be using for the academic purpose. As a result, this affected the communication way with the interviewee as the researcher tried to manage taking notes and listen to the interviewee simultaneously.</p> <p>Secondly, the concept of OCoPs was not clear for the informants particularly with the three first interviews due to their positions and hence the research has to clarify the concept for them which affect the time allocated for interviews. For example, the researcher spent 15 minutes explaining the idea with the second interviewee and had interviews for only another 15 minutes and therefore this influenced the information received from this informant.</p> <p>In order to avoid recording issue, the researcher approached a principle in the HR department who was the main contact with the researcher at the beginning to get the consent to conduct the study within the company who explained that there is no any restriction to use a recording equipment and this relates to the interviewee himself and not to the company to agree on recording his interview. Therefore, the research used the recording equipment for the other two interviews in the first day which helped to concentrate and openly discussed with the interviewees.</p> <p>Thirdly, the three first interviewees were not clear with the concept whereas the fourth interviewee was able to understand the concept due to his position as Knowledge Management Leader, who also knows the meaning of OCoPs.</p>	<p><i>The participants seem to be affected by the hierarchical positions. It is likely that the decision making in this company is about authority.</i></p> <p><i>The concept of [O]CoPs that was defined by Wenger is not well-known in this company.</i></p> <p><i>It appears that participants who deal with KM are better aware of the concept of OCoPs than those are not.</i></p>

APPENDIX G: THEMATIC CODING FRAMEWORKS FOR CO1, CO2, AND CO3

Thematic coding framework for Co1

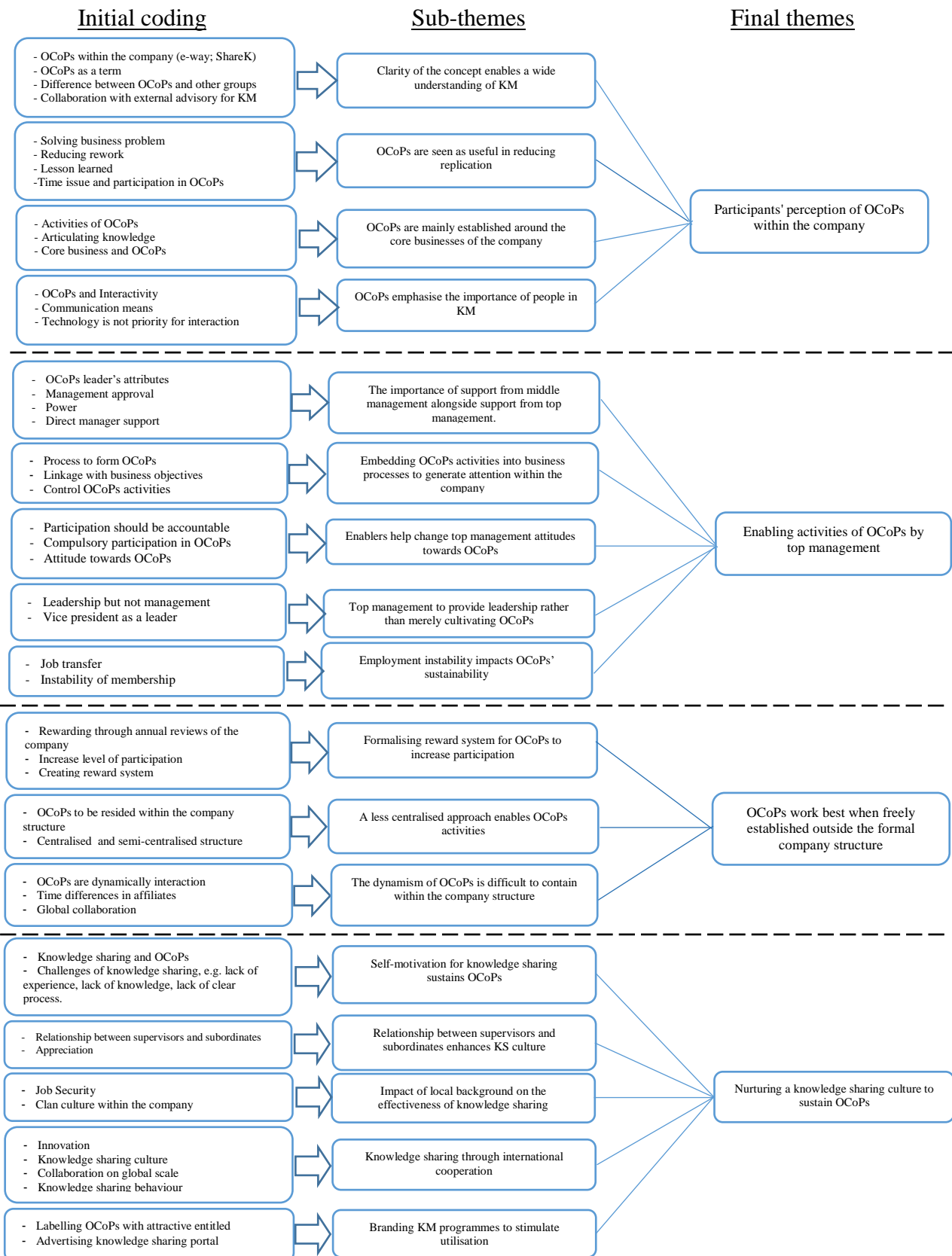


Figure 15: Thematic and initial code framework for Co1

Thematic coding framework for Co2

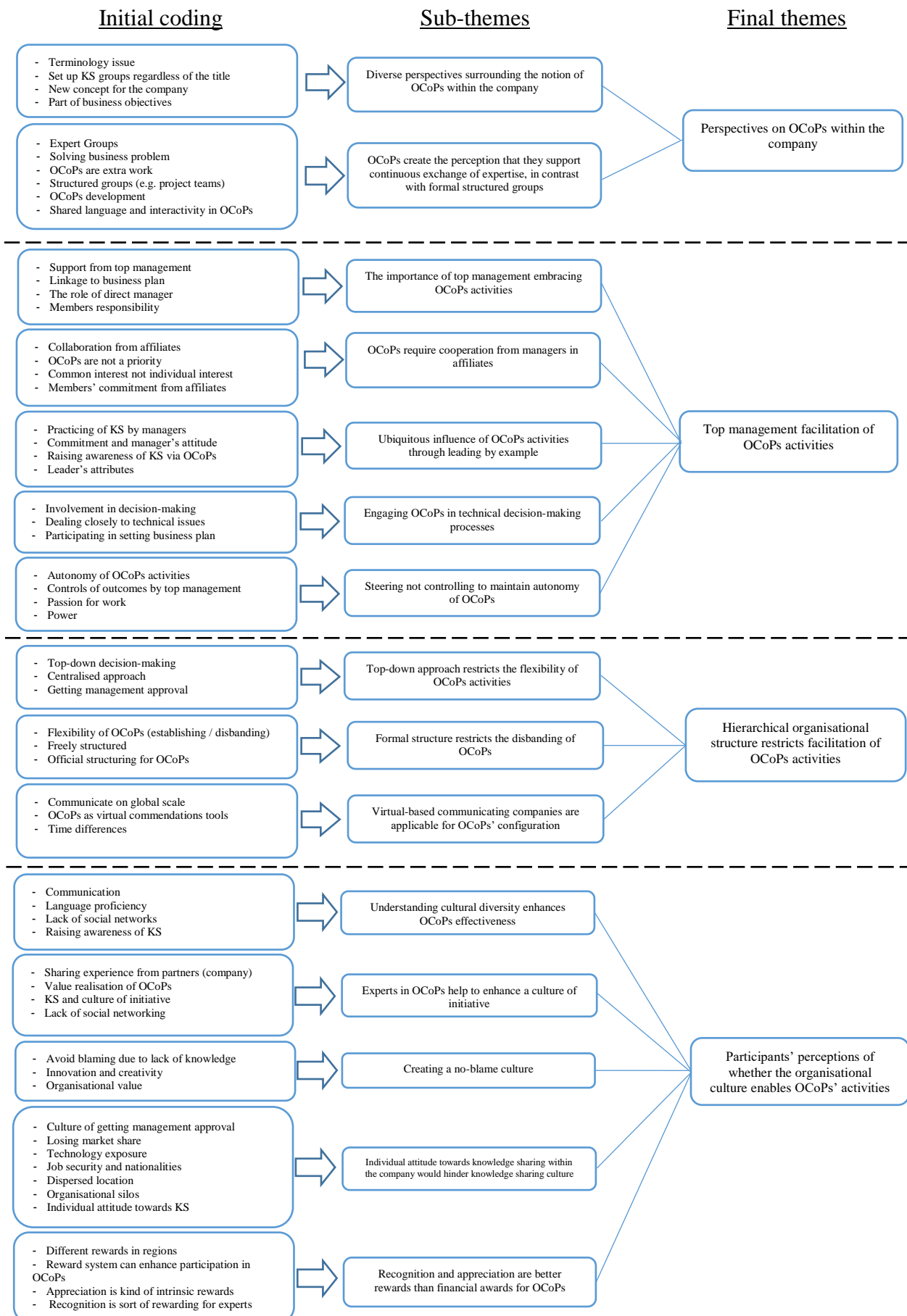


Figure 16: Thematic and initial code framework for Co2
268

Thematic coding framework for Co3

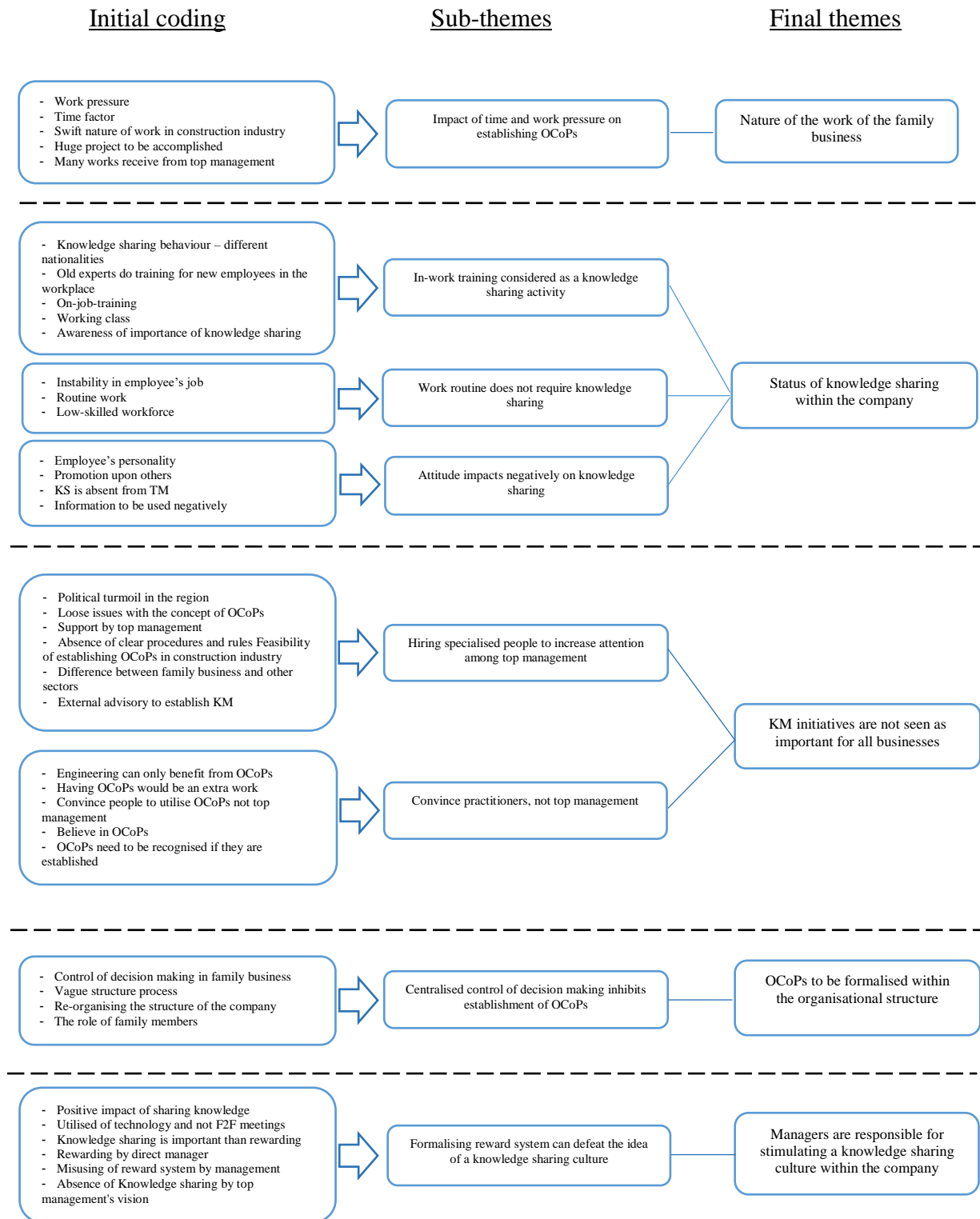


Figure 17: Thematic and initial code framework for Co3

APPENDIX H: PUBLICATIONS AND CONFERENCES PAPERS ADOPTED FROM THESIS

- Aljuwaiber, A. (2014). *Communities of Practice within Business Organisations: Opportunities and Challenges*. Paper presented at the BAM2014 Conference, University of Ulster, Ulster Business School.
- Aljuwaiber, A. (2015). *Exploring Communities of Practice within Large Business Organisations: Case Studies in Saudi Arabia*. Paper presented at the Proceedings of the Eighth Saudi Students Conference in the UK, Imperial College London.
- Aljuwaiber, A. (2015). *How Organisational Factors Impact Intentionally Established Communities of Practice: A Qualitative Case Study in a Saudi Arabian Global Business Company*. Paper presented at the 16th European Conference on Knowledge Management.
- Aljuwaiber, A. (2016). Communities of Practice as an Initiative for Knowledge Sharing in Business Organisations: A Literature Review. *Journal of Knowledge Management*, 20(4), 731-748.