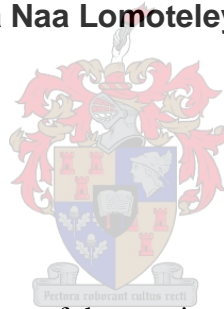


Knowledge Management Initiatives and Implementation: a qualitative meta-analysis of public and private organisations

by

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DECLARATION

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ABSTRACT

Knowledge management (KM) has become an important topic among many organisations in the last decade. While various factors inform an organisational decision to initiate KM, many organisations are equally confronted with a number of barriers during KM implementation.

This research aimed to analyse relevant literature of public and private organisations in relation to the factors that drive the development and adoption of KM initiatives and the barriers to KM implementation.

The thesis is made up of six chapters. Chapter 1 dealt with the background of the study, introduction to the problem, and the relevance of the study. In Chapter 2, case studies on the driving factors for knowledge management initiatives in public and private organisations were discussed. Similarly in Chapter 3, case studies on barriers to knowledge management implementation in public and private organisations were examined. Chapter 4 discussed the research methodology as well as description of literature searched. Chapter 5 examined the findings of chapter 4 and further discussion was made. Finally, in Chapter 6 the conclusion of the study was made based on the findings and discussion.

The research adopted the qualitative meta-analysis methodology which was considered robust enough to create an understanding into the many factors and barriers related to KM initiatives in public and private organisations. 40 case studies each for factors and barriers were retrieved from well-known academic databases and examined. The findings revealed that the topmost motivating factor for both public and private organisations to start KM was the need to improve processes. Similarly, ‘organisational culture’ and ‘poor and/or inadequate technology infrastructure’ were the two key barriers to KM in both public and private organisations. It can be concluded that the key factors for starting KM and the implementation barriers are similar for both public and private organisation.

OPSOMMING

In die afgelope dekade word Kennisbestuur as 'n belangrike onderwerp in organisasies beskou. Terwyl daar verskeie faktore is wat organisasies dryf om kennisbestuur inisiatiewe te implementeer, is daar ook heelparty obstrukties wat hierdie projekte kompliseer. Hierdie tesis analiseer relevante literatuur oor publieke en private organisasies met betrekking tot hierdie faktore en obstrukties.

Die tesis bestaan uit ses hoofstukke. Hoofstuk 1 verskaf agtergrond oor die navorsingsprobleem en bespreek die relevansie daarvan. In Hoofstuk 2 word die faktore wat kennisbestuur inisiatiewe dryf ondersoek deur middel van die hersiening van gevallestudies. Hoofstuk 3 behels 'n soortgelyke ondersoek na die obstrukties wat met hierdie inisiatiewe geassosieer word. Hoofstuk 4 bespreek die navorsingsmetodologie en verduidelik die uitvoer daarvan waarna die bevindinge in Hoofstuk 5 uiteengesit word. In Hoofstuk 6 word gevolgtrekkings gemaak en bespreek.

Die studie behels 'n kwalitatiewe meta-analise van die dryffaktore en obstrukties wat met kennisbestuurprojekte gepaard gaan. 40 Gevallestudies uit akademiese joernale word ontleed vir beide faktore en obstrukties. Bevindinge toon dat die belangrikste faktor wat kennisbestuur in beide publieke en private organisasies dryf die behoefte is om prosesse te verbeter. Publieke en private organisasies deel ook dieselfde sleutel obstrukties, naamlik “organisatoriese kultuur” en onvoldoende “tegnologiese infrastruktuur”. Dit blyk dus dat daar nie daadwerklike verskille tussen publieke en private organisasies bestaan wat kennisbestuur inisiatiewe betref nie.

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LIST OF ABBREVIATIONS

AGD	-	Accountant-General's Department
BHEL	-	Bharat Heavy Electricals Limited
BU	-	Bangkok University
CoP	-	Community of Practice
CSA	-	UK Child Support Agency
DH	-	Department of Health
DPF	-	Dubai Police Force
EBRD	-	European Bank for Reconstruction and Development
EMC	-	Emmanuel Medical Centre
GTCOM	-	Global Telecom
HIS	-	North Mersey Health Informatics Service
HRO	-	Hellenic Railways Organization
ICT	-	Information and Communication Technology
ICU	-	Implementation Coordination Unit
IT	-	Information Technology
JAIST	-	Japan Advanced Institute of Science and Technology
KCRM	-	Knowledge-enabled customer relationship management
KM	-	Knowledge Management
LL	-	Lessons Learned
NHS	-	National Health Service
NLB	-	National Library Board
NPM	-	New Public Management

OECD	-	Organisation for Economic Co-operation and Development
PWD	-	Public Works Department
PSU	-	Public Sector Undertakings
RTA	-	Roads and Transportation Authority
SSA	-	Social Security Administration
STDO	-	Science and Technology Development Organization
Surrey SSD	-	Social Services Department of Surrey County Council
TCS	-	Tata Consultancy Services Limited
TID	-	Trade and Industry Department
VIA	-	VIA Technologies, Inc.

Chapter 1

Introduction

1.1 Background

Knowledge is no doubt an important asset to any organisation's existence. Davenport and Prusak¹ define knowledge as “a fluid mix of framed experience, values, contextual information and expert insight that provides a framework for evaluating and incorporating new experiences and information”. In their opinion, knowledge is created and applied in the minds of knowers while in organisations it is often embedded in documents or repositories as well as in organisational routines, processes, practices and norms. Similarly, Nonaka and Takeuchi² define knowledge as “justified true belief”. Although various knowledge typologies have been proposed (as shown in Table 1.1), Nonaka³ and Polanyi's⁴ differentiation between tacit and explicit knowledge has proved to be particularly valuable for researchers and organisations. Explicit knowledge is termed as knowledge that has been captured and expressed into words and numbers. These are easily shared formally and systematically in many forms including handbooks, formulas, procedures, manuals and models, data, specifications and drawings. On the other hand, tacit knowledge is highly personal and has an important cognitive dimension which cannot be easily articulated and shared. It consists of mental models, beliefs and perspectives⁵. This knowledge is difficult to express and formalise, and therefore difficult to share⁶.

When knowledge is identified and managed effectively, it contributes extensively to the growth of the organisation. According to Wiig⁷, knowledge has been wholly managed as far

¹ Davenport and Prusak (1998:5)

² Nonaka and Takeuchi (1995:21)

³ Nonaka (1994:14-37)

⁴ Polanyi (1966:4)

⁵ Nonaka (1991: 98)

⁶ Becerra-Fernandez, Gonzalez and Sabherwal (2004:20)

⁷ Wiig (1997:2)

back as the time of the first hunters and only recently has knowledge management (KM) become known as an overt way of managing organisations. On the contrary, Cong and Pandya⁸ argue that the knowledge management concept has been practiced for a long time but its approach has been predominately informal. In addition, the lack of a consensus in the definition of KM has therefore resulted in major confusion reflected in various studies in the field.

Table 1.1- Types of knowledge

Author	Year	Know-how	← Continuum →			Know-that
Kogut & Zander	1992	Know-how				Information
Nonaka	1994	Tacit				Explicit
Blackler	1995	Embodied	Embrained	Encultured	Embedded	Encoded
Spender	1996	Individual/Social Explicit		Social knowledge		Individual/Social Explicit
Brown & Duguid	1998	Know-how				Know-that
Davenport & Prusak	1998	Experience	Insight	Values	Data	Information
Cook & Brown	1999	Knowing (tacit)		Discourse		Knowledge (explicit)
Pfeffer	1999	Knowing-Doing				Knowledge
Hassard & Kelemen	2002	Processual- knowing the world		Cultural practices		Being-in-the- World
Newell	2002	Processual perspective				Structural perspective
Orlikowski	2002	Knowing				Knowledge

Source: Jashapara (2004)

Yao, Kam and Chan⁹, follow the work of Eppler¹⁰ and define knowledge management as “a systematic approach (involving information technology, human resources, strategy, and organizational behaviour) that views implicit and explicit knowledge as a key strategic resource and aims at improving the handling of knowledge at the individual, team, organization and inter-organizational level in order to improve innovation, quality, cost-effectiveness and time-to-market”. Other definitions of knowledge management in literature include: “the process of continually managing knowledge of all kinds to meet existing and emerging needs, to identify and exploit existing and acquired knowledge assets and to

⁸ Cong and Pandya (2003:26)

⁹ Yao, Kam and Chan (2007:53)

¹⁰ Martin Eppler, MCM Institute. University of St Gallen, Switzerland, 1999

develop new opportunities”¹¹; “performing the activities involved in discovering, capturing, sharing, and applying knowledge so as to enhance, in a cost-effective fashion, the impact of knowledge on the unit’s goal achievement”¹²; “the process by which the organization generates wealth from its intellectual or knowledge-based assets”¹³ and “an ability of an organization to use its collective knowledge through a process of knowledge generation, sharing and exploitation enabled by technology to achieve its objectives”¹⁴. Furthermore, Hicks, Dattero, and Galup¹⁵ refer to the Gartner Group’s definition of knowledge management as “a discipline that promotes an integrated approach to identifying, capturing, evaluating, retrieving and sharing all of an enterprise’s information assets. These assets may include databases, documents, policies and procedures and previously un-captured expertise and experience in individual workers.”

Knowledge management activities seen in literature include among others acquisition, indexing, filtering, sharing and creating as shown in Table 1.2. KM also involves knowledge transfer and retention. Major and Cordey-Hayes¹⁶ define knowledge transfer as “the conveyance of knowledge from one place, person, ownership etc to another and must involve more than one party”. One party is the source (the original holder of the knowledge) while the other is the destination (where the knowledge is transferred to). Knowledge retention projects are described in literature to consist of three levels namely: decision making, planning and practical implementation of the plan¹⁷.

Table 1.2- Knowledge management activities

Author	Knowledge management activities
Alavi (1997)	Acquisition (knowledge creation and content development) Indexing Filtering Linking involves screening, classification, cataloging, integrating, and interconnecting internal and external sources) Distributing (packaging and delivery of knowledge in form of Web pages) Application (using knowledge)

¹¹ Quintas, Lefrere and Jones (1997:387)

¹² Becerra-Fernandez, Gonzalez and Sabherwal (2004:31)

¹³ Bukowitz and Williams (1999:2)

¹⁴ Cong and Pandya (2003:27)

¹⁵ Hicks, Dattero and Galup (2006:19)

¹⁶ Major and Cordey-Hayes (2000:412-413)

¹⁷ Levy (2011:584-586)

Arthur and APOC (1996)	Share Create Identify Collect Adapt Organize Apply
Choo (1996)	Sensemaking (includes “information interpretation”) Knowledge creation (includes “information transformation”) Decision making (includes “information processing”)
Holsapple and Whinston (1987)	Procure Organize Store Maintain Analyze Create Present Distribute Apply
Leonard-Barton (1995)	Shared and creative problem solving Importing and absorbing technological knowledge from the outside of the firm Experimenting prototyping Implementing and integrating new methodologies and tools
Nonaka (1991)	Socialize (convert tacit knowledge to tacit knowledge) Internalize (convert explicit knowledge to tacit knowledge) Combine (convert explicit knowledge to explicit knowledge) Externalize (convert tacit knowledge to explicit knowledge)
Szulanski (1996)	Initiation (recognize knowledge need and satisfy that need) Implementation (knowledge transfer takes place) Ramp-up (use the transferred knowledge) Integration (internalize the knowledge)
Van der Spek and Spijkervet (1997)	In the act process Develop Distribute Combine Hold
Wiig (1998)	Creation Manifestation Use Transfer

Source: Holsapple and Joshi (2002)

Beers, Davenport and De Long¹⁸ suggest four main objectives for KM projects as: create knowledge repositories, improve knowledge access, enhance the knowledge environment and manage knowledge as an asset. The goal of creating knowledge repositories is to store knowledge including ones embedded in memos, reports, articles and presentations so it can be easily retrieved. When access is provided to the stored knowledge and its transfer is facilitated among individuals, knowledge access is improved. In addition, enhancing knowledge environment involves the creation of an environment which is more conducive to knowledge creation, transfer and use. Also, knowledge can be considered as an asset when managed like any asset on the organisational balance sheet. Similarly, Wiig¹⁹ recognises the objective of KM as “making the enterprise act as intelligently as possible to secure its viability and overall success and realize the best value of its knowledge assets”. Havens and Knapp²⁰ are of the opinion that knowledge management promotes innovation, team work and effective decision making in organisations. However, Du Plessis²¹ argues that, in an attempt to scrutinise the reasons behind organisations wanting to manage knowledge, it would be inadequate to evaluate only the objectives since that will not provide an in-depth understanding of what drives knowledge management. It is necessary to examine those drivers that necessitate knowledge management to be set as an organisational objective. Drivers (as shown in Figure 1.1) are defined as “catalysts for the implementation of knowledge management, i.e. those market catalysts that make knowledge management imperative for organisations to maintain or improve their competitive market position”.

Organisations implement KM programmes for different reasons. A number of researchers claim that KM “provides competitive advantage, as it allows organisation to solve problems and seize opportunities; increases responsiveness and innovation; saves costs; supports decision making; facilitates collaboration; increases employees’ productivity; and reduces the negative impact associated with knowledge attrition, i.e. knowledge loss when employees leave the job”²². According to Lank²³, benefits of KM allow employees to save time when searching for information and expertise thereby making highly paid professionals concentrate on their areas of expertise. In addition, effective knowledge management processes make it

¹⁸ Beers, Davenport and De Long (1998:43)

¹⁹ Wiig (1997:1)

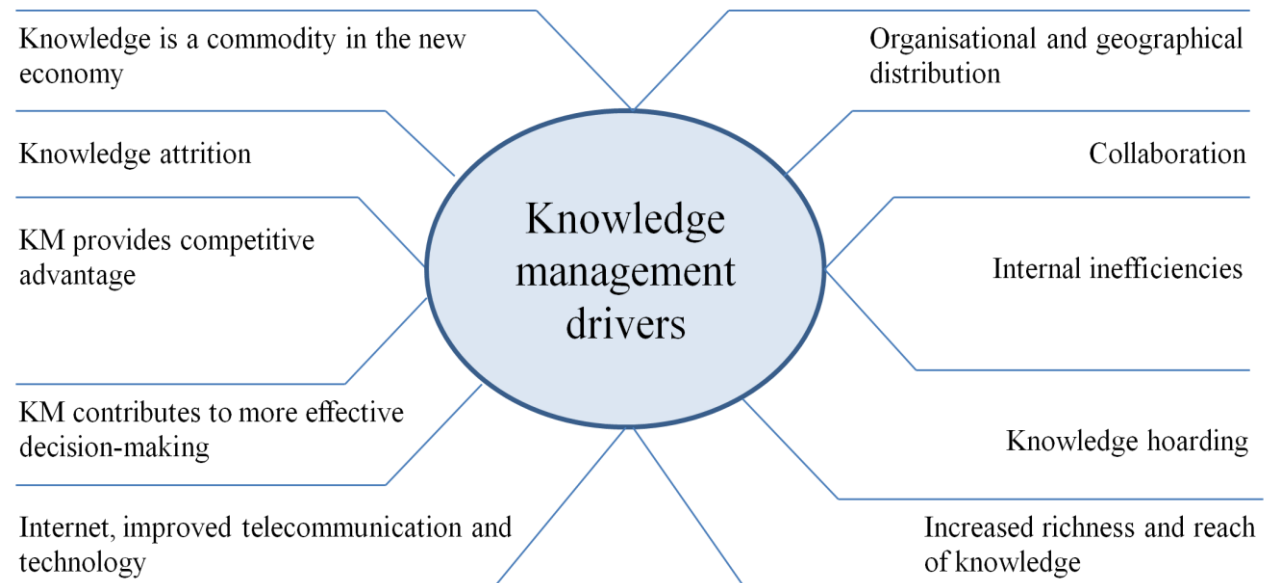
²⁰ Havens and Knapp (1999:5)

²¹ Du Plessis (2005:196)

²² BenMoussa (2009:906)

²³ Lank (1997:412)

possible for employees to expand resources immediately available to them to make more intelligent decisions thus leading to improved performance and employability. With



Source: Du Plessis (2005)

Figure 1.1- Knowledge management drivers

inadequate resources, KM processes also make it easier for employees to do more work with less stress. Similarly, Grayson and O'Dell²⁴ note that knowledge management enables organisations to become more competitive as new knowledge is applied to reduce costs, increase speed and meet customer needs. While the benefits of successful KM initiatives are well documented, Lucier and Torsilieri²⁵ are of the opinion that 84% of KM programmes fail to exert any real significant impact on the adopting organisations. In addition, they note that “a disturbingly high proportion of programmes initiated with great fanfare are cut back within two or three years”. According to BenMoussa²⁶, a number of inter-related barriers affect the value of KM initiatives and these include organisational areas of planning, technology, and motivating people to participate in KM activities. Another barrier which is more personal relates to users’ resistance to KM, inadequate time to invest in KM and lack of incentives to knowledge sharing²⁷. Wiig²⁸ notes that although many isolated and divergent notions are being advanced, no general approach for managing knowledge has been widely accepted. Some approaches focus on the management of explicit knowledge using technical systems,

²⁴ Grayson and O'Dell (1998:23-28)

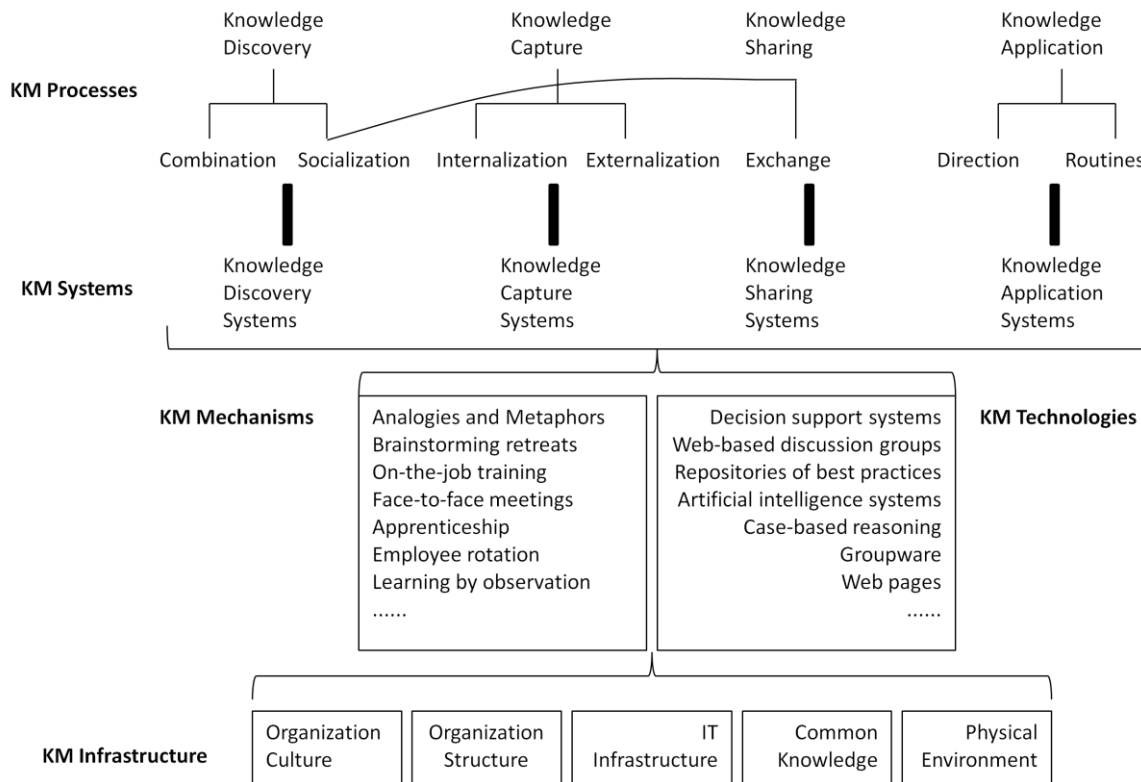
²⁵ Lucier and Torsilieri (1997:15)

²⁶ BenMoussa (2009:907)

²⁷ BenMoussa (2009:907)

²⁸ Wiig (1997:1)

while others tend to focus on the management of intellectual capital as it exists in people and organisational structure. A further approach deals with all the relevant knowledge-related aspects that affect an organisation's viability and success. Authors have used a variety of terms to indicate what knowledge management involves. Miller²⁹ expresses the opinion that knowledge management is usually concerned with capturing an organisation's know-how and know-what through creation, collection, storage, distribution, and application. This implies identifying and harnessing the collective knowledge of the organisation gained through experience and competencies. Becerra-Fernandez, Gonzalez and Sabherwal³⁰ categorise knowledge management processes as knowledge discovery, capturing, sharing and application. Their KM solution model which can be found in Figure 1.2 explains how KM systems, KM mechanisms and technologies and KM infrastructure support the KM processes³¹.



Source: Becerra-Fernandez, Gonzalez and Sabherwal (2004)

Figure 1.2- Knowledge management solution model

Knowledge construction, knowledge embodiment, knowledge dissemination and knowledge use/benefit have also been used in literature to suggest what knowledge management

²⁹ Miller (1999:43)

³⁰ Becerra-Fernandez, Gonzalez and Sabherwal (2004:32-35)

³¹ Becerra-Fernandez, Gonzalez and Sabherwal (2004:47)

involves³². As an important aspect of knowledge management, Nonaka³³ suggests that when organisations recognise knowledge creation as a process involving the conversion of tacit knowledge to explicit, it influences organisational design and defines managerial roles and responsibilities.

The design and structure of public and private organisations are known to vary. Rainey, Backoff and Levine³⁴ summarise a number of issues namely: environment factors; organisation-environment transactions; and internal structures and processes which show differences between public and private organisations. Factors that are external and mostly cannot be controlled by organisations are termed environmental. For instance, public organisations, compared to private organisations, do not focus much on market exposure since the former receive budget allocations whereas in the private organisations, market performance is the main source of funding. This is worth noting since distribution of financial resource can affect KM initiatives in organisations. They further note that although not an issue in private organisations, public organisations are known for their hierarchical and bureaucratic administration as well as political interference in their operations and management. Furthermore, an organisation might have to consider how incentives are decided since material incentives, mostly money, are used in private organisations while non-financial incentives such as power, involvement in important events and job security are pronounced in the public organisations. In addition, a difference between public and private organisations is seen when the relationship between the two sectors and other entities in their environments and their effect on internal operations are considered. Understanding these differences as elaborated in Table 1.3 between public and private organisations would aid in understanding why these organisations commence KM and the barriers that are encountered.

Table 1.3- Summary of consensus expressed as propositions concerning characteristics of a public organisation, relative to those of a private organisation.

Topic	Proposition
I. Environmental Factors	
I.1 Degree of market exposure (Reliance on appropriations)	a. Less market exposure results in less incentive to cost reduction, operating efficiency, effective performance. <hr style="width: 50%; margin-left: 0;"/> b. Less market exposure results in lower allocation efficiency (reflection of consumer

³² McAdam and Reid (2000:317-318)

³³ Nonaka (1991:101)

³⁴ Rainey, Backoff and Levine (1976:235-242)

		<p>preferences, proportioning supply to demand, etc.)</p> <p>c. Less market exposure means lower availability of market indicators and information (prices, profits, etc.)</p>
I.2	Legal, formal constraints (courts, legislature, hierarchy)	<p>a. More constraints on procedures, spheres of operation (less autonomy of managers in making such choices)</p> <p>b. Greater tendency to proliferation of formal specifications and controls.</p> <p>c. More external sources of formal influence and greater fragmentation of those sources.</p>
I.3	Political influences	<p>a. Greater diversity and intensity of external informal influences on decisions (bargaining, public opinion, interest group reactions)</p> <p>b. Greater need for support of “constituencies” – client groups, sympathetic formal authorities, etc.</p>
II. Organisation-Environment Transactions		
II.1	Coerciveness (“coercive,” “monopolistic,” unavoidable nature of many government activities)	a. More likely that participation in consumption and financing of services will be unavoidable or mandatory. (Government has unique sanctions and coercive powers.)
II.2	Breadth of impact	a. Broader impact, greater symbolic significance of actions of public administrators. (“Wider scope of concern, such as public interest.”)
II.3	Public scrutiny	a. Greater public scrutiny of public officials and their actions.
II.4	Unique public expectations	a. Greater public expectations that public officials act with more fairness, responsiveness, accountability and honesty.
III. Internal Structures and Processes		
III.1	Complexity of objectives, evaluation and decision criteria	<p>a. Greater multiplicity and diversity of objectives and criteria.</p> <p>b. Greater vagueness and intangibility of objectives and criteria.</p> <p>c. Greater tendency of goals to be conflicting (more “tradeoffs”).</p>
III.2	Authority relations and the role of the administrator	<p>a. Less decision-making autonomy and flexibility on the part of public administrators.</p> <p>b. Weaker, more fragmented authority over subordinates and lower levels. (1. Subordinates can bypass, appeal to alternative authorities. 2. Merit system constraints.)</p>

		c. Greater reluctance to delegate, more levels of review, and greater use of formal regulations. (Due to difficulties in supervision and delegation, resulting from III. 1.b.)
		d. More political, expository role for top managers.
III.3	Organisational performance	a. Greater cautiousness, rigidity. Less innovativeness.
		b. More frequent turnover of top leaders due to elections and political appointments results in greater disruption of implementation of plans.
III.4	Incentives and incentive structures	a. Greater difficulty in devising incentives for effective and efficient performance.
		b. Lower valuation of pecuniary incentives by employees.
III.5	Personal characteristics of employees	a. Variations in personality traits and needs, such as higher dominance and flexibility, higher need for achievement on part of government managers.
		b. Lower work satisfaction and lower organisational commitment.
(III. 5.a. and III. 5.b. represent results of individual empirical studies, rather than points of agreement among authors.)		

Source: Rainey, Backoff and Levine (1976)

Advocates of the New Public Management (NPM) approach are of the opinion that public organisations should transfer managerial processes and behaviour from the private organisations³⁵. Specifically, managers in the public sector should introduce into their organisations apparently successful techniques of the private sector such as management by objectives and total quality management³⁶. However, literature related to public policy and administration express the view that public and private organisations are so different that NPM recommendations are out of place.³⁷ Furthermore, existing differences in organisational environments, goals, structures and managerial values can hinder the successful transfer of management techniques from the public sector to the private sector since these have different management approaches in both sectors³⁸.

³⁵ Boyne (2002:97)

³⁶ Boyne (2002:97)

³⁷ Boyne (2002:118)

³⁸ Boyne (2002:118)

Although, it is believed knowledge management is a prerequisite for improving productivity in both public and private organisations³⁹, not much research has been done to compare knowledge management practices in public and private organisations. Chawla and Joshi⁴⁰ analyse KM initiatives in public and private organisations but their study focuses on organisations only in India. Using the Knowledge Management Assessment Tool, they suggest that the public sector lags behind the private sector when compared on the basis of the five dimensions of process, leadership, culture, technology and measurement. In an attempt to investigate the perceptions of KM in public and private organisations, McAdam and Reid⁴¹ observe that the public sector perform better than the private sector when compared in terms of knowledge construction, knowledge embodiment, knowledge dissemination and knowledge use/benefit. However, their study provides no direct answers to the factors these organisations considered and the barriers they might have faced when they started KM initiatives.

To understand KM initiatives, including what accounts for its relatively high failure rate, it is imperative for organisations to be aware of the reasons for starting KM initiatives and what potential barriers they might encounter. Furthermore, it is important to analyse such studies to unravel their inherent complexities and to highlight the key qualitative findings and lessons for the purposes of informing organisations contemplating the start of similar KM projects and to generate a significant body of knowledge to aid KM practitioners.

1.2 Definition of Concepts

Key words and phrases in this study are factor, barrier, knowledge, knowledge management, knowledge management initiatives and knowledge management implementation. The following definitions have been adopted for the purposes of this study:

- Knowledge refers to “the understanding, awareness, or familiarity acquired through study, investigation, observation, or experience over the course of time. It is an individual's interpretation of information based on personal experiences, skills, and competencies. To the organisation, knowledge is defined as what people know about customers, products, processes, mistakes, and successes. It resides in databases or

³⁹ Mårtensson (2000:204)

⁴⁰ Chawla and Joshi (2010:823-825)

⁴¹ McAdam and Reid (2000:327)

through sharing of experiences and best practices, or through other sources both internal and external to the organisation”⁴².

- Knowledge management is defined as “an ability of an organisation to use its collective knowledge through a process of knowledge generation, sharing and exploitation enabled by technology to achieve its objectives”⁴³. Knowledge management is a “systematic approach (involving information technology, human resources, strategy, and organizational behaviour) that views implicit and explicit knowledge as a key strategic resource and aims at improving the handling of knowledge at the individual, team, organisation and inter-organisational level in order to improve innovation, quality, cost-effectiveness and time-to-market”⁴⁴.
- Knowledge management initiatives refer to “any deliberate interventions intended to enhance the distinctive capability of the organisation through a systematic approach of explicating, sharing and leveraging knowledge”⁴⁵.
- A factor has been used to imply any issue considered before an organisation decides to embark on a knowledge management programme or project.
- A barrier refers to any setback or difficulty that affects the successful implementation of KM.
- The implementation phases of KM cover the pilot and full implementation involving the plan, design and installation of any knowledge management program. Program and project are used interchangeably in this study.

1.3 Introduction to the Problem

Knowledge has been recognised as an important resource that significantly contributes to the success of any organisation. Hence, effective KM has received an increasing level of attention from researchers, academics and managers alike. Some organisations have taken the bold step of implementing KM strategies and practices in their working environments. Depending on the motivation for these implementations, organisations have focussed on all or part of the components of KM to meet their specific organisational needs and objectives. Motivated by the heightened awareness of the benefits of KM as achieved by some

⁴² Bollinger and Smith (2001:9)

⁴³ Cong and Pandya (2003:27)

⁴⁴ Yao, Kam and Chan (2007:53)

⁴⁵ Chua and Goh (2008b:260)

organisations and as outlined in literature, organisations sometimes get disappointed when the expected results are not achieved after starting their own KM initiative. This may result in some organisations entirely abandoning KM along with its benefits. However, the success or otherwise of KM initiatives could, to a large extent, depend on the nature of the organisations themselves. Because different elements make up an organisation, some KM models might not apply to organisations in general. More specifically, models used in public organisations might or might not be applicable to private ones due to the differences that exist between the two sectors. A key challenge is for organisations to find clarity in the current body of knowledge in relation to the factors considered and barriers encountered when such organisations start KM initiatives. The current discussion within the KM community does not adequately answer the question as to whether or not the same set of factors used in initiating KM in public organisations are applicable in private ones. Furthermore, private organisations need to understand if they would encounter a similar set of barriers that confront public organisations (and vice versa) if they implement KM initiatives.

Within the large collection of literature on KM initiatives and implementation in organisations, there exists a notable lack of research that compares, firstly, the key factors which drive KM initiatives and, secondly, the barriers to their implementation in public and private organisations. This study addresses these issues by aiming to answer two research questions:

- How do the factors that drive the development and adoption of KM initiatives differ between public and private sector organisations?
- How do the barriers to KM implementation differ between public and private sector organisations?

1.4 Research Design

Among the methods used in research analysis, meta-analysis has recently emerged as a comprehensive method to aid in identifying common themes, recurring trends and underlying models for an enhanced understanding. Gene V. Glass is known to have coined the phrase “meta-analysis” and has been recognised as the founder of the method for meta-analysis⁴⁶. Meta-analysis “refers to methods focused on contrasting and combining results from different studies, in the hope of identifying patterns among study results, sources of disagreement among those results, or other interesting relationships that may come to light in the context of

⁴⁶ Glass (1976:6)

multiple studies”⁴⁷. Captured differently, meta-analysis involves the statistical analysis of results from individual studies leading to the integration of the findings⁴⁸. According to Hunter, Schmidt and Jackson⁴⁹, meta-analysis is a technique used to integrate results from a variety of studies related to the same topic or outcome measure. Similarly, as Clamp, Gough and Land⁵⁰ note, meta-analysis is defined by Woods and Catanzaro⁵¹ as the third level of data analysis which involves the summary and integration of findings from various studies. According to Hedges and Olkin⁵², meta-analysis can be defined as “the rubric used to describe quantitative methods for combining evidence across studies”. It is generally conducted quantitatively where effect sizes of different research studies are compared. However, it can also be conducted as qualitative but the difference between qualitative and quantitative methods lies in the former being interpretative rather than aggregative⁵³. On the other hand, qualitative meta-analysis is similar to quantitative meta-analysis as both aims at a systematic, comprehensive and transparent knowledge in a field of study⁵⁴. Also, statistical evaluation of some research studies is not possible and therefore requires another approach which focuses on the integration of research findings through a qualitative method⁵⁵.

Timulak⁵⁶ recognises that even though qualitative and quantitative meta-analysis share a common reasoning and objective which assesses a field of study beyond one particular study, the former focuses on only qualitative or partially qualitative studies. In literature, many terms including qualitative meta-synthesis, qualitative meta-data-analysis and meta-ethnography have been used to refer to qualitative meta-analysis^{57, 58}. ‘Qualitative meta-analysis’ would however be used throughout this study. In qualitative meta-analysis, findings from completed qualitative studies in a target area are formally combined. This involves both analytic process and an interpretative product. Finfgeld⁵⁹ regards qualitative meta-analysis as “a new and integrative interpretation of findings that is more substantive than those resulting

⁴⁷ Greenland and O’Rourke (2008:652)

⁴⁸ Cooper (2004:636)

⁴⁹ Hunter, Schmidt and Jackson (1982:26)

⁵⁰ Clamp, Gough and Land (2004:255)

⁵¹ Woods and Catanzaro (1988)

⁵² Hedges and Olkin (1985:13)

⁵³ Park and Gretzel (2007:48)

⁵⁴ Sandelowski (2004:893)

⁵⁵ Park and Gretzel (2007:48)

⁵⁶ Timulak (2009:591)

⁵⁷ Sandelowski (2004:893)

⁵⁸ Timulak (2007:306)

⁵⁹ Finfgeld (2003:894)

from individual investigations”. Schreiber, Crooks and Stern⁶⁰ also summarise the purpose of qualitative meta-analysis as a technique that contributes to the body of knowledge via theory building, theory explication and theory development. Morse⁶¹ is of the view that qualitative meta-analysis involves the “examination of a collection of qualitative studies that have been published on a common area”. However, they observe that a problem that is likely to be encountered during a qualitative meta-analysis is the situation where studies under consideration have been done with different methodologies thereby making it inappropriate to ‘fit’ all together.

According to Timulak⁶², Smith, Glass and Miller suggest that, the purpose of quantitative meta-analysis is to assess “parameters of studied population beyond the assessment based on one specific study (e.g., by assessing average effect sizes across all available studies investigating the same effect)”. The process involved in achieving the goals of quantitative meta-analysis are the search and inclusion of all relevant studies, the conversion of results of primary studies obtained into effect size and the correlation of primary studies characteristics with effect size⁶³. On the contrary, Timulak⁶⁴ suggests that qualitative analysis does not involve assessing parameters of studied phenomenon therefore, it would be inappropriate for a qualitative meta-analysis to focus on obtaining accurate estimates of effect sizes. Alternatively, he proposes qualitative analysis is a technique which “can be used to obtain a detailed description of a phenomenon and to identify central features or core categories of the studied phenomenon” therefore the focus of qualitative meta-analysis should be to “obtain a more comprehensive representation of investigated phenomena”. Similarly, Sandelowski, Docherty and Emden⁶⁵ follow the work of Wolf⁶⁶ and note that a focus on qualitative meta-analysis would lead to the widening and deepening of interpretive possibilities of findings and the ability to create larger narratives or general theories rather than averaging or reducing findings to an effect size. Furthermore, Timulak⁶⁷, suggests that findings of primary qualitative studies, categories, abstracted descriptions and vivid narrative paradigmatic examples can be considered as data during a meta-analysis to acquire a more detailed

⁶⁰ Schreiber, Crooks and Stern (1997:317)

⁶¹ Morse (2001:213)

⁶² Timulak (2007:305)

⁶³ Timulak (2007:305)

⁶⁴ Timulak (2007:305)

⁶⁵ Sandelowski, Docherty and Emden (1997:369)

⁶⁶ Wolf (1986:33.)

⁶⁷ Timulak (2007:306)

description of a phenomenon and identify any contradictory accounts that may exist for further qualitative analysis.

In this study, an in-depth analysis of factors for and barriers to implementing KM initiatives in public and private organisations is conducted using a qualitative meta-analysis. This approach was chosen because the author is of the view that the use of findings of the primary studies as data would lead to answering the research questions of this study. Additionally, this approach is envisaged to broaden the interpretive possibilities of factors to knowledge management initiatives and barriers to its implementation.

The selection of case studies commenced with a search in well known databases and further search was also conducted where references cited in studies obtained proved relevant. More attention was given to the findings of the cases. Therefore, findings of primary qualitative studies were used as data in the analysis. Also, during the evaluation of the cases, information covering author(s), year, sector, description of study and country were noted. A combination of key words including knowledge management, initiatives, implementation, case study, public, private, factor(s) and barrier(s) were used in the search. Additionally, some key words were substituted with synonyms for further searches.

Specifically, the search focussed on literature related to factors considered before organisations embark on KM initiatives and barriers to KM implementation in databases and where necessary on the internet. Organisations were categorised as public and private and further into their respective sectors. In addition, various factors and barriers were extracted and sorted from relevant case studies chosen. Factors and barriers with similar meanings were grouped under the same category. Charts and tables were used to show the similarities and differences between factors and barriers in relation to both public and private organisations. A number of key factors and barriers were identified and ranked for further elaboration.

1.5 Relevance of the Study

Research related to KM in public and private organisations have focussed on various dimensions of KM as seen in the two types of organisations. However, there still remains a research gap to highlight KM initiatives and implementation of public and private organisations using a qualitative meta-analysis.

The study would highlight the factors that are considered within public and private organisations prior to starting KM initiatives. This would enhance and broaden the

understanding of the motivating factors for KM initiation. Also, it could provide a template for future initiatives of KM in both private and public sector organisations.

Furthermore, the study would highlight the significant pitfalls that could potentially confront organisations, particularly new ones, in their attempt to start KM initiatives and also identify sector-specific factors, their peculiarities and challenges and show whether or not these factors are peculiar to private or public sector organisations, or are sector-blind. This knowledge would help guide the response or approaches that would be adopted by organisations, whether private or public, to help them succeed in their KM initiative drives.

The current global knowledge economy is mainly driven by public and private sector organisations and their amalgamated forms. The knowledge economy in turn hinges on effective knowledge management through targeted KM initiatives in these organisations. Therefore, the understanding generated from this study would contribute towards the body of knowledge that would help drive the global economy.

It is envisaged that this analysis of key factors and key barriers in both sectors would suggest further research in the field of knowledge management.

1.6 Layout of the Study

Chapter 2 explores the contributing factors to knowledge management initiatives reported in published case studies and other relevant literature. It addresses these factors in general as well as their relevance in public and private organisations. The same approach is followed in Chapter 3 which explores barriers to the implementation of KM initiatives.

Chapter 4 discusses the research methodology, how literature (case studies as described in chapters 2 and 3), also referred to as data, is gathered from well known journals in relevant databases. This chapter also focuses on the description of the data sample.

Chapter 5 focuses on findings and discussion. The chapter is divided into two main sections, the first addresses contributing factors while the second addresses findings related to barriers.

Conclusions are presented in Chapter 6 based on the findings and discussion. In addition, suggestions for further research are made.

Chapter 2

Factors that drive Knowledge Management Initiatives in Public and Private Organisations

2.1 General Overview

At their early onset, many knowledge management initiatives showed only limited success, raising questions about the long-term viability of KM as a concept⁶⁸. It was argued that KM was simply another fad that appeared great on paper, but failed in application. Due to such misgivings, it appeared as if KM was destined for the “management fad graveyard” but upon closer scrutiny, organisations realised that it was not the concept of knowledge management that was the problem, but rather the way they it had been approached and implemented⁶⁹.

Usually the drive to implement KM initiatives is based on the anticipated business benefits such as cost savings, productivity improvements, improved staff morale, customer satisfaction and competitive advantage that could inure to the benefit of the implementing organisation⁷⁰.

In a study conducted on KM initiatives in Malaysia, Rahman⁷¹ covers various companies listed on the Kuala Lumpur Stock Exchange, government Ministries and Departments, educational institutions, small and medium size industries, the electronic industries and government-owned agencies. From the study, organisations agreed (in order of priority) that information becoming inaccessible and/or obsolete; sub-optimal decision making; inaccessible expertise; internal communication breakdown; external communication

⁶⁸ Uriarte (2008:38)

⁶⁹ Uriarte (2008:38)

⁷⁰ Chua and Goh (2008b:260)

⁷¹ Rahman (2004:335)

breakdown; employee leaving the company; downsizing; breach of copyright and secret trademark; and delayed organisation growth would be factors that would influence KM initiatives.

Similarly, in a study done to determine the degree to which the Colombian private, public and academic sectors have adopted KM practices, Baquero and Schulte⁷² also focus on incentives for implementing KM practices for the first time or increase its use. In order of choice, people would implement these practices to avoid losing knowledge when key personnel leave the organisation; manage difficulty to capture employees' undocumented knowledge and the challenge to incorporate external knowledge; avoid losing market share; and deal with information overload within their organisations. Others were: solve operational problems; reduce the implementation timeframe of projects that have a significant impact in the organisation; become more effective in the implementation of corporate strategies; offer better products and services to encourage sustainable development in the country; facilitate the corporate decision-making process by making available key information and knowledge; and manage knowledge as it is essential for academic institutions.

In the following section a collection of case studies are reviewed to highlight the various factors that drive the development and adoption of knowledge management initiatives in public and private organisations.

2.2 Public Organisations

2.2.1 Financial and Socio-Economic Development Organisations

The *Accountant-General's Department (AGD)* in Malaysia handles the government's accounting functions and acts as a knowledge provider of accounting services constituting large volumes of financial transactions. With diversified and decentralized operations across the entire country, the AGD has a large pool of skilled professionals who perform various accounting functions and provide financial information and services to all agencies of the federal government. To continuously improve its performance and to ensure the effective flow of tacit and explicit knowledge, the AGD started a KM initiative. The initiative was envisaged to leverage on the experiences, ideas and expertise of its numerous professionals for effective service delivery⁷³.

⁷² Baquero and Schulte (2007:378-379)

⁷³ Choy Chong et al. (2011:498-499)

Similarly, an *Asia Pacific government treasury organisation* with responsibilities in providing high quality policy advice to the government's cabinet on economic issues, was faced with internal challenges that influenced its decision to start a KM initiative. Although, the organisation was meeting the required standards in the delivery of policy advisory services, its performance was somewhat constrained by the inability to quickly respond to some demands as information was not readily accessible. In spite of its highly qualified staff who produced specific research outputs, critical organisational knowledge remained locked up in the heads of individuals and did not percolate out of the functional areas to become available as a resource to the broader organisation. The problem was exacerbated by a high turnover of valuable staff (25% per annum), thereby draining corporate memory and creating a productivity slump as new people took time to become effective in their roles. This need led the treasury to commission a 4-week project to develop value propositions supported by robust business cases to proceed with a KM strategy. The approach involved the development of a knowledge blueprint for the treasury's operations. Relying on advances in communications and technology, the project identified what knowledge was needed, by whom, where it was sourced and in what format it was delivered⁷⁴.

In Malaysia, the *Ministry of Entrepreneur Development* has a medium size number of employees when compared to other Ministries in the country. Although, the Ministry had no specific KM strategy, knowledge in the Ministry was embedded in its procedures and policies, job manual procedure, desk file, work flow and databases. The Ministry would initiate knowledge management into its operations in order to improve work quality, produce up-to-date information, improve efficiency and effectiveness, improve decision making, be able to respond to both customer and organisational needs, and to instigate changes⁷⁵.

In New Zealand, the *Reserve Bank (RBNZ)* is tasked with building national and international confidence in the stability and integrity of the country's currency and monetary system. The Bank's three main functions are operating monetary policy to maintain price stability, promoting the maintenance of a sound and efficient financial system, and meeting the currency needs of the public. In the early 1990s, many of the approximately 800 staff had been with the Bank for a considerable period of time. In one instance, a staff member had been with the Bank for over 40 years while in another, a governor of the Bank had left after 33 years of service. The length of service, combined with the specialist skill set required by

⁷⁴ Dilnutt (2002:79-80)

⁷⁵ Syed-Ikhsan and Rowland (2004:242-254)

Bank staff, resulted in a high percentage of knowledge workers. Consequently, there was a significant risk of potential loss of knowledge due to a staff member leaving. Concurrent to the increasing level of staff turnover and problems arising from structural silos, the Bank was going through an organisational “rightsizing” program. There was also a growing interest in knowledge management within the wider environment at a national level from the government and public sector as well as within commercial and academic circles. As a quasi-government department, the Reserve Bank was able to leverage public sector interest in knowledge management in support of its knowledge management journey. As a consequence of this exposure and the “rightsizing” program, the Bank recognised that it needed to take action to minimise the risk of knowledge loss⁷⁶. Therefore, the wider environmental need for knowledge management from the Bank’s public, private and academic institutions, coupled with the Bank’s own proactive stance to tackle the risk of knowledge loss appeared to have spurred on to initiate its KM project.

The *European Bank for Reconstruction and Development (EBRD)*, a publicly owned development bank, took the decision in 2000 to start a knowledge sharing initiative. The EBRD which had offices in 27 European and Asian countries, and with core activities in policy dialogue, technical assistance, business advisory support and environmental assessments, recognized the need to create a synergy between internal and external communication and to instigate a culture that promoted knowledge sharing. The ultimate goal of this initiative was to improve productivity within the bank⁷⁷.

KM initiatives have also permeated the social security sector and are started based on varied factors. The *Social Security Administration (SSA)* in the US which administers social insurance at the national level stood the risk of losing its critical knowledge resources due to its complex operations which involved interactions among several stakeholders inside and outside the SSA. Several challenges confronted the SSA, key among which was a fairly ageing senior staff who had not adequately mentored and transfer knowledge to new staff. Besides, many of the knowledgeable employees were leaving the organisation either through attrition, retirement, early buy-outs, better job offers, or for other reasons. This meant that upon their departure, the SSA would lose an important knowledge base reposted in its human resource. Additionally, SSA had not done a good job of documenting processes and capturing knowledge and people spent a good part of their time looking for information that has been

⁷⁶ Anand, Pauleen and Dexter (2005:212-228)

⁷⁷ Al-Yahya and Farah (2009:14-15)

misplaced. The SSA KM initiative was therefore started to reverse the situation⁷⁸. Seeing that almost a third of its civil servants would be eligible for retirement in the next 5 years, *GOV, a leading technical US government organisation*, formed a Human Capital Strategy Working Group, along with a Knowledge Management Working Group to address the challenges of capturing, sharing, and applying knowledge internally and externally, and to develop the human capital strategy for the organisation's workforce of the future. Success would ultimately be measured in terms of innovation, people retention, knowledge retention, productivity, and mission success. Also, an infrastructure would be created to infuse KM throughout the organisational, initiate a change management program, and expand the various KM pilots and activities into full-fledge KM implementation⁷⁹. As in the US, the *Social Services Department of Surrey County Council (Surrey SSD)* in the UK which serves the over one million residents with a wide range of statute-bound community, educational, environmental and social care services, started a KM initiative upon realizing that its very survival depended on the effective management of key organisational knowledge⁸⁰.

2.2.2 Universities and Educational Institutions

Universities and other educational institutions of higher learning are necessarily producers and custodians of knowledge products. Knowledge management initiatives are therefore very critical to such institutions. Many Universities, to survive have vested interest to start or deepen their knowledge management systems. For example, a *small provincial university* (name withheld) which had an excellent reputation for imparting knowledge to its undergraduate students was still far-off from enjoying a similar reputation for its research activities and graduate programs. The university possessed a wealth of knowledge accumulated from an extensive consulting work, pedagogical reports, patents, and experience of its existing faculty. However, there was a need to develop a mechanism for growing both tacit and explicit knowledge bases. The incentive for KM came from the university's quest to acquire, share and preserve knowledge and also to forestall the loss of knowledge as its senior faculty retired⁸¹. Also in *Malaysia, a government-funded institute* of higher education with seven academic departments and more than 500 teaching faculty, sought to raise a group of e-learning champions from its existing pool of faculty as part of its campus-wide drive towards e-learning. The idea of setting up a community of practice, which was formally approved and

⁷⁸ Rubenstein-Montano, Buchwalter and Liebowitz (2001:225-243)

⁷⁹ Liebowitz (2003:71-75)

⁸⁰ Skok and Kalmanovitch (2005:737-743)

⁸¹ Gill (2009:607-614)

launched, was to foster knowledge sharing and help spread e-learning instructional design practices among faculty across the departments⁸². A similar pursuit for excellence in knowledge and information provision moved Singapore's *National Library Board (NLB)*, formed in the 1960s, to deliver a world-class library system, convenient, accessible and useful to its people. To remain competitive, the NLB was restructured to serve as an institution to nurture a reading and literate society and to provide a book-loans facility freely to the people of Singapore⁸³.

2.2.3 Health-Providing Organisations

In the UK, the *Department of Health (DH)* identified the importance of harvesting knowledge in order to document and retain experiences and know-how. This is when the DH realized that knowledge and experiences captured during public inquiries got lost due to the lack of a mechanism to capture an investigation or inquiries. As a result, staff who might not have been involved in previous inquiries needed to 'start from scratch' in acquiring specific information. The DH therefore sought through its KM initiatives to capture the knowledge and expertise of those involved in inquiries in order to ensure greater consistency in approach and to reduce the complexity and stress associated with the DH's work⁸⁴. Also in *The Kingdom of Bahrain*, the *Ministry of Health*, employing about 9,000 people, needed urgent steps to overcome a potential information overload, due to the complexities of its operations. In 2001, the Ministry through the Health Information Directorate started several initiatives to enhance its KM practices. They recognized the importance of utilizing people experiences and knowledge toward the advancement of the Ministry⁸⁵.

2.2.4 Power and Electricity Organisations

Established over 40 years ago, *Bharat Heavy Electricals Limited (BHEL)*, is one of the largest public sector engineering companies in India which manufactures over 180 products related to power generation and transmission, transportation and telecommunication. BHEL had developed a robust and flexible document management system which provided role-based access to documents. A Project Engineering Management division of BHEL executed mega projects where the stakeholders included internal BHEL units and external groups like customers, consultants and vendors. Due to the considerable amount of documentation

⁸² Chua (2009:35)

⁸³ Teng and Hawamdeh (2002:190-197)

⁸⁴ O'Riordan (2005:43-45)

⁸⁵ Nawakda et al. (2008:536-551)

generated during the years of working on the project, BHEL had amassed a huge amount of intellectual property and knowledge. The knowledge, acquired by virtue of project experience and sustained interaction, was earlier stored partly on paper and partly in digital format, and was available within the teams for reference. However, the company was faced with challenges where the knowledge could be found stored in employees' desk drawers, and buried in the maze of computers, hard disks, and directories of the people who had written these documents. Further, multiple copies of the documents existed, thereby making it impossible to track the original copies or the latest versions. Mistakes were repeated as non-standardized procedures and systems were being adopted in different units. In addition, a lot of effort was wasted in searching for information or in reinventing the wheel. Employee experiences were rarely captured and success stories were not shared. BHEL realized that to effectively manage the knowledge within the division, it required a central repository for structured as well as unstructured data. This knowledge database would act as a handy reference to project teams with a control mechanism for access by authorized personnel only⁸⁶. A similar power company had to solve its peculiar challenges using a KM initiative. NTPC is a leading navratna⁸⁷ government organisation (PSU) and India's largest power company which was set-up in 1975 to accelerate power development in the country. It is among the world's largest and most efficient power generation companies. Faced with the need to manage its accumulated knowledge of more than 30 years, NTPC developed and deployed an enterprise-wide knowledge management portal "Lakshya" as a means of cataloguing, tracking, and accessing knowledge in the organisation. Today, "Lakshya" offers a one-stop shop knowledge sharing point, easily created environment and makes all of the knowledge available to the company, accessible from an integrated central source⁸⁸.

2.2.5 Judiciary and Law Enforcement Organisations

In Spain, like many other countries, especially *newly-recruited Judges*, hold a solid background of theoretical legal knowledge, but are much less familiar with the judicial knowledge of the more senior judges acquired from everyday practice and case resolution. A KM initiative was started to develop a software which could clear up doubts concerning judicial practice (as a senior judge would do) by providing justified and uniform answers to

⁸⁶ Chawla and Joshi (2010:816)

⁸⁷ "A title given originally to nine Public Sector Enterprises (PSEs) identified by the Government of India in 1997 as "public sector companies that have comparative advantages", giving them greater autonomy to compete in the global market so as to "support them in their drive to become global giants." (<http://www.en.wikipedia.org/wiki/Navratna>, accessed on 27/10/12)

⁸⁸ Goel, Sharma and Rastogi (2010:386-392)

questions raised by newly recruited judges, avoiding possible inconsistencies. In addition, it aimed at capturing and modelling both theoretical and practice knowledge for browsing and retrieval⁸⁹. The software therefore served as a knowledge bank containing the experiences of senior judges and made available to younger ones in order to promote efficiency and promote institutional growth. Just like Spain, the *Dubai Police Force (DPF)* started a KM initiative in 2003 that identified skilled and knowledgeable staff to share their expertise widely across the organisation. This led to the establishment of the Knowledge Management Department supported by a General Department of Human Resources. DPF is committed to the use of new techniques and technologies to improve its performance⁹⁰.

2.2.6 Rails and Transport Organisations

For more than 45 years, *Hellenic Railways Organisation (HRO)* has been a part of the Greek public sector and unfortunately, been plagued for decades by political interventions and patronage jobs. It has been subjected to a great number of unclear and unsuccessful changes, and nowadays, confronts significant organisational, administrative, operating and economic problems including losses of more than 10 billion euros in the last 30 years, 1 billion euro costs a year to keep afloat, lack of scientific training and work incentives, lack of planning, bureaucracy, and time-consuming decision-making processes. The organisation initiated its Communication and Knowledge Motivator, a hybrid knowledge management model, to promote effective knowledge transfer among employees, and to build an encouraging organisational climate for effective knowledge diffusion⁹¹. The introduction of this initiative could help address HRO's structural and economic challenges in the long term.

Aside the internal need to conserve knowledge and build a continuous institutional memory, external inducements can partly cause organisations to initiate KM projects. For example in 2005, the *Roads and Transportation Authority (RTA)* in the United Arab Emirates was established primarily to plan and provide an effective and integrated public transport system in Dubai. Partly induced by the knowledge management awards under the Dubai Government Excellence Program and also to prevent the loss of valuable knowledge (because a substantial percentage of work was outsourced to temporary consultants), RTA embarked on a KM

⁸⁹ Casanovas et al. (2005:7)

⁹⁰ Seba, Rowley and Delbridge (2012:117-123)

⁹¹ Tsirikas, Katsaros and Nicolaidis (2012:14-16)

initiative. By creating a successful knowledge management system, it is envisaged that such expertise could be retained in the organisational memory of RTA⁹².

2.2.7 Cross Sectoral Organisations

A study conducted by the National University of Singapore (NUS) in the public sector of 32 *developing countries*⁹³, uncovered a number of motivating factors for establishing KM programs. These include the need to share knowledge and expertise, provide access to knowledge and expertise, avoid information overload, avoid a reinventing of the wheel, and retain knowledge in-house. Other factors outlined were the need to improve organisational efficiency and productivity, minimize duplication of efforts among divisions and directorates of the same organisation, improve transparency and outward sharing of information as well as working relations, and engender trust within organisations⁹⁴.

2.3 Private Organisations

Faced with the need for survival, gaining a competitive advantage and building the requisite competences against constantly-changing organisational environments, most private sector companies are adopting new management tools, techniques and philosophies⁹⁵. Among these is the implementation of KM initiatives. In this section a collection of case studies exploring KM initiatives in private organisations are reviewed, with focus falling, again, on the factors driving KM.

2.3.1 ICT Companies

Global Telecom (GTCOM), a telecommunication company in a developing country, implemented a knowledge-enabled customer relationship management (KCRM), in response to an external environment which had been so competitive, turbulent, and challenging with respect to attracting and keeping customers and controlling costs. The delicate market position of GTCOM, following a liberalized telecommunications market, was aggravated by organisational dysfunction manifested by a strong hierarchical structure, indigenous culture, and a product-centered business. The fear was that unless GTCOM undertook a substantial change, its competitors would move ahead, leaving it behind. To face the challenge, GTCOM

⁹² Al-Yahya and Farah (2009:16-22)

⁹³ The countries are Barbados, Brunei, Bulgaria, Cambodia, Cyprus, Egypt, Fiji, Ghana, India, Iran, Jamaica, Jordan, Maldives, Mozambique, Nigeria, Pakistan, Philippines, Romania, Seychelles, Solomon Islands, South Africa, Sri Lanka, St Lucia, Tanzania, Thailand, Trinidad and Tobago, Turkey, Tuvalu, Uganda, Vietnam, Yemen and Zimbabwe

⁹⁴ Yuen (2007:1-12)

⁹⁵ Cong and Pandya (2003:25)

implemented a set of activities to become more customer-friendly and efficient – activities aimed at enticing consumers not to “jump ship” to new players in the market. KCRM became a knowledge-based, customer-centric strategy, helped to diffuse existing business problems and exploit future opportunities⁹⁶. Similarly, where staff leave organisations for ‘greener pastures’, affected companies strategise, using KM to address the situation. For example, *Tata Consultancy Services Limited (TCS)*, India’s largest IT company and Asia’s largest independent software and service organisation, initiated various forms of KM programs to manage issues related to attrition and culture. The KM platform aimed at leveraging existing tacit and explicit know-how in the organisation and to improve value to the customer. Today, KM has become the backbone of all business processes at TCS with the prime motive being optimising the use of assets in order to promote efficiency, value and quality⁹⁷. Another Indian information technology outsourcing company, *Wipro Technologies* formally started its KM initiatives in 2000 which enables it to build a competitive advantage as it experiences rapid growth in its growth market. Employees’ growth, complex projects and customers demanding short delivery periods were factors that contributed to the start of the KM initiative⁹⁸.

The *Xerox Corporation* is a \$17 billion corporation headquartered in Stamford, Connecticut. The company employs 79,000 workers to offer document solutions, services, and systems (including color and black-and-white printers, digital presses, multifunction devices, and digital copiers) designed for offices and production-printing environments. In addition, the company sells associated supplies, software, and support for all its products. Xerox faced problems that had arisen from an inability to share experience across the organisation. The community of Xerox employees who repair the company’s machines found that machines were not as predictable as documentation suggested, and that there was the need for its technicians to share their local knowledge around the world. Towards this end, Xerox created the Eureka database to capture best practices in order to share with other technicians in all areas⁹⁹.

Located in Taiwan and headquartered in Hsin-Tien, *VIA Technologies, Inc. (VIA)*, decided to provide an “anytime, document in hand” to meet customers’ demands, by initiating a knowledge management system. VIA needed a document management centre, headed by the

⁹⁶ Al-Shammari (2005:249-278)

⁹⁷ Sharma et al. (2007:30-46)

⁹⁸ Chatzkel (2004:6-18)

⁹⁹ White and Croasdell (2005:243-244)

service department, to provide the required documents to customers. Also, various appropriate ways of knowledge management were used to meet the different knowledge needs of the different departments including patent management and documentation¹⁰⁰.

The *European Space Operations Centre (ESOC)* in Darmstadt, Germany is one of the four establishments of the European Space Agency (ESA). A KM initiative was started to investigate how to harmonize individual KM practices and tools used at the project level for long duration missions, and at the technical level for departments and divisional structures. The aim was to arrive at a consistent and staggered approach to a corporate KM system. The driver of the KM initiative had been the need to develop a system able to locate intellectual capital and technical expertise of its staff¹⁰¹.

2.3.2 Manufacturing Companies

PharmaCorp, a global organisation and one of the largest in its industry, operates in over 70 countries around the world with products and services fashioned to suit local conditions in each country. The company was therefore susceptible to and actually suffered from fragmented processes and systems, some of which were redundant and inconsistent around the globe. There was also the urgency and need to improve its handling line of business to prevent lose of handling deals. The company started a KM initiative that put in place mechanism for speedily and effectively meeting client needs. The initiative as well created a detailed blueprint for gaining and maintaining market leadership in global order handling services¹⁰². Also a manufacturing giant and owner of some of the most widely used personal, household and oral care products around the world, the *Colgate-Palmolive Corporation* products include, among others, Colgate toothpaste, Mennen Speed Stick, Softsoap, Palmolive dishwashing liquid, and Ajax detergent. In 1994, the corporation used a series of IBM AS/400 minicomputers, several mainframes, and other set of business applications and had 75 independent data centres around the world. This created a complex environment that made it very difficult to track organisational resources. These difficulties underpinned Colgate-Palmolive's KM initiative to address inefficient processes arising from poor data management practices¹⁰³.

¹⁰⁰ Yeh, Lai and Ho (2006:802-807)

¹⁰¹ Dow et al. (2006:22)

¹⁰² Braganza and Mollenkramer (2002:23)

¹⁰³ White and Croasdell (2005:242-243)

A KM program started at *British Petroleum, BP*, was based on a culture of cooperation that facilitated good relationships among employees. The KM program also sought to embed knowledge into its daily activities and to constantly create knowledge to improve processes. The implementation of KM practices has since led to remarkable results for the company, such as reducing the cost of oil wells by 60 percent¹⁰⁴.

Similarly, a *Hong Kong-based enterprise, termed HS* and founded in 1983, has a production plant in mainland China. HS is primarily engaged in the production and export of handbags and premium leather products to the United States and European markets. In 1998, HS began witnessing a decline in business with double-digit revenue losses which was mainly attributed to the fierce competition in the markets and soaring production cost. For example, some competitors were offering drastic price cuts to obtain business contracts. Also, HS' new product designs did not last long before they got imitated by the competition. The top management team of HS began planning the future of the company and to look for ways to improve the efficiency and productivity of its employees. In the midst of such challenges, HS decided to launch a KM program to institutionalize knowledge diffusion among employees and to leverage knowledge creation for quality products¹⁰⁵.

Finally, in an effort to survive within a competitive environment, *Buckman Laboratories*, an international specialty chemicals manufacturing company with more than 1,200 employees in more than 80 countries, implemented an online knowledge management capability called K'Netix (Buckman Knowledge Network) to manage its tacit knowledge (expertise and experience). It has additionally placed much of its explicit knowledge about customers, products, and technologies into on-line electronic repositories to facilitate knowledge sharing among its employees¹⁰⁶.

2.3.3 Universities and Educational Institutions

For over 40 years, the *Bangkok University (BU)*, a private university in Thailand, has gained recognition as a leading educational institution. BU which has 13 schools, offers courses in English and Thai for both Thai and international students leading to bachelor's and master's degrees. As a complex organisation, BU faced several challenges such as competition from other institutions in Thailand, an exponential increase of students, and the strong need to adapt its curriculum every other year. In addition, it was crucial for BU to provide new

¹⁰⁴ Baquero and Schulte (2007:381)

¹⁰⁵ Chan and Chau (2005:279-288)

¹⁰⁶ Zack (1999:45)

lectures, to offer international programs and to strengthen collaboration by establishing joint degrees or inviting international guest professors. Knowledge sharing became more challenging for BU as a host of international professors and international programs, and to make its knowledge needs available in both the Thai and English languages. Five years ago, moved by Thailand's board of higher education decision to make quality assurance a priority for all universities, and based on key performance indicators (KPIs), BU initiated its own multi-phased KM projects starting with a brainstorming session which led to the creation of a BU KM Plan. Since May 2007, each department at BU has had their own KM plans which are implemented accordingly¹⁰⁷.

2.3.4 Construction Companies

In 2000, a *British construction firm Taylor Woodrow* commenced Knowledge management initiatives which centred on technical knowledge managed by a team based at the Technology Centre in Leighton Buzzard, UK. The KM initiatives were aimed at capturing and using best practices to improve project performance. Besides facilitating the sharing of technical excellence and best practices, the KM initiatives created added value to clients and led to reduced costs for Taylor Woodrow. Client relationships were maintained and repeat businesses achieved, consequently. In 2001 and 2002, the company's main emphasis shifted to defect reduction and producing better buildings for clients. This successful integration of KM into its construction processes also created added value from which both customers and shareholders benefited¹⁰⁸. KM initiatives have also resulted from the urgent need to turn around the fortunes of otherwise collapsing industries. For instance, an *Australian construction company* succeeded to pull knowledge from an external source to deliver significant benefits such as turning a budget over-run project into a profitable venture. This innovation has been made a routine part of its work, providing a cause-and-effect link in people's minds between the innovation and subsequent productivity increases. The initiation of knowledge management helped formalized this process and made such events happen regularly as a part of the company's KM organisational process¹⁰⁹.

A large *Italian construction firm in the Emilia Romagna region* that worked for government agencies, including the National Autonomous Roads Corporation, military air force, and for private companies, adopted a KM phased approach in order to overcome limitations in the

¹⁰⁷ Arntzen, Worasinchai and Ribière (2009:130-142)

¹⁰⁸ Coakes, Bradburn and Blake (2005:131-136)

¹⁰⁹ Maqsood, Walker and Finegan (2007:96-107)

acquisition and management of its knowledge related to past projects management techniques. The initiative also sought to address the reluctance of senior engineers and experts to share their knowledge and experiences, and to reduce the time spent on editing and recording knowledge which inconvenienced the senior engineers. The system enhanced the creation, storage and transfer of new knowledge derived from each new project¹¹⁰. In the case of a Turkish Company in the building materials sector, KM was a means to optimise its investments. The *Company (referred to as 'A')* had two main factories in different regions of Turkey and two marketing and sales companies in the UK and the USA. Orders from UK and USA were managed in Turkey. In spite of modern IT infrastructure, its investments benefits were found inadequate. The company realized that its IT components were not used productively, often because their functionalities were poorly understood, leaving it to often grapple with information and knowledge-oriented problems. The KM initiatives were started to address these challenges¹¹¹.

2.3.5 Healthcare Organisations and Laboratories

Emmanuel Medical Centre (EMC) is a large and privately-owned healthcare organisation in Asia. With a staff strength of more than 1,200, EMC offers a wide range of general and specialist services including acupuncture, aesthetic surgery, outpatient chemotherapy, orthodontics and other surgical procedures. Over the last few years, the senior management at EMC began to recognise the importance of KM to its organisational practices. It therefore embarked on KM initiatives to address issues related to persistent shortage of doctors and qualified healthcare professionals such as pharmacists, imaging specialists and laboratory technicians, and the threat of losing invaluable organisational knowledge due to staff movement. A KM project, “lessons learned” was focussed on archiving corporate lessons and to prevent the loss of operational knowledge in vital medical procedures. In addition, it was aimed at reducing training gaps, reducing duplication of efforts and encouraging the growth of cross-departmental communities of practice¹¹².

2.3.6 Banks and Financial Institutions

Eurobank is a large multinational financial services organisation and one of the largest European banks located across 70 different countries worldwide. The lack of integrated services across countries, led a major client to part ways with the bank. This incident

¹¹⁰ Bigliardi, Dormio and Galati (2010:22-26)

¹¹¹ Yilmaz (2007:77-81)

¹¹² Chua and Goh (2008a:338-345)

subsequently caused the bank to embark on a KM initiative. Intranet technology was seen as critical to the achievement of a KM vision where a global network was developed to integrate the existing knowledge within the bank¹¹³.

From a single outfit in 1960, a consumer bank head-quartered in *Hong Kong referred to as H-Bank*, grew into a network of more than 100 domestic outlets by 2004 with a total asset in excess of US\$7.2 billion. For its impressive deployment of information technology, it won the Most Innovative Bank in the country in 2005. To secure customer loyalty through fast and high-quality customer service, H-Bank introduced knowledge interchange with its scope originally confined to the bank¹¹⁴. Three other financial organisations in South Africa referred to as *FOA, FOB and FOC*, with more than 2000 employees each focussed on different services in the financial industry. While FOA's financial products were suitable for specific investments and development programmes, and offered training workshops and product information services, FOB offered commercial banking products and services to satisfy individual customer requirements. FOC provided transactional banking services and credit facilities to large and medium-sized organisations and government bodies. These organisations have recognised the importance of KM and have made efforts to investing in it. Reasons that informed the start of these KM initiatives include: to reduce costs, and following the footsteps of competitors. Furthermore, these institutions recognised that knowledge management would increase value for customers by reducing the time to market new products and services, increase sales, and increase the flexibility of the organisation to adopt and change in a competitive environment¹¹⁵.

2.4 Conclusion

The study has outlined several factors that motivate public and private organisations to start KM initiatives. The categories of public organisations profiled include those in Financial and Socio-Economic Development Organisations, Universities and Educational Institutions, Health-Providing Organisations, and Power and Electricity Organisations. Also included are Judiciary and Law Enforcement Organisations, Rails and Transport Organisations, and a profile of Cross Sectoral Organisations. Six categories of private sector organisations are profiled. These are ICT Companies, Manufacturing Companies, Universities and Educational

¹¹³ Newell, Scarbrough and Swan (2001:101-110)

¹¹⁴ Chua (2009:33-34)

¹¹⁵ Squier and Snyman (2004:237-241)

Institutions. The rest are Construction Companies, Healthcare Organisations and Laboratories as well as Banks and Financial Institutions.

The factors that influenced these organisations to initiate KM projects in their respective organisations were predominantly to improve processes, manage tacit knowledge, manage explicit knowledge, preserve knowledge, improve productivity, improve efficiency and improve technology. Generally, these factors were not particularly associated with any one of the organisations, public or private. Rather, where for example, the need to improve processes is identified as a motivating factor for starting KM, both public and private organisations seemed almost equally motivated by such a factor. However a lot more private organisations than public ones, were motivated by the need to improve efficiency and productivity in starting their KM projects. Conversely, more public organisations considered knowledge preservation prior to initiating KM than private ones.

Geographically, the case studies cut across a number of continents. For instance, for the public organisations, three case studies focussed on organisations in Malaysia while two each in India, United Arab Emirates, United Kingdom and United States of America. On the contrary, the private sector focussed on two case studies each in Hong Kong, India and the United States of America.

Chapter 3

Barriers to Knowledge Management Implementation in Public and Private Organisations

3.1 General Overview

In July 2003 Cognitia organised a KM Forum in Colombia which revealed that there are several barriers to KM initiatives at the corporate level. These include the inability to incorporate KM into daily work activities, and where knowledge sharing is seen as a way of parting with power. Again, KM is often perceived more as a theoretical rather than a practical tool, leading to the resistance to implementing these activities. It was also revealed that KM projects compete internally for budget and other resources, with other several projects that are believed to provide short-term results as compared to KM projects. Many organisations at the Forum listed the difficulty in capturing employees' undocumented knowledge and the lack of time and resources as primary challenges when implementing KM practices. Other barriers identified include resistance of certain groups or staff, lack of senior management commitment, and a strong focus on information and communication technology rather than on people¹¹⁶.

Managing knowledge in organisations is made even more complex due to the difficulty in identifying, valuing and deploying relevant knowledge to gain a competitive advantage in the market place¹¹⁷.

Such implementation challenges, according to one survey, stem from the lack of a "sharing" culture and employees' poor appreciation of KM and its benefits. Among other programs, organisations can address such challenges through training, change management and process

¹¹⁶Baquero and Schulte (2007:379-380)

¹¹⁷Dutta (1997:81)

redesign of the primary components of their KM initiatives¹¹⁸. Similarly, Bollinger and Smith¹¹⁹ categorise barriers to KM implementation as organisational, team/group and individual perspectives. Specific details of each are shown in Table 3.1.

Table 3.1- Barriers to KM implementation

Category	Barrier
Organisational perspective	Time-consuming, labour intensive, costly to build knowledge base People are busy, and KM may involve additional work Limitations to knowledge-based systems technology Temporary project teams difficult to track Information can be taken out of context Information overload Workers see no benefit to system Difficult to codify tacit knowledge Proliferation of jargon KM implies controlling people Strong positive culture is needed for care-why to exist Having a chief knowledge officer (CKO) sends the wrong message
Team/group perspective	Reward for individual effort will encourage hoarding of knowledge Fear of recrimination and criticism for peers and management Lack of respect for other disciplines Will subvert efforts if lack of respect, trust and common goals Additional work is required to document team processes
Individual perspective	Reluctance to share information knowledge is source of power, advancement, or reward/punishment Competition among professionals Rewarded for know-what Sense of worth and status because of expertise Fear of diminished personal value if give up know-how

Source: Bollinger and Smith (2001)

KM development can also be fraught with a number of challenges during the advocacy and learning phases¹²⁰. At these stages, the current organisational practices with its existing

¹¹⁸ Cong and Pandya (2003:28)

¹¹⁹ Bollinger and Smith (2001:14)

¹²⁰ Uriarte (2008:100)

corporate culture and history could be ignored, issues that might delay the acceptance and hinder implementation of the KM system overlooked and left unaddressed, and a tendency to create too much and unnecessary hype in an attempt to sell the concept without first building confidence could derail the KM development. Finally, an unreasonably large budget for developing a convincing proposition required to create value for the organisation, could be a potential barrier when developing a KM project¹²¹.

3.2 Public organisations

According to Cong, Li-Hua and Stonehouse¹²², research shows that both structural and cultural barriers to effective KM implementation exist in public organisations. The hierarchical structure, accountability to higher authorities, leadership capabilities, resources, reward and recognition, trust and knowledge sharing environment, depending on their configurations, could hinder KM implementation in public organisations. These factors need to be closely examined, their risks and consequences understood so they can be addressed in KM initiatives by governments. The following sections discuss barriers to KM implementation as experienced in public organisations including Universities and Educational Institutions, Law Enforcement Organisations, Financial and Socio-Economic Development Organisations, Health Related Organisations, and Roads, Transportation and Public Works Agencies:

3.2.1 Universities and Educational Institutions

As part of its KM implementation, the *Malaysia government-funded institute of higher education referred to as M-College*, focussed on a campus-wide drive towards e-learning. This sought to raise a group of e-learning champions from its existing pool of faculty. A community of practice (CoP) was formed to foster knowledge sharing and help spread e-learning instructional design practices among faculty across departments. However, M-College experienced challenges. The CoP boundary was impermeable hence core members protected their positions of influence and jealously guarded the established rules of the CoP while new members were kept out of the inner circle and had little opportunity to contribute fresh ideas or challenge existing ones. Also, the lack of leadership renewal processes portrayed the CoP as experts on e-learning whose authority could not be contested. Furthermore, the lack of a singular set of judging criteria for perspectives and approaches

¹²¹ Uriarte (2008:100)

¹²² Cong, Li-Hua and Stonehouse (2007:259-260)

made it difficult for outsiders to challenge the quality and appropriateness of what the CoP contributed¹²³. Unlike experts who sometimes constitute themselves into barriers against the influx of fresh ideas, the lack of expertise also hinder KM implementation. A *small provincial University* (country not mentioned), which had embraced the need for KM implementation, could hardly map out a clear strategy towards that end, due to the lack of understanding of the nature and location of the existing knowledge base of senior mentors. It had no infrastructure to capture the tacit and explicit knowledge of the existing faculty. Moreover, the University had no mechanism for a collective knowledge sharing initiative and created no support system for staff to provide information that could contribute to increased tacit knowledge. Furthermore, there was no access to online journals or research databases for the central extraction of knowledge and information. The non-existence of a research culture has particularly led to a lack of motivation among new faculty to further their research efforts¹²⁴.

A survey of *India's universities, departments and research centres* in Delhi-National Capital Region (NCR) revealed organisational cultures characterised by diminished cooperation and sharing among staff. In addition, information overload within a limited time frame, constituted huge barriers at both the individual and socio-organisational levels. Some other barriers like teaching overload and administrative work, however, seemed to be organisation-specific¹²⁵. Besides academic and administrative constraints, a huge disparity in expertise between the different units of an institution could hinder an effective KM deployment. In the case of the *Japan Advanced Institute of Science and Technology (JAIST)*, a serious disparity in technical support and personnel IT skills among its three schools of material, information and knowledge sciences was a key barrier to KM implementation. JAIST, established for high level research (Master's and Doctoral Students) in selected fields of science and technology, also attracted a high proportion of foreign students (more than 10%) and scholars. The needed cooperation to engender scientific discourse and knowledge creation was not recognized and emphasized enough, leaving its knowledge resources highly fragmented, and their accessibility very inefficient. Consequently, JAIST had difficulties generating the necessary knowledge and information for its Master's students, finding new

¹²³ Chua (2009:35-36)

¹²⁴ Gill (2009:607-614)

¹²⁵ Vashisth, Kumar and Chandra (2010:17)

ideas for PhD research, and discussing research questions with colleagues from other countries due to language differences¹²⁶.

In Australia, the *Science and Technology Development Organisation (STDO)*, a research and development organisation with widely distributed employees working across multiple sites, is a knowledge-intensive organisation with a reputation for pursuing KM strategies. The governance of the KM strategy at STDO was designed and structured to meet the needs of creation, dissemination, and utilization of knowledge to fulfil its organisational objectives. The STDO's major barrier to its KM strategy was the limited resources in an organisation where more must be done with less¹²⁷.

3.2.2 Law Enforcement Organisations

In spite of the KM initiatives in the *Dubai Police Force (DPF)*, there still existed evidence that these initiatives had not succeeded in permeating and embedding an understanding of and commitment to knowledge sharing at all levels in the DPF. Furthermore, there was a challenge in cultivating an awareness of the importance of knowledge management in the organisation, and accordingly, there was very little progress towards a knowledge culture. Barriers that were identified as having affected the development of a knowledge culture and knowledge sharing in the DPF were poor leadership, little time allocation, mistrust, a defective organisational structure and lack of a reward system¹²⁸. Similar factors impeded the promotion of a knowledge sharing culture within the *UK Police Forces*. Rather than encouraging staff to share knowledge, the recognition that knowledge is power was a key barrier towards that end. Employees held on to knowledge so they could do better, be promoted or compete for other jobs ahead of their colleagues. In the midst of such an organisational culture and a poor understanding of the benefits of sharing knowledge, encouraging employees to share knowledge was a challenge. Culture was identified as the most difficult issue when dealing with knowledge management or knowledge sharing in the UK Police Forces. In addition, the sheer size of the police force hindered the development of a clear strategy for implementing KM¹²⁹.

¹²⁶ Tian, Nakamori and Wierzbicki (2009:81-90)

¹²⁷ Zyngier, Burstein and McKay (2005:85-101)

¹²⁸ Seba, Rowley and Delbridge (2012:117-123)

¹²⁹ Seba and Rowley (2010:621-622)

3.2.3 Financial and Socio-Economic Development Organisations

The *Reserve Bank of New Zealand*, after implementing several KM initiatives, found itself, culturally, at an interesting crossroads. The Bank grew wary of what it termed “consulting labels” as its awareness of knowledge management concepts increased. The term “knowledge management” became a less favoured label. In an effort to overcome the challenges, the Bank would need to re-package its knowledge management initiatives to progress to the next level¹³⁰.

Although, the knowledge management programme at the *Social Services Department of Surrey County Council (Surrey SSD)* was in its infancy, some potential challenges to effective knowledge management were noticed. These included the architecture, infrastructure, processes, and culture within the SSD. A holistic evaluation of the organisation’s architecture indicated that the formal structures, infrastructures and culture were viewed as neither effective nor ineffective in facilitating knowledge flows¹³¹. In contrast, the *Social Security Administration (SSA)* in U.S. where KM had been practised much longer, the lack of resources, lack of recognition of individual efforts, and a hierarchical organisational structure were seen as barriers to its KM implementation. Moreover, leadership assignments in the SSA were based not on merit or experience. Other criteria deemed as unfair were used in appointing leadership. Furthermore, the SSA lacked a central store for knowledge owners, which limited training opportunities for staff, especially when a training curriculum went missing. Documentation at the SSA was poor, and with one person holding on to all key knowledge KM implementation became a huge challenge¹³². In some instances, as occurred within the *UK Child Support Agency (CSA)*, reluctance to share knowledge arises from reward-based performance measurements for the purposes of rewarding teams. In the CSA, this led to an unhealthy competition between business units of the same organisation and created barriers to effective KM implementation. The organisation had to devise ways to generate a co-operative culture that would facilitate knowledge exchange¹³³.

The *Ministry of Entrepreneur Development of Malaysia* had challenges in overcoming technological limitations, data maintenance, and how to identify external knowledge in order to make them accessible to its staff. Dealing with confidential documents and promoting

¹³⁰ Anand, Pauleen and Dexter (2005:212-228)

¹³¹ Skoka and Kalmanovitchb (2005:737-743)

¹³² Rubenstein-Montano, Buchwalter and Liebowitz (2001:225-243)

¹³³ Fowler and Pryke (2003:257-280)

knowledge sharing among several officers of different divisions also constituted significant barriers. Even much larger than these challenging barriers were the intricate command and control procedures at the Ministry, the poor communication channels among officers, and frequent political interferences in its activities¹³⁴. Ironically, KM in the *Trade and Industry Department (TID) in Hong Kong* is somewhat of a mixed bag. Although the TID has no formal KM strategy, some of its employees indicated they were aware of colleague's information and that they had access to such information. Staff used informal groups and channels to obtain organisational information to perform their work. In spite of this, significant barriers to KM in TID were identified. TID had a weak knowledge sharing culture and had no incentives, rewards or support from management for sharing knowledge. Employees were largely unaware of the benefits of knowledge sharing and feared losing power if they shared knowledge. Furthermore, the reserved Chinese culture characterized by shyness, politeness, and a general lack of confidence, regarded knowledge sharing as "showing off". This significantly affected knowledge sharing in TID¹³⁵.

Managing accumulated knowledge poses a formidable barrier to effective KM implementation. A leading *navratna government organisation, NTPC*, needed to capture and structure its widely dispersed and variously formatted knowledge forms. NTPC encountered difficulties as learning and experiences had not been captured. Organisational communication was inadequate, no formal processes for classifying and codifying knowledge existed and the reuse of past knowledge was insufficient to improve work efficiency. Additionally, NTPC was unable to speedily retrieve knowledge across the organisation due to the lack of enabling IT systems and the lack of recognition or rewards to staff for contributing to knowledge management. Because NTPC also lacked a process to create awareness about its existing knowledge, and faced difficulties in sharing past documents manually stored across the organisation, overall knowledge sharing and particularly lessons from completed projects could not be adequately shared¹³⁶.

In its second year of incorporating KM into the organisation, *GOV - a leading technical US government organisation*, planned among others to focus on change management in order to transform individual learning into organisational learning. This was meant to embed KM processes into the daily activities of the employees without being something extra one has to

¹³⁴ Syed-Ikhsan and Rowland (2004:242-254)

¹³⁵ Yao, Kam and Chan (2007:59-66)

¹³⁶ Goel, Sharma and Rastogi (2010:386-392)

do. However, the challenge to this component is culture which has to be built and nurtured in order to overcome any resistance to KM strategy¹³⁷.

3.2.4 Health Related Organisations

The *Ministry of Health in the Kingdom of Bahrain* experienced barriers to its KM initiative implementation. The bulk percentage of budget was allocated to direct patient healthcare services such as drugs, extension of existing services and the introduction of new clinical services. Although about 70% of staff had basic computer skills, they were not aware of the benefits of information sharing using IT tools, causing the Ministry to recruit application development staff and technical support staff. However, due to the high demand of IT personal across the globe, it was difficult to keep skilled staff. Executive management could not directly remedy the IT challenge as they kept busy with daily activities related to patients, or responded to political and social pressures, rather than setting and implementing strategic or tactical goals¹³⁸. Getting caught up in the demands of daily routines also affected the *North Mersey Health Informatics Service (HIS)*, a provider of information management and technology services to eight National Health Service (NHS) Trusts in North Merseyside, Liverpool, UK. Its routine activities included six separate desks which served as a single point of contact where calls from customers were received and recorded, initial assessments of incidents provided, and first attempts made at incident resolution according to agreed service standards. The HIS had to run part-time, day and night shifts to cater for its numerous customers. Therefore, insufficient time for KM was a huge barrier to knowledge sharing in the HIS. Again, because part-time and night-only service agents did not experience the same problems as their nine-to-five colleagues, and the HIS lacked a centralized knowledge base, they were often unable to source the knowledge necessary to resolve some problems. The employees failed to see the HIS as one big organisation and offered services that differed from client to client. Generally, they lacked the urgency to share knowledge in an environment where no processes existed to convert tacit to explicit knowledge due to cultural issues¹³⁹.

3.2.5 Roads, Transportation and Public Works Agencies

Although, the *Roads and Transportation Authority (RTA)* in United Arab Emirates had sunk some effort into implementing its KM programs, there was still the lack of awareness about

¹³⁷ Liebowitz (2003:71-75)

¹³⁸ Nawakda et al. (2008:536-551)

¹³⁹ Gillies and Galloway (2008:90-111)

the initiative among its employees. The RTA's KM initiative did not meet with the needed structural change in its vertical hierarchy, and its management offered no support, electing rather not to get involved in the new initiative for being too busy¹⁴⁰. In instances where KM initiatives are viewed as new programs, without dedicated management or staff support, the initiative suffers. In the case of the *Implementation Coordination Unit (ICU)*, an administrative department at Putrajaya and the *Public Works Department, PWD*, Kuala Lumpur, both organisational and individual barriers hindered the effective implementation of its KM initiative. At the organisational level, there were no IT systems to support the initiative and management had no rewards or recognition programs for hardworking staff. Consequently, and at the individual level, the staff complained of the lack of time, poor interactions among themselves and a general lack of interpersonal skills within the organisation¹⁴¹. In contrast, the *Empresas Publicas de Medellín (EPPM)*, one of the most prestigious utilities companies in Colombia, had top and middle-level management support in the implementation of its KM strategy. However, one major barrier was how the company could attain a cultural change¹⁴².

3.3 Private organisations

3.3.1 Banks and Financial Institutions

Eurobank started a KM initiative to leverage on an intranet technology that would involve the development of a global knowledge network to integrate the bank's services. However, inadequate infrastructure for network traffic, and the fact that end-users were not involved during the project development stage derailed the bank's efforts. Moreover, the poor attitude of staff towards knowledge-sharing became another hindrance too many for the initiative¹⁴³. Similarly, a poor organisational culture that bred resistance to change affected three *financial organisations namely FOA, FOB and FOC*. Together these organisations had more than 2000 employees, and each focussed on different services in the financial industry. Their investment in KM programs also suffered from complex organisational structure, cost and technology¹⁴⁴. In Hong Kong, the *H-Bank* soon after successfully developing a KM initiative, followed through to implementation, but fell short of expectations due to certain barriers it

¹⁴⁰ Al-Yahya and Farah (2009:16-19)

¹⁴¹ Sandhu, Jain and Kalthom bte Ahmad (2011:206-226)

¹⁴² Baquero and Schulte (2007:382)

¹⁴³ Newell, Scarbrough and Swan (2001:101-110)

¹⁴⁴ Squier and Snyman (2004:237-241)

encountered. Firstly, the task of integrating its varied application environments across several departments was extremely complex. For example, the search engine built into its knowledge interchange was intended for full-text and keyword search as frequently used by its call centre agents. However, users from the marketing or business intelligence departments required concept search, while most of the other departments were never certain of what they wanted out of the knowledge interchange. With the IT department driving the initiative, there was a lack of ownership from the ground. The knowledge interchange was unable to attract a sustainable usage pattern from the users. Although the culture of sharing and exchanging ideas among the call centre agents kept the knowledge interchange fresh, this was more of an exception than the norm in the bank. Ultimately, the bank's over-confidence proved costly as it expended organisational resources and dampened staff morale¹⁴⁵. In *Iran, the Eghtesad-e-Novin bank* also failed in its KM implementation for other reasons. Here, insufficient support from senior management, emanating from their limited understanding of KM principles, led to inadequate allocation of funding to support the KM projects. Additionally, employees' participation in the programs was low, and no formal system that could allow the staff to articulate their opinions existed¹⁴⁶.

3.3.2 Manufacturing Companies

Having initiated various forms of KM which were aimed at hastening its internal drug development processes, *WorldDrug, an American-owned global pharmaceutical company*, experienced barriers during implementation. The three forms of KM projects were "lessons learned", "warehouse" and "electronic café". Under "lessons", a system to sift through 'learning' processes and the opportunities to extend the practice beyond the company's existing procedures were lacking. Additionally, the supposed "lessons" constituted an inventory of dissatisfactions with the imperfect application of standard operating procedures rather than critical reflections on the procedures themselves. Consequently, instead of insightful enhancement of organisational innovation, the 'lessons' process became a ritualised affirmation of routines. In addition, "Warehouse" was not a tool that could be adapted to the specific context of the organisation, and was understood as irrelevant to its daily operational processes. Also, the staff regarded any contribution of experience and expertise to enhancing 'warehouse' as a loss of knowledge. Finally, 'Café' had unintentionally become remote, abstract and impractical because of its open-ended nature.

¹⁴⁵ Chua (2009:33-34)

¹⁴⁶ Abbasi and Shahamati (2011:530-544)

This hindered the expansion of ‘Café’¹⁴⁷. On the other hand, another pharmaceutical company, *PharmaCorp*, had many supporting factors including executive commitment, funding, resources and competent people when it initiated its KM program. However the project failed because knowledge was managed within silo-oriented communities of practice instead of multi-functional groups. Knowledge stored in its library at the functional level did not give any meaning to others since generic terms were used. In addition, the company depended excessively on IT to manage both explicit and tacit knowledge which resulted in the neglect of the latter. Again, because several consultants with different staff, conflicting techniques, methods and language were engaged at different points of the initiatives, it became difficult for *PharmaCorp* to own and manage its KM initiatives. The company lacked the enabling environment where staff at all levels could be part of the KM implementation and be willing to change where necessary. Moreover, its technology infrastructure was too fragmented, complex with less user-friendly interfaces to ease interconnectivity. Executives and senior managers therefore withdrew their support, disbanding the infrastructure, and consequently, collapsing the knowledge management domain¹⁴⁸.

Aiming to cut production costs, a *European manufacturing company* that had more than 60 production units in some 30 countries implemented three distinct KM projects, namely, “production project”, “supply-chain project” and “design project”. Out of 40 plants studied under the “production project”, ten plants did not apply the new knowledge largely because they did not perceive a production performance gap in their plants. They remained unconvinced that the application of the new knowledge would create any added value. However, it was later discovered that the other plants that applied the new knowledge actually saw a significant improvement in their production performance. At the launch of the “supply-chain project”, users found that the software merely provided them with information they already possessed and therefore underutilized it. Also, “Supply” never led to increased sales volume for the sales staff, or helped the designers create better products. Apart from the perception that it was too cumbersome and difficult to be understood, “design” did not reduce the raw material costs or the amounts of prototypes, as intended. After a while, “design” became obsolete, having basically been neglected by the designers¹⁴⁹. Lack of employee participation as above, also affected knowledge management practices in some 30 *Auto Component Manufacturing Companies in Ludhiana City, India*. There was widespread

¹⁴⁷ McKinlay (2002:76-88)

¹⁴⁸ Braganza and Mollenkramer (2002:23)

¹⁴⁹ Uriarte (2008:129-130)

unwillingness to share knowledge, and mistrust among employees which hampered the effective implementation of KM initiatives in the companies. Besides, employees lacked the requisite training and had no system of rewards or recognition for knowledge sharing. As much as 53% of the executives believed that knowledge sharing was not a part of their daily routine work. Traditionally, the organisational culture in these companies did not encourage participation of employees, therefore impeding knowledge transfer¹⁵⁰.

Various obstacles impeded the success of KM initiative in a *Hong Kong-based enterprise, referred to as HS*, among them top management's hyper ambition to incorporate "best" knowledge in industry into the company was unrealistic, and their support in encouraging the desired behaviour insufficient. The wholesale incorporation of other enterprises' best practices or success stories into the repositories of HS, without assessing the relevance, suitability and congruence to its own capabilities negatively affected its KM initiative. Secondly, the success of the KM initiative could not be guaranteed merely by the elaboration of a KM vision. Top management's involvement was perceived as remote, shirking the responsibilities for the success of the initiative to the company's departments with minimal support. This deflated employees' dedication and belief in the KM initiative as a significant organisational activity. Where HS had instituted various social activities including tea parties as means for fostering a friendly and open organisational culture, it was found that these activities bore no real results as specific guidelines for encouraging knowledge sharing were lacking. Contrarily, these activities degenerated into platforms for gossiping among employees instead of serving as the crucibles for generating ideas. In the end, employees got confused and perceived KM negatively as something that interfered with their daily tasks and so minimized their participation in what was considered as a temporary fad¹⁵¹. Again, the lack of top management's commitment was a key barrier to the effective deployment of KM initiatives reported in a survey of some *71 Indian engineering companies*. Further there was a high staff defection and retirement rate, and a lack of an organisational culture supportive of the KM initiative. Key KM concepts were poorly understood and employees would not take ownership of a problem to solve them. Beside an inadequate use of IT to support the KM initiative, the companies lacked the structural framework and methodologies to implement the initiative. It was expensive to maintain an expert network to support the system, and the companies seemed to rely more on individuals rather than teams to execute tasks, even

¹⁵⁰ Chadha and Kapoor (2010:68-76)

¹⁵¹ Chan and Chau (2005:279-288)

though tasks were often labour-intensive. A lack of contact among employees to foster knowledge sharing, poor documentation, poor financial resources, and a lack of dedicated staff time also hampered the initiative. Finally, and to a lesser degree, the non-standardization of key processes, a poor incentive system, difficulty in measuring return on investment and in retaining support with increased usage, also hindered the KM program¹⁵².

3.3.3 ICT Companies

Global Telecom (GTCOM), a telecommunications firm in a developing country, implemented a knowledge-enabled customer relationship management (KCRM) initiative which only achieved mixed results at best. Although the company recorded sterling financial performance, its operational excellence, as well as customer service and satisfaction were a failure. While KCRM had yet to mature into a concrete corporate-wide change effort, it was clear the initiative at the onset was overpromised but under-delivered. Underlying the failure was the use of KCRM as an ICT solution instead of a business strategy. Efforts appeared centred on customizing and implementing an ICT tool without building the processes and organisational elements required for the effective management of the KCRM initiative. In addition, GTCOM lacked the organisational structures, particularly a Chief Knowledge Officer to coordinate the mechanisms for knowledge creation, sharing and leveraging, making it difficult for employees to access particular knowledge or to be aware certain knowledge existed and needed to be accessed¹⁵³. Difficulties in documenting incident resolution and classifying them affected *TietoEnator Corporatio's* KM initiative. As one of Scandinavia's largest IT service providers in banking and insurance, telecom and media, healthcare and welfare, manufacturing and retail, and forest and energy services, the company unfortunately lacked accessibility to a public knowledge base. Knowledge flow for urgent incident resolution was therefore hampered¹⁵⁴.

The top management of *Tata Consultancy Services Limited (TCS)* started a KM initiative to fuel the targeted growth of the organisation. During implementation however, it was faced with several challenges to surmount. Although, it had a strong domestic position to attract and guarantee stability for highly capable IT professionals, TCS was exposed to cultural integration and employee retention challenges associated with acquisitions. A high rate of attrition, where talent leaked out of the organisation, was also a concern for management. The

¹⁵² Singh et al. (2006:110-128)

¹⁵³ Al-Shammari (2005:249-278)

¹⁵⁴ Jäntti, Tanskanen and Kaukola (2009:78-83)

attrition rate and acquisition climate made it even more problematic to train and indoctrinate close to half of TCS's consultants who would have been with the company for less than three years to conform to a collaborative, cooperative knowledge sharing culture¹⁵⁵. Organisational culture also defined the ultimate barrier that confronted *Wipro Technologies* in India. In spite of its initial KM success, and the fact that its employees were from the best technical colleges and institutes in India, the employees had a tendency to resist some KM processes. They felt inferior using another person's knowledge and perceived customizing such knowledge as a waste of time. In addition, employees were not sure of obtaining the right knowledge from the company's repository when needed¹⁵⁶. Similarly, encouraging and supporting employees at the *European Space Operations Centre (ESOC)* was a key challenge although the Centre had undertaken many KM initiatives. One of its long duration missions, Rosetta, required the maintenance of skills and expertise throughout the long cruise phases. Finding an appropriate structure to provide a sustainable infrastructure for using or reusing its existing knowledge and information was a challenge to its KM initiative¹⁵⁷.

A weak commitment from the top management's of a *European-headquartered company* derailed its KM initiative that set out to achieve cost-effectiveness, competitiveness and a better management of business risks. The KM initiative was perceived more as a "nice-to-have" rather than a critical activity central to the achievement of the company's mission. It was therefore completely ignored in the face of crisis. Moreover, the KM team could not manage the political processes between the IT and media affairs departments which partly undermined the initiative. The KM team failed to deliberate on and find solutions to potential barriers to the initiative. For example, the idea of a pilot roll-out or the need for external support was not considered¹⁵⁸. While the non-involvement of top management in a KM initiative could affect its success, an initiative exclusively started and controlled by top management could also be susceptible to failure. For instance, *VIA Technologies Inc (VIA)* started a mainly top-down KM initiative that essentially gained recognition from top management who in turn appointed the customer service department as implementers. The biggest barrier during the implementation was the unwillingness of some departmental heads to systematically organize their knowledge¹⁵⁹.

¹⁵⁵ Sharma et al. (2007:30-46)

¹⁵⁶ Chatzkel (2004:6-18)

¹⁵⁷ Dow et al. (2006:22)

¹⁵⁸ Uriarte (2008:130-131)

¹⁵⁹ Yeh, Lai and Ho (2006:802-807)

3.3.4 Healthcare Organisations

The management of *Emmanuel Medical Centre (EMC)* had intentions of reducing training gaps, reducing duplication of efforts and encouraging growth of cross departmental communities of practice, when it started its KM initiative. It was also meant to capture corporate lessons to prevent loss of operational knowledge in vital medical procedures. Among others, ‘lessons learned’ (LL) component was created to facilitate knowledge sharing and dialogue among staff. However, staff rarely used LL. Nurses particularly did not use LL for lack of motivation, lack of time, frustrations, and the embarrassment of having to document lessons learnt which was likely to be seen as documenting one’s flaws. The culture of performance appraisal by doctors and their knowledge-is-power mentality also accounted for LL’s underutilisation. In an organisation where making mistakes in the course of work was perceived negatively as personal failures which had to be concealed, social stigmatisation constituted was a significant barrier¹⁶⁰.

3.3.5 Universities and Research Institutions

The *Bangkok University* experienced key barriers during its second phase of knowledge management implementation. Based on their need, culture and processes, each department was to codify as much knowledge as possible, and to facilitate and motivate employees to share their knowledge, both internally and externally. However, as it turned out not all were able to contribute effectively to the creation of digital content and to effectively use various systems due to work overload. The available knowledge systems were not particularly user-friendly, and where they existed, their availability and capabilities were mostly unknown to staff. The KM roadmap was not very clear, with no directions on how copyright and intellectual property issues would be handled. There was therefore the fear of losing valuable knowledge. There was the added difficulty of making acquired knowledge available in both Thai and English¹⁶¹.

3.3.6 Hospitality Industry

In spite of its effort to manage knowledge effectively, *Ritz-Carlton and Marriott International hotels’ management* encountered key barriers. Four main barriers to knowledge sharing and to the success of this effort were identified. Personalities: The Management at one of the hotels did not believe in the effectiveness of knowledge sharing, and rather

¹⁶⁰ Chua and Goh (2008a:338-345)

¹⁶¹ Arntzen, Worasinchai and Ribière (2009:130-142)

believed that it would not necessarily lead to future success. They asserted that while knowledge can be transferred, how that knowledge was used differed from staff to staff, and from case to case. Abilities: Due to doubt among staff concerning how other people would use knowledge, a selective approach to sharing knowledge developed, where knowledge was only shared with some staff members, but with others, it was regarded inappropriate to divulge certain knowledge. Performance: The ability of some staff to transfer knowledge when promoted to management positions was in doubt, with 75% of one company's frontline staff found incapable of deliberately sharing knowledge. Negativity: Several negative tendencies emerged among employees including the lack of motivation, knowledge hoarding, personality differences, ignorance, secrecy and time pressures¹⁶².

3.4 Conclusion

This section has outlined barriers to KM in public organisations including Universities and Educational Institutions, Law Enforcement Organisations, Financial and Socio-Economic Development Organisations, Health Related Organisations, Roads, Transportation and Public Works Agencies. Private organisations profiled, relative to the barriers they faced in implementing KM projects included Banks and Financial Institutions, Manufacturing Companies and ICT Companies. The rest are Healthcare Organisations, Universities and Research Institutions and Hospitality Industry.

Predominantly, organisational culture, among several barriers, hindered the smooth implementation of KM projects in these organisations. It affected both public and private organisations at an almost equal intensity. Also, poor and/or inadequate technology infrastructure, and the absence of a clear strategy derailed KM efforts in the organisations profiled. While these factors affected both public and private organisations, the lack of time as a barrier to KM was more pronounced in public than in private organisations. On the other hand, complex processes hindered more private organisations in their KM implementation than public organisations.

Similar to the geographical distribution for 'factors', the case studies for barriers also cut across a number of continents. For example, four case studies were in United Kingdom and three in Malaysia. In addition, two each were in India, United Arab Emirates and United States of America. Furthermore, four case studies were conducted in India, two each in Hong

¹⁶² Anonymous (2005:15-17)

Kong and Taiwan for the private organisations. Although, the specific country was not mentioned, three case studies were in European countries.

Chapter 4

Research Methodology and Data Analysis

4.1 Data collection

In line with the qualitative meta-analysis approach, data collection involved conducting searches of relevant literature that would aid in answering the research questions. Searches were conducted in well-known academic databases and on the internet for relevant articles on knowledge management initiatives and implementation in organisations. Attention was placed on articles that discussed factors that contribute to KM initiatives and or outlined the barriers that impede KM implementation in public and private organisations.

Subsequently, the articles obtained were categorised into two main sections. The first comprised of case studies covering factors contributing to KM initiatives in public and private organisations, while the second covered case studies on barriers to KM implementation in public and private organisations. Forty case studies each were obtained for the two categories.

Databases such as Emerald, ProQuest, IEEE, Ebscohost, Academic OneFile, IBM system, ScienceDirect and Sage produced relevant articles for the study. Furthermore, searches on the internet resulted in relevant articles which have been referenced accordingly. In the search to answer the first question of this research, the phrase ‘factors considered for knowledge management initiatives in public and private organisations’ did not produce much relevant articles in the databases. Although, some articles related to ‘factors for KM’ were obtained, subsequent reading revealed the term ‘factors’ had a different meaning as defined in this study. However, further searches in the ‘title’ and ‘article content’ of the databases using the following combination produced relevant articles:

- ‘Knowledge management initiatives’ and ‘factors’ and ‘public’

- ‘Knowledge management initiatives’ and ‘factors’ and ‘public’ and ‘case study’
- ‘Knowledge management initiatives’ and ‘factors’ and ‘case study’
- ‘Knowledge management initiatives’ and ‘case study’
- ‘Knowledge management’ and ‘case study’
- ‘Knowledge management’ and ‘public’
- ‘Knowledge management’ and ‘initiatives’ and ‘factors’ and ‘public’
- ‘Knowledge management’ and ‘initiatives’ and ‘case study’ and ‘public’

Subsequently, ‘factors’ was substituted with:

- incentives,
- motivation,
- drive/drivers,
- incentive,
- reason

Similarly, in the search to answer the second question, a combination of ‘barriers to knowledge management implementation in public and private organisations,’ gave no results in the databases. On the contrary, results were obtained for the following searches:

- ‘Knowledge management implementation’ and ‘barriers’ and ‘public’
- ‘Knowledge management implementation’ and ‘barriers’ and ‘public’ and ‘case study’
- ‘Knowledge management’ and ‘barriers’ and ‘public’ and ‘case study’
- ‘Knowledge management’ and ‘implementation’ and ‘barriers’ and ‘public’
- ‘Knowledge management implementation’ and ‘barriers’ and ‘case study’
- ‘Knowledge management implementation’ and ‘case study’
- ‘Knowledge management’ and ‘barriers’ and ‘case study’
- ‘Knowledge management’ and ‘barriers’
- ‘Knowledge management’ and ‘case study’

‘Implementation’ was replaced with initiatives in some cases. Consequently, ‘barriers’ was also substituted with:

- failure,
- obstacle,
- hindrance/hinder,
- impede/impediments,
- challenges,
- problems,
- constraints,
- restrict/restrictions
- inhibit/inhibitors

For both searches, ‘public’ was substituted with ‘government’. In some instances, ‘and’ was substituted with ‘or’ and ‘public’ with ‘public and/or private’ in the combination during the searches. In addition, singular forms of ‘factors’, ‘barriers’ and corresponding synonyms were used. A snowball sampling technique was applied where cited references in articles obtained were further checked for relevant literature¹⁶³.

4.2 Description of sample and data analysis

In addition to other articles retrieved from the databases and used in this study, the targeted number of case studies for factors (40) and barriers (40) for public and private organisations were obtained. In some instances, the same article provided relevant information on both factors and barriers. The case studies obtained ranged from 1999 to 2012 for factors and 2001 to 2012 for barriers as indicated in Table 4.1 and Table 4.2. Additionally, these same tables show the distribution of articles in each sector for ‘factors’ and ‘barriers’.

Table 4.1- Distribution of articles per sector (Factors)

Year	Number of Articles per Sector		
	Public	Private	Total
1999	-	1	1

¹⁶³ Park and Gretzel (2007:48)

2001	1	1	2
2002	2	1	3
2003	1	-	1
2004	1	2	3
2005	4	5	9
2006	-	2	2
2007	1	4	5
2008	1	1	2
2009	4	2	6
2010	2	1	3
2011	1	-	1
2012	2	-	2
Total	20	20	40

Table 4.2- Distribution of articles per sector (Barriers)

Year	Number of Articles per Sector		
	Public	Private	Total
2001	1	1	2
2002	-	2	2
2003	2	-	2
2004	1	2	3
2005	3	3	6
2006	-	3	3
2007	2	1	3
2008	2	3	5
2009	4	3	7
2010	3	1	4
2011	1	1	2
2012	1	-	1
Total	20	20	40

Furthermore, case studies retrieved from the databases spanned across different countries.

The list below shows the geographic distribution for cases used:

- Australia
- Bahrain
- Colombia

- Finland
- Germany
- Greece
- Hong Kong
- India
- Iran
- Italy
- Japan
- Malaysia
- New Zealand
- Singapore
- South Africa
- Spain
- Taiwan
- Thailand
- Turkey
- United Arab Emirates
- United Kingdom
- United States of America

The geographic distribution of the above countries is shown in Table 4.3 and Table 4.4 for factors and barriers respectively.

Table 4.3- A geographic distribution of case studies (factors)

Continent	Total number	Percentage (%)
Europe	10	25.0
Asia	17	42.5

Africa	1	2.5
North America	5	12.5
Australia	2	5.0
Others ¹⁶⁴	5	12.5
Total	40	100

Table 4.4- A geographic distribution of case studies (barriers)

Continent	Total number	Percentage (%)
Europe	9	22.5
Asia	21	52.5
Africa	1	2.5
North America	4	10
Australia	2	5
Others ¹⁶⁵	3	7.5
Total	40	100

Additionally, cases were categorised into specific major industries to highlight similarities and distinguish differences where they occurred. Below are groupings of public and private organisations for ‘factors’.

For public organisations:

- Cross Sectoral Organisations
- Financial and Socio-Economic Development Organisations
- Health-Providing Organisations
- Judiciary and Law Enforcement Organisations
- Power and Electricity Organisations

¹⁶⁴ ‘Others’ comprises of case studies where countries were specifically not mentioned. Additionally, it covers a case which focussed on many countries.

¹⁶⁵ ‘Others’ comprises of case studies where countries were specifically not mentioned.

- Rails and Transport Organisations
- Universities and Educational Institutions

For private organisations:

- Banks and Financial Institutions
- Construction Companies
- Healthcare Organisations and Laboratories
- ICT Companies
- Manufacturing Companies
- Universities and Educational Institutions

Similarly, below are groupings of public and private organisations for ‘barriers’.

For public organisations:

- Financial and Socio-Economic Development Organisations
- Health Related Organisations
- Law Enforcement Organisations
- Roads, Transportation and Public Works Agencies
- Universities and Educational Institutions

For private organisations:

- Banks and Financial Institutions
- Healthcare Organisations
- Hospitality Industry
- ICT Companies
- Manufacturing Companies
- Universities and Research Institutions

Articles were analysed in two forms. Firstly, information on each case comprising the author, year, organisational sector and description were described. This is elaborated in Table 4.5 and Table 4.6 for factors and barriers respectively. Secondly, factors for both public and private

organisations were grouped to obtain one set of factors upon which each case was evaluated. This is shown in Table 4.7. This process was repeated for the barriers and is shown Table 4.8. Table 4.5 to Table 4.8 are linked with codes created to represent public and private organisations for both factors and barriers. While case studies are named as CS1, CS2, CS3, and CS40 to examine their factors, they are named CSB1, CSB2, CSB3, and CSB40 to examine the barriers.

Table 4.5- Cases - Organisations in the public and private sector (Factors)

No	Author (s)	Year	Sector	Code	Description of case study	Country
1	Avninder Gill	2009	Public	CS1	KM initiatives in a ‘ Small University ’ are investigated. This university does not have a mature research culture and this paper investigates the main issues to enhance its research reputation. It identified key components of a KM system that can be established to achieve its objectives.	Not mentioned
2	Alton Y.K. Chua	2009	Public	CS2	Reasons for KM initiatives in a Malaysia government-funded institute of higher education are explored. Also, a typological framework identifies four archetypes of KM initiatives, their success and dark sides.	Malaysia
3	Syed Omar Sharifuddin bin Syed-Ikhsan and Fytton Rowland	2004	Public	CS3	The study investigates the KM strategy at the Ministry of Entrepreneur Development . Insights into the benefits, problems, responsibilities and technological aspects that arise when managing knowledge in an organisation are examined.	Malaysia
4	Ebrahim Al Nawakda, Abdul Hameed Fathi, Vincent Ribière and Mirghani Mohammed	2008	Public	CS4	This case focuses on knowledge management implementation at the Ministry of Health of the Kingdom of Bahrain . The complexity of the health care industry and its nature as a very knowledge- intensive field where experience and tacit knowledge play an important part in delivering efficient health care to the nation, are examined.	Bahrain

5	Athanasios N. Tsirikas, Kleantlis K. Katsaros, and Christos S. Nicolaidis	2012	Public	CS5	The influence of a knowledge management hybrid in workers' productivity and tolerance of ambiguity at the Hellenic Railways Organisation are determined.	Greece
6	Sharon Teng and Suliman Hawamdeh	2002	Public	CS6	KM practices in Singapore's National Library Board (NLB) are examined. Findings indicated that the NLB is now slowly adapting to parts of the knowledge management concepts in its operations. In spite of the improvements seen, there have been some barriers to KM as well.	Singapore
7	Pompeu Casanovas, Marta Poblet, Núoria Casellas, Jesus Contreras, V. Richard Benjamins and Mercedes Blazquez	2005	Public	CS7	Results of an investigation into the development and implementation of a knowledge management system for the Spanish judiciary domain are presented. The study focuses on how to capture and model the theoretical and practical areas of the judicial knowledge for knowledge browsing and retrieving.	Spain
8	Bonnie Rubenstein-Montano, Judah Buchwalter, and Jay Liebowitz	2001	Public	CS8	This case focuses on KM practices at the core process of Benefit Rate Increase/Premium Amount Collectible (BRI/PAC) of the U. S. Social Security Administration . Ways of effectively applying KM are recommended.	United States of America
9	Siong Choy Chong, Kalsom Salleh, Syed Noh Syed Ahmad, Syed-Ikhsan Syed Omar Sharifuddin	2011	Public	CS9	The study examines how accountants working at the Accountant-General's Department (AGD) under the Ministry of Finance, Malaysia perceive knowledge management implementation in their organisation.	Malaysia
10	Deepak Chawla and Himanshu Joshi	2010	Public	CS10	The differences between various dimensions of KM in public and private organisations in India, including Bharat Heavy Electricals Limited (BHEL) are investigated.	India
11	Yogesh Anand, David J. Pauleen and Sally Dexter	2005	Public	CS11	Outlines case studies on knowledge management in various organisations including the Reserve Bank of New Zealand . Discusses why the organisations embarked on KM.	New Zealand

12	Khalid Al-Yahya and Samar Farah	2009	Public	CS12	The state of knowledge management in public sector institutions is discussed using comparative case studies from around the world. Institutions from OECD countries, including the European Bank for Reconstruction and Development (EBRD) and others in the Gulf region (UAE) are discussed. The paper raises awareness about the challenges, requirements, and benefits of KM implementation.	European country
13	Joanna O’Riordan	2005	Public	CS13	Various knowledge management issues in the Irish Civil Service including the UK Department of Health (DH) are addressed.	United Kingdom
14	Ibrahim Seba, Jennifer Rowley and Rachel Delbridge	2012	Public	CS14	This study aims at enhancing understanding of knowledge management and sharing in the public sector in the Middle East. In particular it looks at the Dubai Police Force (DPF) through a case study based investigation of knowledge management initiatives.	United Arab Emirates (UAE)
15	Yum Hui Yuen	2007	Public	CS15	An overview of KM initiatives in the public sector in 32 developing countries is discussed. Additionally, the paper gives recommendations from lessons learned and best practices in published reports of successful public sector KM initiatives.	32 developing countries ¹⁶⁶
16	Alok Kumar Goel, Geeta Rana Sharma, Renu Rastogi	2010	Public	CS16	This article analyses the extent, strategy and imperatives of knowledge management (KM) in NTPC, a navratna PSU of the government of India . It reveals that the managerial and financial aspects of the organisation could be improved with effective KM. Through its KM, the organisation has managed to institutionalise knowledge management processes and created the organisational culture for managing and motivating knowledge workers.	India

¹⁶⁶ The countries are Barbados, Brunei, Bulgaria, Cambodia, Cyprus, Egypt, Fiji, Ghana, India, Iran, Jamaica, Jordan, Maldives, Mozambique, Nigeria, Pakistan, Philippines, Romania, Seychelles, Solomon Islands, South Africa, Sri Lanka, St Lucia, Tanzania, Thailand, Trinidad and Tobago, Turkey, Tuvalu, Uganda, Vietnam, Yemen and Zimbabwe.

17	Jay Liebowitz	2003	Public	CS17	Reasons for initiating KM at a US government organisation (GOV) are examined. . This paper also presents some important elements of a KM implementation plan that may be used as a model by other project-based, technically-oriented agencies.	United States of America
18	Rod Dilnutt	2002	Public	CS18	Discusses knowledge management initiatives in three organisations in the Asia Pacific region , including a government treasury organisation . In these organisations, real business improvements with quantifiable benefits and demonstrable outcomes have accrued. Although the three organisations face, and are addressing different business problems, all of them are witnessing business efficiencies that can be translated into tangible benefits.	Asia Pacific region
19	Khalid Al-Yahya and Samar Farah	2009	public	CS19	The state of knowledge management in public sector institutions is discussed using comparative case studies from around the world. Organisations from OECD countries and the Gulf region (UAE), specifically the Roads and Transportation Authority (RTA) in the United Arab Emirates are used. The challenges, requirements, and benefits of KM implementation are highlighted.	United Arab Emirates
20	Walter Skok, Caroline Kalmanovitch	2005	Public	CS20	The role and effectiveness of intranet technology in creating and managing knowledge within the Social Services Department of Surrey County Council (Surrey SSD) , one of the largest local authorities in the UK, is analysed. Findings suggest different mental models of the user groups shape the effectiveness (or otherwise) of an intranet in managing organisational knowledge.	United Kingdom
21	Ravi S. Sharma, Aijaz Siddiqui, Atul Sharma, Rajdeep Singh, Ravi Kumar, Sachin Kaushal and Siddhartha Banerjee.	2007	Private	CS21	Besides looking at the potential risk of leveraging knowledge capital, this study examines KM practices in Tata Consultancy Services Limited (TCS) . It reveals some of the dilemmas faced by strategic management in adopting an effective KM strategy.	India

22	Michael H. Zack	1999	Private	CS22	The paper looks at how to configure Buckman Laboratories' resources and capabilities to leverage its codified knowledge.	Not mentioned
23	Yücel Yilmaz	2007	Private	CS23	The study aimed at understanding knowledge management (KM) methods that can provide significant benefits to a building materials company, referred to as Company A .	Turkey
24	Aurilla Aurelie Bechina Arntzen, Lugkana Worasinchai and Vincent M. Ribière	2009	Private	CS24	This paper examines how Bangkok University (BU) started its knowledge management journey and discusses the role of knowledge management processes in the improvement of the educational environment through improved teaching methodologies and enhanced relationships between faculty and students.	Thailand
25	Colin White and David Croasdell	2005	Private	CS25	Case studies on knowledge management in various organisations including Xerox are discussed. Why these organisations embarked on KM and the challenges encountered are also highlighted.	United States of America
26	Roberta Mugellesi Dow, Nicolas Bobrinsky, Siegmur Pallaschke, Mariella Spada, Manfred Warhaut	2006	Private	CS26	KM at the European Space Operations Centre (ESOC) is described, and how KM principles could offer solution and help ESOC adapt in a fast-changing environment investigated.	Germany
27	Tayyab Maqsood, Derek H.T. Walker and Andrew D. Finegan	2007	Private	CS27	In a knowledge management initiative, knowledge-pull from external knowledge sources could systemise knowledge exchange and contribute to the successful application of innovative techniques, the paper argues. Its findings encourage construction organisations like the Australian construction contractor organisation to actively participate in knowledge activities.	Australia

28	Barbara Bigliardi, Alberto Ivo Dormio and Francesco Galati	2010	Private	CS28	Investigates and discusses the process of knowledge creation and transfer in project-based organisations, with particular reference to a construction firm in Italy . The importance of knowledge transfer, in tacit or explicit form, between the various actors of a project, and the role of information and communication technology (ICT) in supporting project-based organisations (PBOs) are highlighted.	Italy
29	Alton Y.K. Chua and Dion H. Goh	2008	Private	CS29	This study examines a failing but yet-to-be abandoned knowledge management (KM) project at the Emmanuel Medical Centre , a healthcare organisation in Asia. It also focuses on the motivation for initiating KM.	Not mentioned but in Asia
30	Ying-Jung Yeh, Sun-Quae Lai and Chin-Tsang Ho	2006	Private	CS30	This study analyses the role of enablers in carrying out KM within enterprises such as the VIA Technologies Inc. (VIA) .	Taiwan
31	Colin White and David Croasdell	2005	Private	CS31	Presents case studies on knowledge management in various organisations including Colgate , discusses why the organisations started KM and outlines the challenges encountered.	United States of America
32	Tatiana Baquero and William Schulte	2007	Private	CS32	KM practices in public, private and academic sectors in Colombia, including BP are discussed. While the findings indicate a low level of adoption of KM practices in Colombia, it also shows some interesting cases of KM in organisations that are exemplary models.	Colombia
33	Minwir Al-Shammari	2005	private	CS33	KM case studies in various organisations such as Global Telecom are presented. Discusses why the organisation initiated KM.	Not mentioned but a developing country
34	Ivy Chan and Patrick Y.K. Chau	2005	Private	CS34	KM in a Hong Kong based company, referred to as HS , and in other organisations, outlining the consideration to start KM and the challenges encountered are discussed.	Hong Kong

35	Elayne Coakes, Anton Bradburn and Cathy Blake	2005	Private	CS35	The construction company Taylor Woodrow's KM, is presented among those of other organisations highlighting why KM was started and the challenges encountered.	United Kingdom
36	Jay Chatzkel	2004	Private	CS36	Wipro Technologies , an Indian information technology outsourcing company and its KM initiatives are discussed.	India
37	Ashley Braganza and Gerald J. Mollenkramer	2002	Private	CS37	Discussed in this paper are the KM initiatives at PharmaCorp . Five keys for effective KM are also presented.	Not mentioned
38	Sue Newell, Harry Scarbrough and Jacky Swan	2001	Private	CS38	This paper presents the adoption of intranet technology by a large financial organisation, Eurobank , for organisation-wide knowledge sharing.	Not mentioned but a European country
39	Alton Y.K. Chua	2009	Private	CS39	KM initiatives started in a consumer bank referred to as H-Bank and other organisations are discussed in this paper. Ironically the success stories of these initiatives had their own unexpected negative consequences.	Hong Kong
40	Martie M. Squier and Retha Snyman	2004	Private	CS40	This case examines why three South African financial organisations, referred to as FOA, FOB and FOC initiated KM.	South Africa

Table 4.6- Cases - Organisations in the public and private sector (Barriers)

No	Author (s)	Year	Sector	Code	Description of case study	Country
1	Avninder Gill	2009	Public	CSB1	Challenges of KM in a ‘ Small University ’ are identified. This university does not have a mature research culture and this paper investigates the main issues to enhance its research reputation.	Not mentioned
2	Alton Y.K. Chua	2009	Public	CSB2	Although KM initiatives in a Malaysia government-funded institute of higher education were largely successful, this success ironically bred negative consequences not usually detected in the short-term. Obstacles to successful KM are identified.	Malaysia
3	Syed Omar Sharifuddin bin Syed-Ikhsan and Fytton Rowland	2004	Public	CSB3	The study investigates the KM strategy at the Ministry of Entrepreneur Development . Also explored are issues that restrict knowledge generation and knowledge sharing.	Malaysia
4	Ebrahim Al Nawakda, Abdul Hameed Fathi, Vincent Ribi�re and Mirghani Mohammed	2008	Public	CSB4	This case focuses on challenges of knowledge management implementation at the Ministry of Health of the Kingdom of Bahrain . The complexity of the health care industry and its nature as a very knowledge- intensive field where experience and tacit knowledge play an important part in delivering efficient health care to the nation, are examined.	Bahrain
5	Renu Vashisth, Ravinder Kumar and Abhijeet Chandra	2010	Public	CSB5	KM could improve productivity in research-oriented organisations. The study shows how three Indian universities and research centres in the Delhi National Capital Region (NCR) perceive the barriers and facilitators to KM. The individual and socio-organisational aspects of KM were more of a concern to these institutions than the technological aspect. Interactions among people create	India

					knowledge and promote its flow.	
6	Tatiana Baquero and William Schulte	2007	Public	CSB6	KM practices in public, private and academic sectors in Colombia, including Empresas Publicas de Medellín (EPPM) are discussed. While the findings indicate a low level of adoption of KM practices in Colombia, it also shows some interesting cases of KM in organisations that are exemplary models.	Colombia
7	Suzanne Zyngier, Frada Burstein and Judy McKay	2005	Public	CSB7	Outlines case studies on knowledge management in various organisations including the Science and Technology Development Organisation (STDO) . Discusses why the organisations embarked on KM and the challenges encountered.	Australia
8	Bonnie Rubenstein-Montano, Judah Buchwalter, Jay Liebowitz	2001	Public	CSB8	This case focuses on the challenges of KM practices at the core process of Benefit Rate Increase/Premium Amount Collectible (BRI/PAC) of the U. S. Social Security Administration .	United States of America
9	Ibrahim Seba and Jennifer Rowley	2010	Public	CSB9	This study investigates knowledge management policies and strategies, and knowledge-sharing processes in the UK Police Forces . Although the importance of intelligence and knowledge sharing was recognized, none of the organisations had a knowledge management policy. Where attempts at incorporating KM were made, finding the relevant initiatives and practices proved difficult, largely due to organisational culture, size and variable recognition of the value of KM.	United Kingdom
10	Alan Fowler and Julia Pryke	2003	Public	CSB10	The paper aims to understand the concept of “competitive advantage through knowledge management”, its application in the business community, and how it might be translated to modern Civil Service. It is situated within the	United Kingdom

					UK's Child Support Agency (CSA) and based on interviews with its senior management. A “conditions framework” and related analysis is used to assess the implications and possible application within other public service organisations.	
11	Yogesh Anand, David J. Pauleen and Sally Dexter	2005	Public	CSB11	Outlines case studies on knowledge management in various organisations including the Reserve Bank of New Zealand . Discusses the challenges organisations encounter during KM implementation.	New Zealand
12	L.J. Yao, T.H.Y. Kam, S.H. Chan	2007	Public	CSB12	Investigates how culture, attitudes and barriers affect knowledge sharing in the Trade and Industry Department (TID) of the Hong Kong SAR Government . While knowledge management and knowledge sharing are generally welcomed, the Chinese culture, where people hardly regarded themselves as knowledgeable, remains a barrier to knowledge sharing.	Hong Kong
13	Jing Tian, Yoshiteru Nakamori, Andrzej P. Wierzbicki	2009	Public	CSB13	The study aims to unravel why and how to use knowledge management methods to enhance knowledge creation in academia, using the Japan Advanced Institute of Science and Technology (JAIST) as a case study. The study reveals that KM obstacles show up in technological support, people as knowledge creators, and in the laboratory culture within academia.	Japan
14	Ibrahim Seba, Jennifer Rowley and Rachel Delbridge	2012	Public	CSB14	This study aims at enhancing understanding of knowledge management and sharing in the public sector in the Middle East. In particular it looks at the Dubai Police Force (DPF) through a case study based investigation of challenges and barriers associated to knowledge management implementation.	United Arab Emirates
15	Alan C. Gillie	2008	Public	CSB15	There is a rapid change in UK's Public Services towards	United Kingdom

	and Jeanette Galloway				improved cost effectiveness, a focus on customers and improved outcomes. Towards this end, a more intelligent use of knowledge and information is required. It is however argued that systems for such transitions are context-dependent; viewed more as socio-technical rather than simply technological systems. This study uses the soft systems methodology (SSM) to assess the need to consider local factors when applying knowledge management techniques in North Mersey Health Informatics Service (HIS) , a local NHS health informatics service organisation and similar cases.	
16	Alok Kumar Goel, Geeta Rana Sharma, Renu Rastogi	2010	Public	CSB16	This article analyses the extent, strategy and imperatives of knowledge management (KM) in NTPC, a navratna PSU of the government of India . It also focuses on the difficulties faced in an attempt to acquire an effective KM in the organisation.	India
17	Jay Liebowitz	2003	Public	CSB17	The components of a KM implementation plan are discussed at a US government organisation (GOV) . This paper presents barriers to KM implementation. Additionally, some important elements of a KM implementation plan that may be used as a model by other project-based, technically-oriented agencies.	United States of America
18	Manjit Singh Sandhu, Kamal Kishore Jain, Ir Umi Kalthom bte Ahmad	2011	Public	CSB18	This paper aims at identifying the views of public sector employees at the Implementation Coordination Unit, ICU and Public Works Department, PWD in Malaysia towards the importance of knowledge sharing, the barriers to knowledge sharing and initiatives that may encourage knowledge sharing.	Malaysia
19	Khalid Al-Yahya and Samar Farah	2009	public	CSB19	The state of knowledge management in public sector institutions is discussed using comparative case studies from around the world. Organisations from OECD countries and	United Arab Emirates

					the Gulf region (UAE), specifically the Roads and Transportation Authority (RTA) in the United Arab Emirates are used. The challenges, requirements, and benefits of KM implementation are highlighted.	
20	Walter Skoka, Caroline Kalmanovitchb	2005	Public	CSB20	The role and effectiveness of intranet technology in creating and managing knowledge within the Social Services Department of Surrey County Council (Surrey SSD) , one of the largest local authorities in the UK, is analysed. Challenges encountered are also discussed.	United Kingdom
21	Ravi S. Sharma, Aijaz Siddiqui, Atul Sharma, Rajdeep Singh, Ravi Kumar, Sachin Kaushal and Siddhartha Banerjee.	2007	Private	CSB21	Besides looking at the potential risk of leveraging knowledge capital, this study examines KM practices and challenges in Tata Consultancy Services Limited (TCS) .	India
22	Mohammad Reza Abbasi and Mahdi Shahamati	2011	Private	CSB22	Factors for success and failure of KM in the Eghtesad-e-Novin bank are addressed in this study. Applying the strategic matrix, the successes and factors are identified and prioritized.	Iran
23	Alan Mckinlay	2002	Private	CSB23	Three KM projects in an American-owned global pharmaceutical, WorldDrug , and their impact are examined.	United States of America
24	Aurilla Aurelie Bechina Arntzen, Lugkana Worasinchai, Vincent M.	2009	Private	CSB24	This paper examines how Bangkok University (BU) started its knowledge management journey and the barriers encountered. Additionally, it discusses the role of knowledge management processes in the improvement of the educational environment through improved teaching methodologies and enhanced relationships between faculty	Thailand

	Rivière				and students.	
25	S K Chadha and Deepa Kapoor	2010	Private	CSB25	This study examines and analyses KM practices in 30 Auto Component Manufacturing Companies in Ludhiana City in India.	India
26	Roberta Mugellesi Dow, Nicolas Bobrinsky, Siegmar Pallaschke, Mariella Spada, Manfred Warhaut	2006	Private	CSB26	Challenges of KM at the European Space Operations Centre (ESOC) are described, and how KM principles could offer solution and help ESOC adapt in a fast-changing environment investigated.	Germany
27	Filemon A. Uriarte Jr.	2008	Private	CSB27	Discusses KM initiatives and implementation processes in organisations including a European manufacturing company .	Not mentioned but a European country
28	Filemon A. Uriarte Jr.	2008	Private	CSB28	Discusses KM initiatives and their implementation in organisations including a European-headquartered company .	Not mentioned but a European country
29	Alton Y.K. Chua and Dion H. Goh	2008	Private	CSB29	This study examines a failing but yet-to-be abandoned knowledge management (KM) project at the Emmanuel Medical Centre , a healthcare organisation in Asia. The failure factors in this study are consistent with a theoretical failure framework.	Not mentioned but in Asia
30	Ying-Jung Yeh, Sun-Quae Lai and Chin-Tsang Ho	2006	Private	CSB30	This study identifies the barriers encountered in carrying out KM implementation within enterprises such as the VIA Technologies Inc. (VIA) .	Taiwan

31	Marko Jäntti, Kirsi Tanskanen and Jukka Kaukola	2009	Private	CSB31	The study investigates knowledge management challenges related to customer support within an IT organisation, TietoEnator Corporation .	Finland
32	M.D. Singh, Ravi Shankar, Rakesh Narain and Adish Kumar	2006	Private	CSB32	The study aims at understanding KM practices in 71 Indian engineering industries facing a major transition in this area.	India
33	Minwir Al- Shammari	2005	Private	CSB33	KM case studies in various organisations such as Global Telecom are presented. Discusses the challenges encountered in KM implementation.	Not mentioned but a developing country
34	Ivy Chan and Patrick Y.K. Chau	2005	Private	CSB34	KM in a Hong Kong based company, referred to as HS , and in other organisations, outlining the consideration to start KM and the challenges encountered are discussed.	Hong Kong
35	Anonymous	2005	Private	CSB35	This paper examines how knowledge sharing can be applied effectively in two five-star hotels in Taiwan. Additionally, it also focuses on challenges to KM implementation.	Taiwan
36	Jay Chatzkel	2004	Private	CSB36	Wipro Technologies , an Indian information technology outsourcing company and the barriers to KM initiatives are discussed.	India
37	Ashley Braganza and Gerald J. Mollenkramer	2002	Private	CSB37	Discussed in this paper are the associated KM challenges at PharmaCorp . Five keys for effective KM are also presented.	Not mentioned
38	Sue Newell, Harry Scarborough and Jacky Swan	2001	Private	CSB38	This paper presents the adoption of intranet technology by a large financial organisation, Eurobank , for an organisation-wide knowledge sharing and the challenges encountered.	Not mentioned but a European country

39	Alton Y.K. Chua	2009	Private	CSB39	KM initiatives started in a consumer bank referred to as H-Bank and other organisations are discussed in this paper. Ironically the success stories of these initiatives had their own unexpected negative consequences. Barriers to KM implementation are identified.	Hong Kong
40	Martie M. Squier and Retha Snyman	2004	Private	CSB40	An investigation into the current state of knowledge management implementation in three South African financial organisations, referred to as FOA, FOB and FOC , is reported.	South Africa

Table 4.7- Factors identified in public and private organisations

No.	Factor	Public																				Private														Number										
		CS1	CS2	CS3	CS4	CS5	CS6	CS7	CS8	CS9	CS10	CS11	CS12	CS13	CS14	CS15	CS16	CS17	CS18	CS19	CS20	CS21	CS22	CS23	CS24	CS25	CS26	CS27	CS28	CS29	CS30	CS31	CS32	CS33	CS34	CS35	CS36	CS37	CS38	CS39	CS40	Public	Private	Total		
1	Improve efficiency			*												*						*									*	*	*	*					*	*			2	8	10	
2	Improve productivity			*								*				*							*		*				*			*	*	*	*		*	*				*		3	7	10
3	Improve processes			*		*		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*				*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		12	11	23
4	Competition					*																				*							*	*	*	*		*	*				1	5	6	
5	Manage tacit knowledge	*	*				*	*	*	*			*	*	*	*	*	*	*	*	*	*	*	*			*	*	*	*					*	*	*	*		*	*			11	8	19
6	Improve performance			*					*					*				*								*								*	*	*	*		*	*			4	4	8	
7	Motivated by a prestigious award																			*																							1	0	1	
8	Survival																				*																						1	0	1	
9	Customer satisfaction			*																			*								*		*	*	*	*	*	*	*	*	*	*		1	8	9
10	Promote effective knowledge transfer					*																																						1	0	1
11	Improve technology						*		*				*			*			*							*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		4	6	10
12	Manage explicit knowledge	*					*	*							*	*			*	*			*	*			*	*	*	*				*	*	*	*	*	*	*	*	*		5	8	13
13	Preserve knowledge	*					*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*						*															9	2	11
14	Foster knowledge sharing		*								*												*	*		*			*			*		*										2	5	7
15	Overcome information overload			*											*																													2	0	2
16	Effective knowledge diffusion				*																												*											1	1	2

A total of 16 factors were obtained from the case studies of both public and private organisations. These are:

- Improve efficiency
- Improve productivity
- Improve processes
- Competition
- Manage tacit knowledge
- Improve performance
- Motivated by a prestigious award
- Survival
- Customer satisfaction
- Promote effective knowledge transfer
- Improve technology
- Manage explicit knowledge
- Preserve knowledge
- Foster knowledge sharing
- Overcome information overload
- Effective knowledge diffusion

Similarly, 13 barriers were obtained for both public and private organisations as shown below:

- Organisational culture
- Poor and/or inadequate technology infrastructure
- Lack of a clear strategy
- Lack of time
- Complex processes

- No management support
- Lack of incentives
- Inadequate resources
- Loss of professionals/staff
- No visible results of KM implementation
- Lack of awareness
- Information overload
- Language difference

Figure 4.1 shows the comparison of the number of public and private organisations and the factors considered for KM initiatives. Likewise, Figure 4.2 shows the comparison of the number of public and private organisations and barriers to KM implementation.

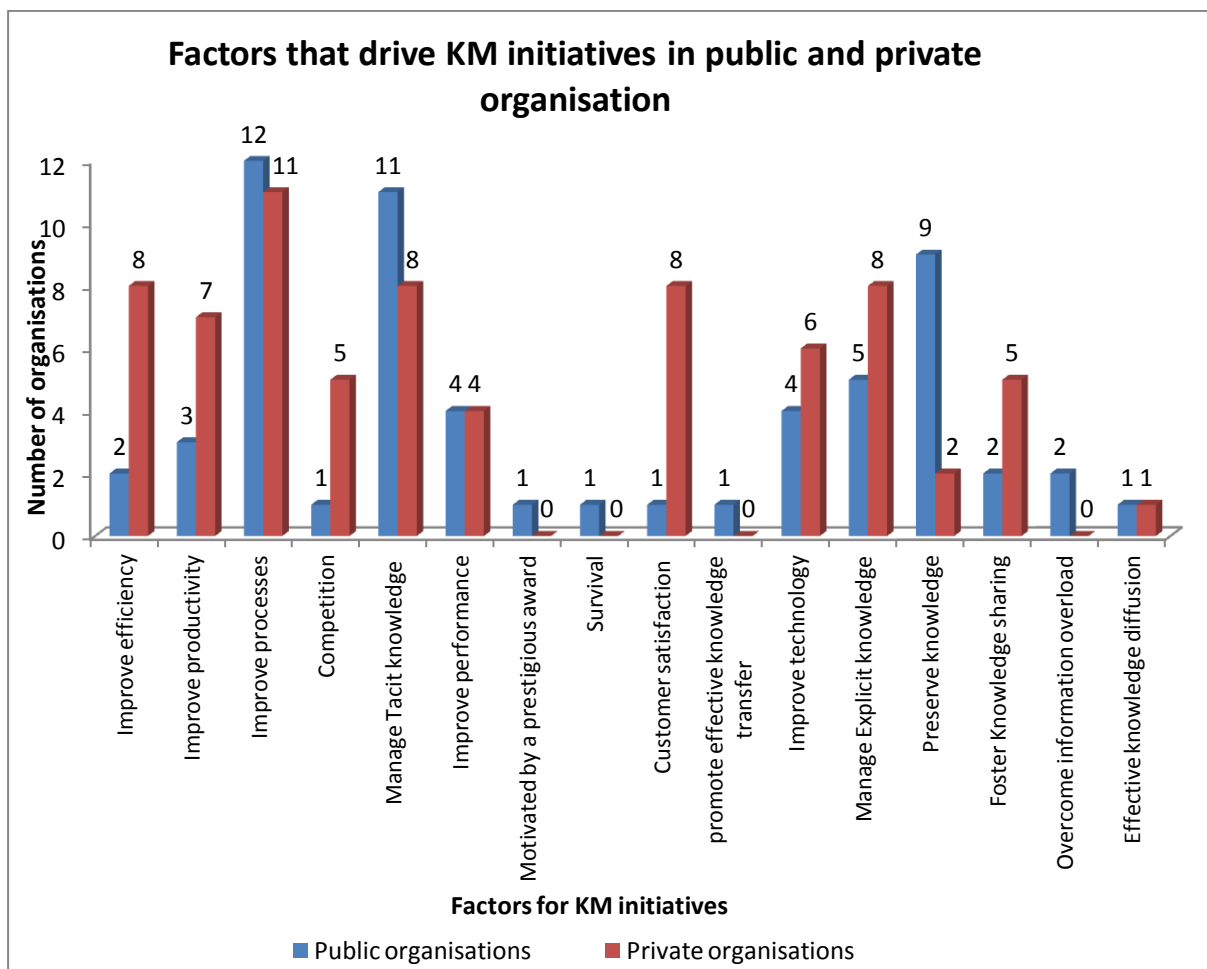


Figure 4.1- Factors that drive KM initiatives in public and private organisations

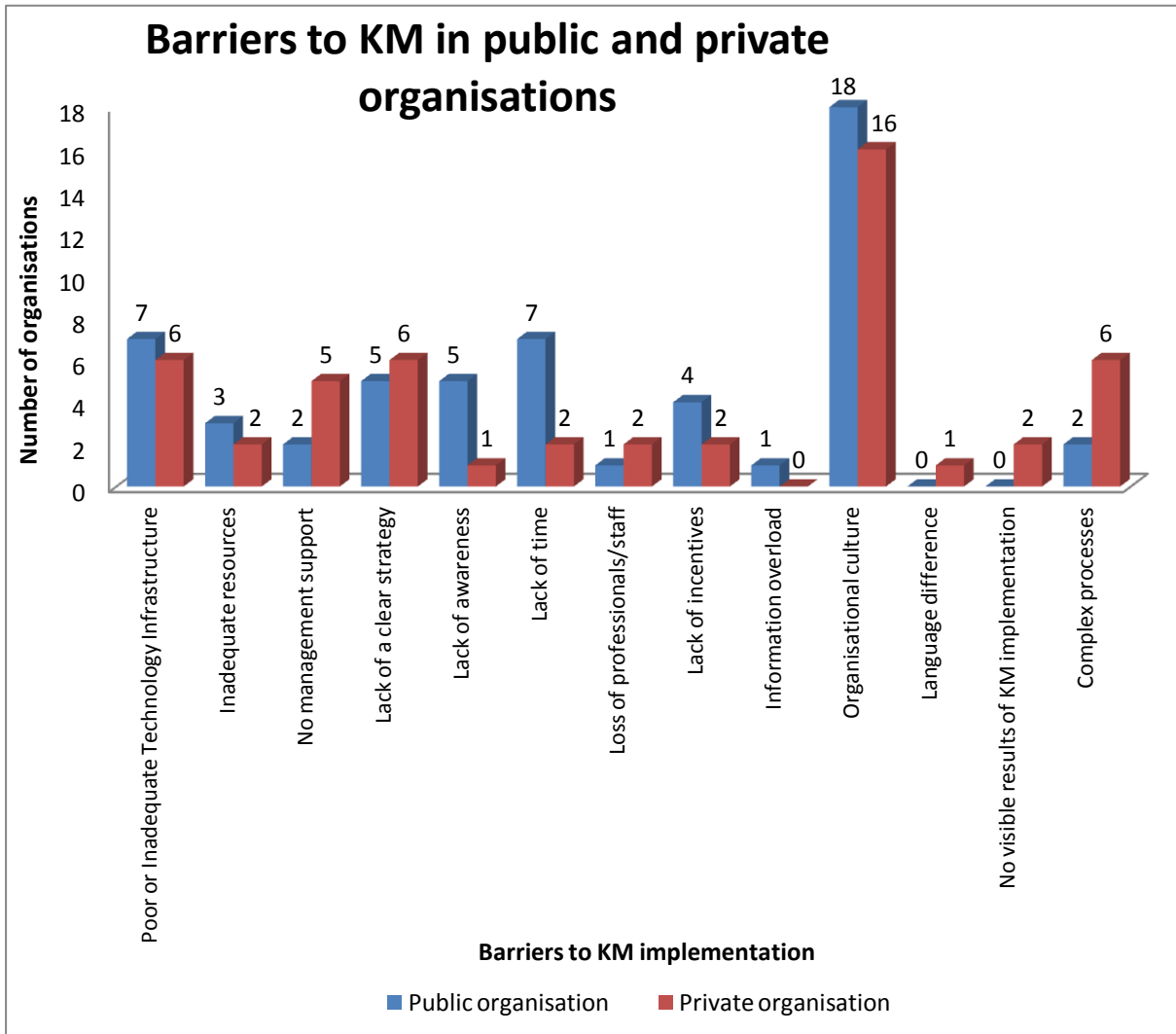


Figure 4.2 - Barriers to KM implementation in public and private organisations

The final list of factors was narrowed down to include only those considered by more than five organisations. The list is shown in Table 4.9.

Table 4.9- Main factors for KM initiatives

No.	Factor
1	Improve processes
2	Manage tacit knowledge
3	Manage explicit knowledge
4	Improve efficiency
5	Preserve knowledge

6	Improve productivity
7	Improve technology
8	Customer satisfaction
9	Improve performance
10	Foster knowledge sharing
11	Competition

Similarly, the final list of barriers was narrowed down to include only those experienced by five or more organisations. The list is shown in Table 4.10.

Table 4.10- Main barriers to KM implementation

No.	Barrier
1	Organisational culture
2	Poor and/or inadequate technology infrastructure
3	Lack of a clear strategy
4	Lack of time
5	Complex processes
6	No management support
7	Lack of incentives
8	Lack of awareness
9	Inadequate resources

Chapter 5

Findings and Discussion

5.1 Findings

The uniqueness, mission and vision of an organisation contribute to the different reasons why they would embark on KM initiatives. In literature, many authors have indicated why one organisation or the other started KM. Chapter four has examined forty cases of public and private organisations and revealed factors leading to KM initiatives. Similarly, barriers to KM implementation were extracted from forty cases of public and private organisations. The sample size of forty case studies each for both factors and barriers was envisaged as adequate to answer the questions asked in this research. A profile of the forty case studies that outlined factors for starting KM showed 42.5% emanated from Asia, 25.0% from Europe and 12.5% from North America. At 2.5%, Africa trailed Australia's 5.0% in terms of the case studies profiled from those continents. A similar trend emerged with respect to case studies outlining barriers encountered. Asia led at 52.5%, Europe at 22.5%, and North America at 10.0%. Australia and Africa followed at 5.0% and 2.5% respectively.

A general observation noted was that the selected organisations commenced KM initiatives based on one or more challenges they faced or wanted to avoid. Due to this need to address or avoid a challenge, the organisations often adopted strategies that focused on some aspects of KM deemed appropriate to address the peculiar or perceived challenges. Therefore, most of the organisations, inevitably, had to deal with barriers at some stage of the KM implementation or another.

Out of the forty case studies of public and private organisations which considered the various factors in starting KM initiatives, five case studies revealed one factor while one case study, seven factors. Furthermore, eight case studies showed five to seven factors prior to initiating KM. More specifically, out of the twenty case studies comprising of public organisations and twenty case studies comprising of private organisations, the highest numbers of factors considered were six and seven respectively. In addition, case studies comprising of public

organisations averagely focussed on three factors whereas case studies comprising of private organisations, four factors. In both public and private sectors, at least one factor, albeit different, motivated the decision to start KM initiatives.

Following the selection of the top factors in Chapter four, five factors fell short of the set criterion. These were: overcome information overload (considered in two case studies), manage effective knowledge diffusion (considered in two case studies), motivated by a prestigious award (considered in one case study), survival (considered in one case study) and to promote effective knowledge transfer (considered in one case study). It was noted that in all these case studies, organisations also focussed on other factors while initiating KM.

Also, ‘overcoming information overload’ was a concern in two case studies consisting solely of public organisations and not in any case study of a private organisation. Furthermore, ‘effectively managing knowledge diffusion’ was an issue in a case study comprised of both public and private organisations. The last three factors: motivated by a prestigious award scheme, the need to survive, and promoting effective knowledge transfer were selected by public organisations. Further discussion of the first top eleven factors considered by public and private organisations are elaborated in Section 5.1.1.

In all forty case studies, public and private organisations experienced barriers to KM implementation. Overall eight case studies showed four barriers to KM implementation while two case studies, five barriers. In addition, only one case study showed seven barriers during KM implementation. More specifically, in case studies of public organisations, the maximum and minimum numbers of barriers were five and one respectively. On the contrary, the maximum and minimum numbers of barriers in case studies of private organisations were seven and one respectively. Averagely, three barriers were encountered in both case studies of public and private organisations.

Out of the thirteen main barriers to KM implementation indicated by the organisations, a few were solely restricted to either public or private organisations. While information overload was identified as a barrier in a case study consisting of public organisations, lack of visible results of KM implementation (in two case studies) and language difference (in one case study) were identified in case studies consisting of private organisations as shown in Figure 4.2. All other barriers were experienced by both the public and private organisations. Section 5.1.2 is a presentation and description of the findings related to the top nine barriers to KM implementation.

5.1.1 Factors

The eleven factors considered when initiating KM in the public and private organisations are discussed below:

Factor 1 – Improve processes

Out of the forty case studies comprising of public and private, twenty-three representing 57.5 percent considered ‘improving processes’ as a factor. Of the twenty-three, twelve (60%) are case studies of public organisations and eleven (55%) are case studies of private organisations.

For these organisations, improving processes covered areas such as having up-to-date information; decision making; instigating change; planning; bureaucracy; employee training and development; work incentives; prevent duplicated documentation and the integration of subunits or departments of the same organisation. Furthermore, an enabling environment for flow and access to knowledge; harmonize internal and external communication; integrate new techniques and technologies; prevent reinventing the wheel; building trust and transparency; cooperation/collaboration; harmonize individual KM practices; embed knowledge into daily activities; address fragmented, redundant and inconsistent systems; track organisational resources; reduce time spent on editing and recording knowledge; and being customer friendly, were considered here.

Factor 2 – Manage tacit knowledge

Similarly, in managing tacit knowledge focus was to grow, capture, transfer, leverage, locate (identify), share, integrate and access expertise and experience.

This factor was seen in nineteen out of the forty case studies representing 47.5 percent. From the nineteen case studies, eleven (55%) were public and eight (40%) were private.

Factor 3 – Manage explicit knowledge

From the forty case studies, thirteen case studies of which five (25%) were public and eight (40%) were private showed the necessity to manage explicit knowledge as a reason for starting KM initiatives.

This factor involved locating, capturing, tracking, sharing, transferring, integrating, cataloguing, accessing (for easy retrieval), applying, leveraging and growing explicit knowledge.

Factor 4 – Preserve knowledge

Out of the forty case studies, a total of eleven case studies profiled organisations that considered the need to preserve knowledge as a factor in starting a KM initiative. Out of this number, nine (45%) were case studies comprising of public organisations and two (10%) were case studies comprising of private organisations.

These organisations focussed on preventing and mitigating knowledge loss due to attrition, retirement, staff movement, early buy-outs, better job offers and scattered knowledge in different locations. Other considerations included the need to recover organisational knowledge locked up in individuals' heads and make them available as a resource to the broader organisation, document and retain knowledge, loss of professional knowledge and loss of invaluable organisational knowledge due to high turnover of valuable staff.

Factor 5 – Improve efficiency

Under the factor 'improve efficiency', ten of the forty case studies revealed issues such as cost, customers (clients) and processes. Two (10%) of these case studies were public while eight (40%) were private.

Factor 6 – Improve productivity

Improving productivity involved issues related to quality products, turning a budget over-run project into a profitable venture, providing the required value services to customers/clients and applying technology to its full benefits.

Out of the forty case studies, ten showed the necessity for organisations to improve productivity as a reason for starting their KM initiatives. Three (15%) of those case studies were public organisations and seven (35%) were private organisations.

Factor 7 – Improve technology

Ten of the forty case studies profiled organisations that considered technology as a factor in starting their KM initiatives. Of the ten, four (20%) case studies were of public organisations and six (30%) case studies were private organisations.

For these organisations, improving technology covered areas such as the development of a software for capturing and modelling knowledge, prevent inconsistencies to processes, create a knowledge database to act as a central repository for structured as well as unstructured data and also archiving corporate lessons. This factor also involved developing new technologies to improve performance, developing a knowledge plan for operations based on advances in

communications and technology, developing a corporate KM system among others to meet customers' demands and to integrate existing knowledge using intranet technology

Factor 8 – Customer satisfaction

In nine (22.5%) of the forty case studies, customer satisfaction was a motivation in starting KM initiatives. Out of the nine, one (5%) case study and eight case studies (40%) were of public and private organisations respectively.

Activities that sought to speedily and effectively meet client and customers' needs, increase value for customers in areas such as reducing the time to market new products and services, increase customer-friendliness and secure customer loyalty were considered important to satisfying customers.

Factor 9 – Improve performance

This factor involved the organisation's capacity to quickly respond to challenges and efficiently fulfil organisational responsibilities. Eight (20%) of the forty case studies outlined KM initiatives which were spurred on by the need to improve performance, among other factors. There were four (20%) case studies each comprising of public and private sectors that considered this factor.

Factor 10 – Foster knowledge sharing

Seven (17.5%) out of the forty case studies profiled organisations that initiated KM to foster knowledge sharing. Specifically, there were two (10%) case studies of public organisations and five (25%) case studies of private organisations.

To foster knowledge sharing in these organisations meant creating an enabling environment for culture in cultivating knowledge sharing. This includes dealing with the reluctance of senior staff and experts to share explicit and tacit knowledge.

Factor 11 – Competition

Finally, having a competitive advantage was a contributing factor for initiating KM in six (15%) out of the forty case studies. The six case studies comprised of one (5%) case study and five (25%) case studies representing public and private organisations respectively

This factor was defined to include issues related to building a competitive advantage as the organisations experienced rapid growth in their respective markets, staying ahead of competitors' price offerings to obtain business contracts and also to compete in delivering

world-class systems that remain convenient, accessible and useful to their clients and customers. In addition, competition due to external environment - with respect to attracting and keeping customers/clients and controlling costs, and the lack of flexibility of the organisation to adopt and change in a competitive environment made the above organisations consider competition as a contributing factor to KM.

5.1.2 Barriers

The nine barriers to KM implementation identified are discussed below:

Barrier 1 – Organisational culture

Organisational culture topped the barriers with a total of thirty-four (85%) out of the forty case studies showing it as a barrier to KM implementation. From the thirty-four case studies, 90% (18 case studies) were of public organisations while 80% (16 case studies) were private organisations.

This barrier cut across many areas in these organisations including lack of an enabling environment for the effective formation of CoP, hierarchical organisational structure, poor working pattern, political interferences, inability to change employees' behaviour, working alone, KM fatigue, and Chinese culture. Staff resistance, lack of cooperation, knowledge hoarding, and viewing knowledge as a source of power were also included. Additionally, competition between organisational units, fear of losing power via knowledge sharing, not viewing the organisation as one, no interaction among staff, low or lack of employees' participation, and a sense of inferiority when using someone's knowledge were also included. Finally, a general lack of trust, unwillingness to share/manage knowledge, emphasis on individuals rather than teams, and personal selective processes when sharing knowledge were considered under this barrier.

The number of organisations faced with hierarchical structure and political interference barriers were higher in public organisations than private ones. On the contrary, fear of losing knowledge via sharing was more prevalent in private than public organisations. In addition, weak culture related to issues including the inability to change employees' behaviour was high in both sectors. For instance, while this reflected in nine case studies comprising of public organisations, six case studies comprising of private organisations also identified it as a barrier. The same number of public and private case studies had lack of cooperation and no interaction among staff as barriers.

Barrier 2 – Poor and/or inadequate technology infrastructure

Of the forty case studies, thirteen (32.5%) showed barriers related to technology and infrastructure. Specifically, seven (35%) case studies consisting of public organisations and six (30%) case studies consisting of private organisations had issues including no infrastructure to capture tacit and explicit knowledge; lack of a support system to increase tacit knowledge; no existing processes to convert tacit knowledge to explicit; and no mechanism for knowledge sharing and exchange. Additionally, inability to make knowledge accessible; lack of motivation to access and use knowledge systems; inability to access existing knowledge; lack of IT systems; unavailability of user friendly systems; lack of awareness of system availability and capability; focus on ICT instead of business strategy; technological limitations; and no ICT support for processes and organisational elements were identified as barriers. However, the lack of infrastructure to capture tacit and explicit knowledge; lack of mechanism for knowledge sharing and exchange; and lack of IT systems were uniquely associated with public organisations while the lack of motivation to access and use systems; and a focus on ICT instead of business strategy were found in private organisations. The lack of ICT support for processes and organisational elements were associated with both organisations.

Barrier 3 – Lack of a clear strategy

The lack of clear direction and understanding as to the nature and location of an existing knowledge base; a somewhat haphazard approach to a KM roadmap; and poor understanding of the principles and benefits of KM were barriers identified in five (25%) case studies composed of public organisations and six (30%) case studies composed of private organisations. In total these constituted eleven (27.5%) of the forty case studies. The lack of a clear understanding as to the nature and location of an existing knowledge base was higher in the public organisations, while a poor understanding of the principles of KM was higher in private organisations. While organisational size was too large, for both public and private organisation, the lack of a clear strategy was a barrier.

Barrier 4 – Lack of time

This fourth barrier was identified by nine (22.5%) out of the forty case studies. Seven (35%) case studies consisting of public organisations and two (10%) case studies consisting of private organisations indicated the lack of time and being too busy as barriers to their KM initiatives. Excuses of being too busy and the lack of time to perform some KM processes were higher in public organisations.

Barrier 5 – Complex processes

Two (10%) case studies comprising of public organisations and six (30%) case studies comprising of private organisations, a total of eight (20%) out of the forty case studies indicated complex processes as a barrier to KM implementation.

These organisations identified the lack of existing processes to convert tacit knowledge to explicit; inefficient documentation processes; the non-standardization of key processes; and the absence of ICT support for processes as barriers to KM implementation. Apart from the lack of processes to convert tacit knowledge to explicit in the public organisations, all the other barriers related to complex processes were more pronounced in the private than in public organisations.

Barrier 6 – No management support

Lack of management support included issues of non-authorization for staff to partake in KM programs which needed to be done during office hours; lack of coordinating all KM related functions; the lack of KM awareness creation; the absence of a cohesive strategy that clearly identifies the aims and benefits of knowledge sharing; and the nonexistence of clear KM strategy. Also included were the lack of commitment to KM principles; and instances where organisational rules regarding the implementation of KM were not reviewed.

Seven (17.5%) of the forty case studies showed lack of management support as a barrier to KM implementation. Two (10%) and five (25%) case studies representing public and private organisations respectively were affected by lack of management support.

Barrier 7 – Lack of incentives

Out of the forty case studies, six (15%) revealed this as a barrier. In particular, four (20%) case studies consisting of public organisations and two (10%) case studies consisting of private organisations identified instances where the lack of incentives in KM implementation was a key barrier. Issues considered under the lack of incentives included the absence of award programs, performance assessments, pay raises and promotion.

Barrier 8 – Lack of awareness

Issues related to awareness were benefits of knowledge sharing and the importance of KM initiatives. Six (15%) out of the forty case studies showed this barrier. Five (25%) case studies and one (5%) case study were of public and private organisations respectively. The lack of awareness about KM initiative and its importance, and the associated difficulty in

cultivating such awareness were barriers only in the public organisations. However, not being aware of the benefits of knowledge sharing was in both sectors although higher in the public.

Barrier 9 – Inadequate resources

Inadequate resources included insufficient allocation of budget and limited and/or lack of resources. Five (12.5%) of the forty case studies of which three (15%) were of public and two (10%) of private organisations, considered this a barrier to KM implementation. More case studies in public organisations had to deal with issues related to inadequate resources than case studies in private organisations.

5.2 Discussion

This section discusses the findings related to the factors that drive the development and adoption of KM initiatives and the barriers to KM implementation in public and private organisations.

Factors namely: improve efficiency; improve productivity; competition; customer satisfaction; improve technology; manage explicit knowledge and foster knowledge sharing were more common in the private organisations than in public organisations. On the contrary, improve processes; manage tacit knowledge; and preserve knowledge were more prevalent in public than private organisations. However, equal numbers of public and private organisations commenced KM initiatives to improve performance.

Interestingly, many public organisations encountered more barriers than private organisations. Poor and/or inadequate technology infrastructure, inadequate resources, lack of awareness, lack of time, lack of incentives and lack of organisational culture were prominent in many public organisations as opposed to private. Conversely, many private organisations faced barriers such as the lack of a clear strategy, complex processes and no management support.

In a study conducted by McAdam and Reid¹⁶⁷, it was found that many more public than private organisations, showed improved efficiency, reduced operating costs and improved quality as motivating factors to the start of their KM initiatives. Additionally, 90 percent of the 132 ministries, departments and agencies of central government that participated in the OECD study identified improving efficiency and productivity as the main motivators for

¹⁶⁷ McAdam and Reid (2000:327)

establishing KM practices in the public sector¹⁶⁸. In contrast however, the current study has shown that higher numbers of private than public organisations embarked on KM to improve efficiency and also to improve productivity.

According to Cong and Pandya¹⁶⁹, in the public sector, people and organisational culture; processes; and technology are the three key elements considered for KM initiatives. Issues related to people are to raise awareness of KM benefits, build an environment of trust for sharing, develop leaders to champion KM, and to establish a formal rewards and recognition system for knowledge sharing. In the current study, the quest to improve technology was an important factor that moved the public sector organisation to adopt a KM initiative, consistent with the findings of Cong and Pandya¹⁷⁰. Similarly, in a study on factors for starting KM in public and private organisations, Mason and Pauleen¹⁷¹ categorise factors as competition, knowledge assets and attainable results. Competition covered issues of competitive advantage, productivity, peer pressure while knowledge assets were staff turnover, intellectual capital, knowledge sharing and intellectual property. Attainable results related to results and risk reduction. Although factors in this study were not categorised like these three, some similarities are visible. Competition, improve productivity, improve efficiency, improve performance, preserve knowledge, manage tacit knowledge and manage explicit knowledge are in agreement with the findings of Mason and Pauleen.

Further, competition was an important driver of KM initiation in the private organisations as Cong and Pandya¹⁷² suggest. The private sector, they noted, is known for its competition due to the responsibility of providing shareholders for their returns on investment. Results of the current research showed a higher number of private than public organisation in relation to 'competition'. This trend confirms Rainey, Backoff and Levine's¹⁷³ suggestion that the private sector differs from the public sector in that unlike the public sector, the private sector depends largely on market performance as their main source of funding. Although public, government agencies such as the Army, Air Force and the Navy, have been moved by competition to go further than managing knowledge repositories to well-defined KM strategies¹⁷⁴. Emphasis in the public sector is however placed more on factors such as service

¹⁶⁸ OECD (2003:7)

¹⁶⁹ Cong and Pandya (2003:30)

¹⁷⁰ Cong and Pandya (2003:30-31)

¹⁷¹ Mason and Pauleen (2003:44-46)

¹⁷² Cong and Pandya (2003:30)

¹⁷³ Rainey, Backoff and Levine (1976:235)

¹⁷⁴ Riege and Lindsay (2006:25)

delivery, information provision, and knowledge identification, sharing and utilisation. This public sector posture conforms to the findings in the current study where the need to preserve knowledge was higher in public than in private organisations.

Customer satisfaction as a means of building loyalty for sustainable operations also informed the decision to implement KM initiatives in the organisations studied. Within the private sector, the importance of organisational cultures that promote the customer needs, trends and desires is recognized and encouraged. Because customers may not necessarily articulate their values or understand them, private organisations use interviews and observation techniques covering a complex set of customer behaviours and motivations to augment customer dialogue. In this study as many as eight private organisations, compared to one public organisation, were moved by the quest for customer satisfaction to start KM initiatives. As noted by Riege and Lindsay¹⁷⁵ in relation to customers, Governments prioritize their efforts based on the level of impact that an issue might have on a customer group and the capability of the organisation to address such issues. The approach and emphasis between public and private organisations therefore differ. For instance, Governments may seek to introduce a health policy that improves the services for patients of greatest need, potentially involving shifting resources from less important areas to those identified as being deficient. It is however important governments recognize the customer relationship as dynamic, therefore requiring continual monitoring.

In spite of the motivating factors informing organisations to embark on KM initiatives, barriers to the implementations of these initiatives do occur. Although organisations, particularly public, may adopt various KM projects to achieve a change in organisational culture¹⁷⁶, research by Delphi Consulting¹⁷⁷ identified cultural issues as the largest barrier to KM implementation, consistent with the findings of the current research. In numerical terms, organisational culture was the single most major barrier that confront (almost equally), both public and private organisations. Corroborating this finding is the assertion by Sveiby and Simons¹⁷⁸ that cultural resistance and hoarding knowledge constitute the KM implementation barriers mostly found in public organisations. Accordingly, public organisations are more challenged in establishing collaborative cultures than their private sector counterparts. Interestingly, the lack of a knowledge sharing culture is so prevalent that even among

¹⁷⁵Riege and Lindsay (2006:35)

¹⁷⁶Riege and Lindsay (2006:25)

¹⁷⁷Storey and Barnett (2000:148)

¹⁷⁸Sveiby and Simons (2002:421)

'knowledge workers' (people whose work involve generating and or sharing available knowledge / information), the phenomenon is rife¹⁷⁹. However, as found in the current research, this barrier is often in combination with other barriers such as the lack of commitment from top management, lack of incentives and rewards systems, financial constraints and poor IT infrastructure^{180,181}. Because this barrier considerably affects the sharing of knowledge and expertise in the public sector,¹⁸² Quintas, Lefrere and Jones¹⁸³ suggest the importance of considering culture, people, processes and technology across the organisational structure in order to assure effective KM activities. Ultimately, the success or failure of any KM program is determined by the culture of the organisation. Besides limited trust among co-workers, public sector employees tend not to share their knowledge, which may limit the development of shared understanding. Furthermore, most employees in the public sector see their knowledge as power and guard their knowledge to protect their positions¹⁸⁴.

Among the many barriers, technological barriers were also prominent in both public and private organisations. In addition to cultural, economic and marketplace barriers, Bonfield¹⁸⁵ also identifies technology as a potential organisational barrier when implementing a knowledge management initiative. Although, technology facilitates KM processes, it could pose a huge challenge if the appropriate one is not chosen¹⁸⁶ particularly in situations where many systems, very few of which could communicate with each other, are operated in the public sector¹⁸⁷. Again, when employees are not pre-informed of the benefits of the introduction of new systems, they may be reluctant to abandon systems designed to meet the needs of an individual department in favour of a large global system that may not have been designed with their specific needs in mind. Similarly, the absence of trust, respect and interest in common goals are likely to lead employees to sabotage the use of technology¹⁸⁸. It is vital for an organisation to create the right incentives for its employees to get involved in the sharing and application of knowledge. Moreover, the introduction of personal reward system that supports the culture of knowledge sharing in an organisation appears crucial to

¹⁷⁹ Nazim and Mukherjee (2011:12)

¹⁸⁰ Nazim and Mukherjee (2011:12)

¹⁸¹ Ndlela and Du Toit (2001:159-160)

¹⁸² Edge (2005:45)

¹⁸³ Quintas, Lefrere and Jones (1997:387-388)

¹⁸⁴ Seba and Rowley (2010:613)

¹⁸⁵ Bonfield (1999:28)

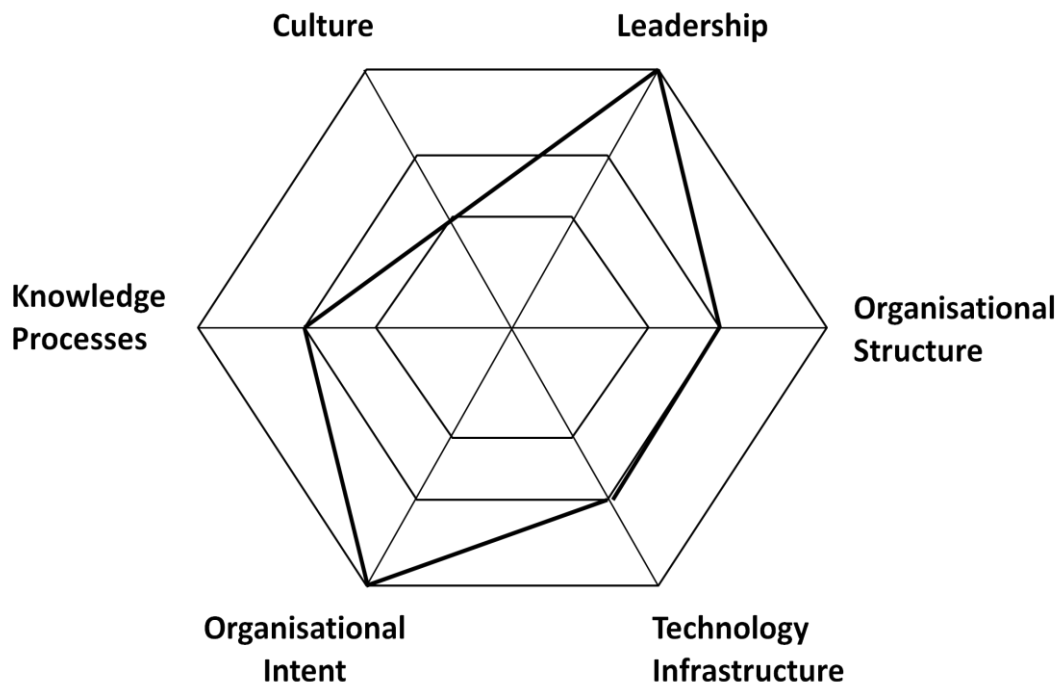
¹⁸⁶ Asoh, Belardo and Neilson (2002:1748)

¹⁸⁷ Murray (2001:10)

¹⁸⁸ Carayannis (1998:698)

surmounting cultural barriers that hinder information sharing and, by extension, the success of KM initiatives. Furthermore, creating a wider understanding of the benefits of KM, and intentionally isolating and rewarding employees who share their expertise would address such cultural barriers¹⁸⁹. The interactions of these barriers, among others, have earlier been observed by Albers and Jerke¹⁹⁰ who indicated that culture, leadership, organisational structure, technology infrastructure, organisational intent and knowledge processes can affect the KM environment. This is shown in Figure 5.1.

The lack of a clear strategy was identified as another barrier for both public and private organisations in this research. In many instances, a poor understanding of KM concepts and principles led to a KM strategy that was unclear and its implementation subsequently stalled. In very large organisations, the sheer size of the organisation complicated the KM strategy and robbed it of clarity. Cong, Li-Hua and Stonehouse¹⁹¹ underscore the central role of a clear strategy for organisations implementing KM initiatives. Apart from enabling the identification of the important drivers for the initiative, the KM strategy would provide a broader strategic framework for the successful implementation of a KM initiative. Beyond this, a KM strategy with a clear purpose detailing what the organisation would like to



Source: Albers (2009)

Figure 5.1 - A spider diagram of organisational parameters

¹⁸⁹ Anonymous (1997:15)

¹⁹⁰ Anonymous (1997:15)

¹⁹¹ Cong, Li-Hua and Stonehouse (2007:259)

achieve, the anticipated benefits to and potential effects on employees could enhance the chances of its successful implementation¹⁹². The current research showed that many more private organisations as opposed to public faced the lack of a clear KM strategy as a hindrance. This agrees with the report that the public sector has a more coherent strategy for KM compared to the private sector¹⁹³. On the contrary, Chun and Rainey¹⁹⁴ linked the public sector to the challenge of clearly articulating goals. Thus, without a clear strategy and goal, KM activities are likely to be more difficult to implement, and where they exist, the inability to communicate them could also create implementation challenges. Where awareness and knowledge of KM practices are limited in an organisation, the potential benefits from implementing a KM initiative are unlikely to accrue to the organisation. By deliberately managing knowledge in a systematic and holistic manner, an awareness of its benefits to both individuals and the organisations is enhanced.

According to Singh and Kant¹⁹⁵, Bullinger, Worner and Prieto¹⁹⁶ indicate that scarcity of time and lack of awareness are key barriers identified as part of earlier noticeably barriers to KM implementation. In relation to this study, lack of time and lack of awareness are ranked as the second and third barriers respectively in the public organisations while in the private organisations, as fourth and fifth respectively. Reports of the lack of minimal awareness of KM in the public sector¹⁹⁷, particularly in ministries, departments and agencies have been associated with the lack of time or resources for effective KM implementation¹⁹⁸. It is argued that when staff performance is measured by the number of hours that go into their output, time becomes an obstacle¹⁹⁹. In the current research as many as seven public organisations and two in the private sector complained of time constraints in the implementation of KM initiatives. It is apparent that where knowledge management is perceived as extra work aside the employees work schedule or daily routine, a sense of not having enough time is generated among employees.

Moreover, in categorising barriers to KM, Pinho, Rego and Pina e Cunha²⁰⁰ identify individual, socio-organisational and technology issues which hinder knowledge acquisition,

¹⁹² Klaila (2000:13-14)

¹⁹³ McAdam and Reid (2000:323)

¹⁹⁴ Chun and Rainey (2005:21-22)

¹⁹⁵ Singh and Kant (2008:142)

¹⁹⁶ Bullinger, Worner and Prieto (1997)

¹⁹⁷ Cong and Pandya (2003:25)

¹⁹⁸ Yuen (2007:12)

¹⁹⁹ Luggar and Kraus (2001:491-496)

²⁰⁰ Pinho, Rego and Pina e Cunha (2012:220-233)

creation, sharing, and transfer in and between organisations. Individual barriers include a low tendency to trust; lack of motivation to share and transfer knowledge; attitude of working alone; and avoiding cooperation because of knowledge power. Socio-organisation barriers include ineffective coordination and collaboration between public and private institutions; poor access to research networks; and cross-cultural differences. For technology, issues were linked to poor IT systems and processes supporting information/knowledge storage; poor IT systems and processes supporting information/knowledge dissemination; mis-adjustment between IT systems and processes, and/or between systems/process and user needs; and poor and/or inefficient infrastructure/equipment. Similar to the findings of this study, poor and/or inadequate technology infrastructure is a key barrier. In addition, issues raised under individual and socio-organisation barriers are similar to barriers related to organisational culture in this study. Similarly, Mason and Pauleen²⁰¹ observe that the failure rate of KM in New Zealand is similar to that of USA where percentages range between fifty and seventy. In a study conducted in public and private organisations in New Zealand on the perceptions of KM, they identified the main barriers to KM implementation as organisational culture, leadership, lack of understanding, effort versus reward, technology and knowledge complexity. Organisational culture covered issues of culture, trust, communication, sharing and organisational structure while leadership included issues related to lack of sponsorship, lack of leadership by example, getting management buy-in, senior management commitment, lack of management understanding and commitment, and lack of encouragement from management. Lack of awareness comprised of lack of awareness of KM benefits, lack of understanding of KM and lack of KM vision. However, this lack of awareness could not be linked to management or the workforce. These barriers also agree with results of this study where organisational culture, management support, lack of awareness, poor and/or inadequate technology and lack of a clear KM strategy were barriers to KM implementation. Just like this study, organisational culture was the topmost barrier encountered by New Zealand organisations.

²⁰¹ Mason and Pauleen (2003:38-46)

Chapter 6

Conclusion

Various researchers have defined knowledge management differently but a common thread, basic to all, intertwines these definitions. Issues related to knowledge identification, capturing, discovery, sharing, transfer, exchange, and application, among other aspects, are addressed in knowledge management. Organisations manage different types of their knowledge resources. Among the many known knowledge types in literature, some organisations focus on managing explicit and/or tacit knowledge. Managing knowledge has gotten much attention in organisations in recent years due to the perceived benefits that could be derived.

Every organisation manages one form of knowledge or the other, largely underpinned by the necessity to remain relevant in an increasingly globalised knowledge economy. KM has become a useful tool for survival within this competitive global arena. However, successful KM implementation should be informed by specific organisational objectives rather than a must-have initiative based on the popularity of KM as a concept.

Several motivating factors have led organisations to initiate KM projects. However, barriers to KM implementation have also been identified and are experienced in a cross-section of organisations. This research set out to use qualitative meta-analysis to study contributing factors for starting KM initiatives and barriers to KM implementation in public and private organisations. Specifically two research questions were asked:

- How do the factors that drive the development and adoption of KM initiatives differ between public and private sector organisations?
- How do the barriers to KM implementation differ between public and private sector organisations?

Forty cases each for both factors and barriers were retrieved from well known databases and examined. Organisations were categorised into sectors including Banks and Financial

Institutions; Construction Companies; Healthcare Organisations and Laboratories; ICT Companies; Judiciary and Law Enforcement Organisations; Manufacturing Companies; Power and Electricity Organisations; Rails and Transport Organisations; and Universities and Educational Institutions for ‘factors’. On the other hand, sectors for ‘barriers’ included Banks and Financial Institutions; Financial and Socio-Economic Development Organisations; Health Related Organisations; Hospitality Industry; ICT Companies; Law Enforcement Organisations; Manufacturing Companies; Roads, Transportation and Public Works Agencies; and Universities and Educational Institutions.

A qualitative meta-analysis of the 40 case studies showed that despite the differences that exist between public and private organisations, some factors and barriers were common in both sectors. Furthermore, ranking these factors and barriers, based on their prioritised predominance, showed that the topmost factor considered or barrier encountered, were the same for both public and private organisations. In the case of factors, for instance, improving processes was a priority for both public and private organisations while organisational culture and poor and/or inadequate technology infrastructure were two barriers faced by both sectors.

In order of priority and ranking, the public organisations showed:

- improve process (60%),
- manage tacit knowledge (55%),
- preserve knowledge (45%),
- manage explicit knowledge (25%),
- improve performance (20%), improve technology (20%),
- improve productivity (15%),
- foster knowledge sharing (10%), improve efficiency (10%), Overcome information overload (10%),
- competition (5%), customer satisfaction (5%), effective knowledge diffusion (5%), motivated by a prestigious award (5%), promote effective knowledge transfer (5%) and survival (5%)

as the factors that informed their KM initiatives. On the contrary, the private organisations showed:

- improve process (55%),

- improve efficiency (40%), manage tacit knowledge (40%), customer satisfaction (40%), manage explicit knowledge (40%),
- improve productivity (35%),
- improve technology (30%),
- competition (25%), foster knowledge sharing (25%),
- improve performance (20%),
- preserve knowledge (10%) and
- effective knowledge diffusion (5%)

as motivating factors. However, equal numbers (20%) of public and private organisations commenced KM initiatives to improve performance. Whereas, more public organisations started KM to manage their tacit knowledge as opposed to explicit knowledge, in the private organisations, the same number of organisations started KM to manage both tacit and explicit knowledge. Moreover, while the first three ranked factors for public organisations are to improve process, manage tacit knowledge and preserve knowledge, that of private organisations are improve process, improve efficiency, manage tacit knowledge, customer satisfaction, manage explicit knowledge, improve productivity.

Similarly, in order of concern and ranking, public organisations encountered barriers such as:

- organisational culture (90%),
- poor and/or inadequate technology infrastructure (35%), lack of time (35%),
- lack of a clear strategy (25%), lack of awareness (25%),
- lack of incentives (20%),
- inadequate resources (15%),
- no management support (10%), complex processes (10%),
- loss of professionals/staff (5%) and information overload (5%).

On the other hand, the private organisations faced:

- organisational culture (80%),
- poor and/or inadequate technology infrastructure (30%), lack of a clear strategy (30%), complex processes (30%),

- no management support (25%),
- inadequate resources (10%), lack of time (10%), loss of professionals/staff (10%), lack of incentives (10%), no visible results of KM implementation (10%),
- lack of awareness (5%) and language difference (5%).

The first three ranked barriers for public organisations are organisational culture, poor and/or inadequate technology infrastructure, lack of time, lack of a clear strategy, and lack of awareness while in the private organisations, organisational culture, poor and/or inadequate technology infrastructure, lack of a clear strategy, complex processes and no management support are more pronounced.

In sum, the findings reveal that the topmost motivating factor for both public and private organisations to start KM was the need to improve processes. Again, it is evident that for both public and private organisations, the two key barriers to KM were organisational culture and poor and/or inadequate technology infrastructure. It can be concluded that the key factors for starting KM and the implementation barriers are similar for both public and private organisations. The other factors and barriers, though common to both, occupied varied priority levels (in case of factors) for starting KM, and their prevalence as barriers in KM implementation. The barriers identified, for example a negative organisational culture, strongly relate to individual behaviours, among others, that cut across both public and private organisations. Organisations would need to improve the interactions between people, improve processes and technologies to ultimately change their organisational culture. Thus, organisational culture is a critical issue in the success of KM implementation in all organisations.

Success in KM implementation strongly correlates with those organisational environments where the practice of KM permeates the individual, team and organisational levels. It is envisaged that KM practice will in the future become widespread and mainstream within organisations in the global economy.

Finally, it must be noted that the geographic distribution of public and private organisations used in this study and the uniqueness of each organisation may limit any attempt at generalising the results of this research. However, these findings closely relate to the available literature and can offer valuable lessons which could be applied in public and private organisations.

Further research

Having conducted this research conceptually, it would be interesting if an empirical research could be conducted based on the same research questions. This could be done by focussing on countries on the same continent or from specific industries. For example, in a given country, twenty organisations each, drawn from the public and private sectors where KM is practiced could be selected as case studies. Cross sections of employees spanning low, middle and top level staff could then be interviewed to elicit their responses to questionnaires related to the factors that have accounted for their success of their KM and the barriers encountered. This primary research could provide detailed lessons; the results of which can then serve as a guide for both public and private sector organisations when initiating knowledge management.

Again, the KM literature is replete with studies which identify key factors that promote the successful practice of KM in organisations, once they are commenced. These studies show that not only are the factors considered prior to starting KM important, but also the factors for their continuous practice and sustenance within organisations are equally crucial. However, the dynamics of how these factors (for the sustenance of KM initiatives) play out within public and private organisations are yet to receive widespread research attention. A similar comparative study is therefore recommended to isolate such factors and to understand any similarities or difference, if any, within public and private organisations.

The current research found a paucity of literature on the practice of KM within the African context. Further research is therefore required, first to identify the causes of these and then to propose mechanisms for the promotion of KM practice on the continent, as it emerges into a global knowledge powerhouse.

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